

AN ANNOTATED CHECKLIST OF THE BIRDS OF SINGAPORE

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ABSTRACT. – This annotated checklist is the third major compilation for Singapore. It lists the current status of all bird species ever recorded in the wild in Singapore. A total of 404 species have been recorded, including 44 species which are now extinct or have not been recorded for the last 50 years. Some of the latter species have been recorded again as non-breeding visitors. There are now 342 species that occur naturally in Singapore and another 22 species that were introduced by man. Fifty-eight families of birds are represented. There are 121 resident species with proven breeding records and 21 other presumed residents. One hundred and fifty-four species are winter visitors and/or passage migrants, with another 25 species listed as non-breeding visitors and 21 others that occur in Singapore as vagrants.

Census data since 1991 shows that the total number of birds in Singapore has declined by 40 % and the number of species has declined by nearly 17 %. The most abundant bird species is a migrant, the Pacific Golden Plover (*Pluvialis fulva*). The most important site in terms of bird population is Sungei Mandai, an unprotected mudflat and mangrove ecosystem while Sungei Buloh Wetland Reserve and Pulau Ubin are important in having the highest diversities of birds. The loss of mudflats through reclamation, damming of estuaries, and canalisation of rivers has resulted in a decline in waterbird density and diversity as shown in the Annual Waterfowl Census. The current total shorebird population in Singapore is only 4,000 – 5,000 birds, a vast decrease from the large wintering population of 10,000 birds at a single site, the Serangoon Estuary, in 1985.

Forty-one of the 44 extinct species were resident forest birds, of which, 34 (82.9 %) went extinct between 1900 and 1950. This equates to 3.4 species lost every five years, an alarming rate of extinction for a small island like Singapore. The most susceptible families are the Trogonidae and Eurylaimidae, with 100 % species loss, and Picidae, with 56.3 % species loss. The susceptible bird families are predominantly those of the forest, whereas the resistant families exist largely in open country and scrub. In fact, only three extinct species were not largely dependent on tropical rainforests for their existence. Forest species such as the Green Broadbill (*Calyptomena viridis*) became extinct from the forests as recently as 1941. This emphasises the role that habitat destruction has played in shaping Singapore's avifauna.

Fifty-four species of birds are at risk of extinction, of which 34 species (63 %) live in the forest. The remaining patches of forest in Singapore are mostly protected in the Central Catchment Nature Reserve that should provide a safe haven for the forest birds. However, the forests are too fragmented, small and constantly disturbed by thousands of visitors. By connecting the smaller Bukit Timah Nature Reserve to the much larger Central Catchment Nature Reserve, the forest patch size can be increased and might allow more movement of animals and plants between the two patches. Many forest birds are secretive or weak fliers and are reluctant to cross open spaces. A green corridor might encourage them to do so. Another 16 species (29.6 %) of threatened birds are specialists of mangroves and wetlands. Preservation of these most-threatened of ecosystems in Singapore is of utmost importance to the survival of the birds found in these special habitats. With improvement in the quality of habitats, we could perhaps slow down the rate of local extinction of the avifauna of Singapore. Our remaining habitats need to be protected and laws protecting wildlife must be strictly enforced, so that the birds may have a chance to coexist with us.

KEYWORDS. – Birds, Singapore, checklist, extinction, diversity, forest, wetlands.

Dedicated to Lady Yuen-Peng McNeice, for her generous contribution towards the study of birds.

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INTRODUCTION

During the last two decades, biologists all over the world have increasingly turned their attention to the wet tropics. Over two-thirds of the world's species are concentrated in this narrow mid-line belt around the globe. The rapid destruction of natural habitats along this belt means that species are disappearing faster than they can be documented.

Aves and Mammalia are the two classes of animals that are supposedly the best understood; their trophic position, coupled with their detailed documentation, mean that they are often used as biological indicators of habitat richness. Thus, changes in their status can reflect changes in the underlying ecology of a region.

It was with this in mind that we prepared our checklist of birds. Singapore is not a zoogeographical region clearly distinct from the neighbouring Malay Peninsula. It is an island, politically separated from its neighbours. The rapid transformation of Singapore, from a small trading post only 188 years ago, into a highly-developed and sophisticated city, has taken its toll on the natural environment. Once entirely clothed in tropical rainforest and mangrove, it has become a mosaic of different habitats, the forest now occupying just a small area in the centre of the island, and mangroves reduced to isolated coastal fringes. In this respect, Singapore can be viewed as a microcosm of what is currently taking place all over Asia. As such, we can evaluate the influence of these events on Singapore's avifauna only because of the relatively long and detailed history of ornithological studies on the island. This has made Singapore perhaps one of the best-studied tropical islands in Asia. The rate of environmental change in Singapore, however, is now slowing down and active steps are being taken to conserve habitats and species. Thus, a review of the avifauna is appropriate at this time, and comparisons with earlier listings can provide a case study with which to predict future events elsewhere in the region.

Singapore is also important in that it occupies a strategic position at the tip of the Malay Peninsula, a focal point for local migration routes. The large human population has also ensured a steady supply of birdwatchers to document both the rare and the common migrants as they pass through. Thus, observations made in Singapore are of general interest for the whole region.

This checklist is the third major compilation for Singapore. The first was a handlist prepared by Chasen (1923) and was only partially annotated. The second, by Gibson-Hill (1949a), was annotated but based primarily on museum specimens, with some field observations by the author. Nineteenth-century materials came mainly from the papers published by Kelham (1881; 1883). In 1970, the Royal Air Force Ornithological Society (Singapore Branch) attempted to compare the bird status and presence with Gibson-Hill's list (Gregory, 1970), using mainly bird ringing data. In 1986, members of the Nature Society (Singapore), formerly a branch of the Malayan Nature Society, formed a Bird Group. This has resulted in improved communication and formalisation

of records through the quarterly newsletter, "Singapore Avifauna" since 1987. Our present knowledge of the status of most species, though still often very incomplete, is probably better now than at any time in the past. In 2000, a group of birdwatchers formed a new group, called "Pigeon-Holes" and started taking records of birds through digiscoping, a technique that allows digital images to be taken through the spotting scope. These digital images have become very useful for the confirmation of many sightings, where detailed notes are seldom taken. In September 2005, a newly-formed group, "Bird Ecology Study Group" started recording bird behaviour in a more systematic way. Through its blog, sightings and reports (often accompanied with photographs) are made rapidly and readily available on the Web, disseminating information almost as soon as it is submitted.

However, there are some birdwatchers, both local and foreign, who often submit their largely unauthenticated records for publication in regional publications, such as the Oriental Bird Club (OBC) bulletins, without detailed notes or photographs. Once published in the OBC bulletins, however, these records seem to acquire a certain odour of sanctity and are constantly cited by authors of field guides of birds in Southeast Asia. It is hoped, therefore, that the present compilation will form a yardstick against which future records can be assessed, that it will form the foundation on which more comprehensive publications can be built.

Despite our detailed research into every published record available from Singapore, it is with regret that some entries in this checklist may not be as detailed as we would have wished as many records from some birdwatchers, and ringing records of formal institutions were not made available. Nevertheless, the present listing presents a statement of the current status of all bird species ever recorded in Singapore, with new field observations and museum specimens included up to December 2003. Additional records for 2004 – 2006 were incomplete but have been added when available or possible.

SINGAPORE: GEOGRAPHY, CLIMATE AND FLORA

Geography

Situated at the tip of the Malay Peninsula, Singapore is only 137 km north of the Equator and lies between 1°09'N and 1°29'N and 103°38'E and 104°06'E. The main island is 41.8 km from east to west and 23 km north to south, with an area of 570.4 km². With land reclamation in recent years, the total land area of Singapore had increased to about 699 km². There are about 53 offshore islands and reefs, the largest being Pulau Tekong (18 km²) and Pulau Ubin (10.1 km²) to the north; Pulau Sentosa (3.5 km²) to the south, the remainder being smaller, ca. 1 km² each (see Fig. 1).

The main island is generally flat, 65 % of it lies within 15 m above sea level. The centre of the island is composed of a series of low hills of granite and other igneous rocks, the highest point being Bukit Timah (162.5 m), with only three

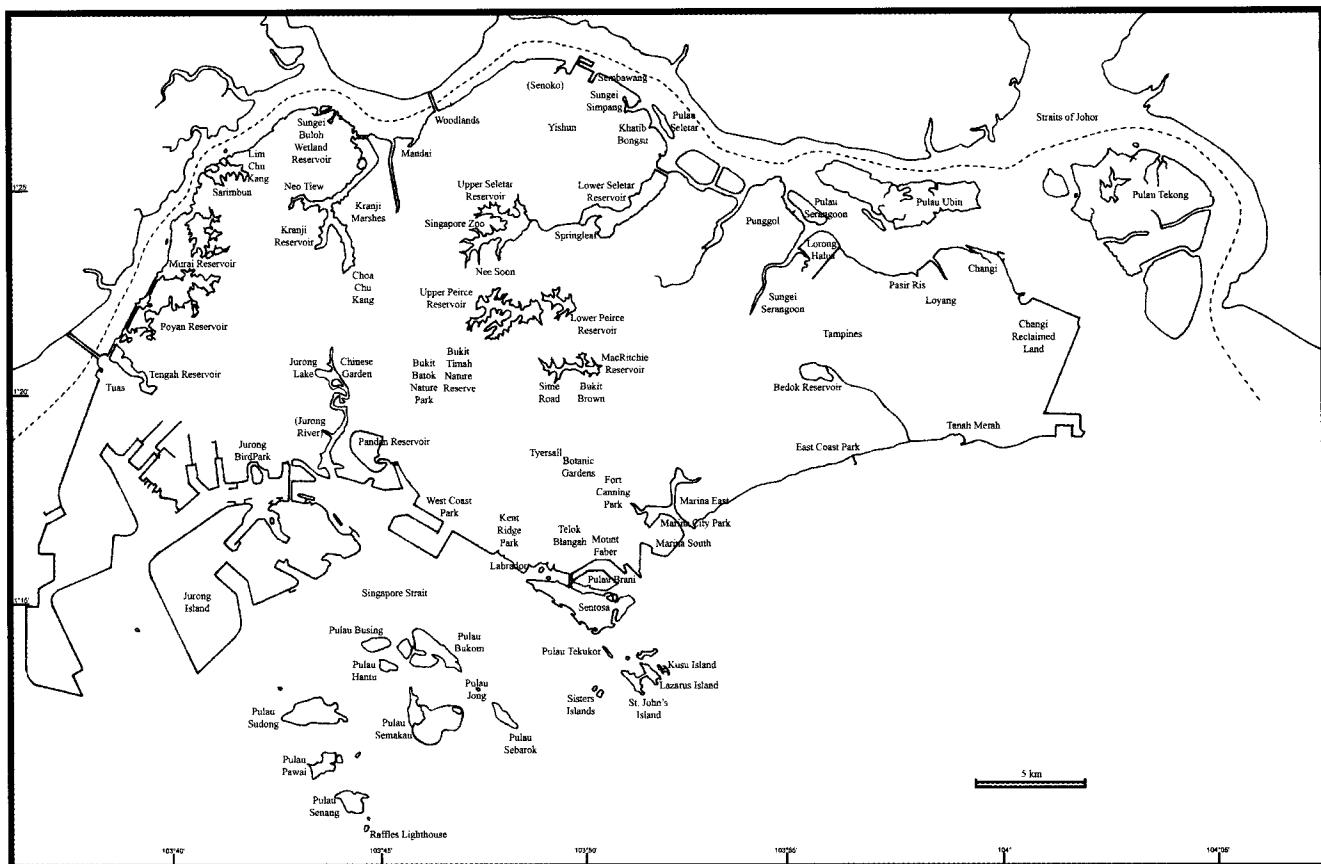


Fig. 1. Map of Singapore and offshore islands, showing birding localities, ca. 2000.

other hills exceeding 100 m in height. To the west, south and southeast of the island are a series of sedimentary rocks, containing a wide variety of quartzites, conglomerates, shales and sandstones. To the south, a series of low ridges appear as Kent Ridge, Pasir Panjang and Mount Faber, extending out to Sentosa and St. John's Island. To the east is an area of Old (Pleistocene) Alluvium dissected by a number of small streams and gullies giving rise to a series of valleys. All the areas less than 8 m above sea level are covered in recent alluvium laid down after the last ice age. This alluvium occurs in all the river valleys, around the coastlines and in various inland pockets.

The city is situated at the centre of the southern coastline. Major industrial estates occupy the southwestern corner at Jurong and Tuas. To the southeast is the Changi Airport development. The north and northeastern areas are being converted to more intensive agro-tech farming. New towns are spread all over the island and form a series of regional centres.

The island is drained by small rivers, most of which have been canalised. Where the larger rivers join the coast, estuaries form and several have been dammed to form water storage reservoirs.

The coastal areas in general are flat, with some mounds overlooking the sea only at Labrador and Changi. The substrate of the natural shorelines is sand and mud in varying proportions. Sand predominates mainly on the east coast and a few offshore islands such as Pulau Hantu, St. John's Island and Sentosa. Elsewhere, mud is the natural substrate.

Extensive reclamation with coarse sand has altered the southern coastline east to Changi Point. This process is also altering much of the eastern end (Changi) where sand and alluvial materials are being used to bury the original shoreline.

A recent development has been the formation of freshwater marshes on the banks of some of the shallow coastal reservoirs. The most extensive marshes can be found on the edge of Poyan Reservoir in the west and at Kranji Reservoir to the northwest. Seletar Reservoir has only been flooded since the 1980s.

Many of the southern islands have low cliffs and are surrounded by wave-cut platforms and fringing coral reefs. Unfortunately over the last few decades, the once thriving and healthy coral reef community has suffered a substantial decline due to reclamation and subsequent high levels of sediment in the near-shore waters.

Climate

The climate of Singapore is typically equatorial, showing only small seasonal variations, with high temperatures and high rainfall throughout the year (Table 1). The major influence on the seasons are the monsoon winds. From May to September, the winds blow mainly from the south and southeast locally, although the over-riding regional direction is that of the correctly-named Southwest Monsoon. Most of the rain carried by these winds is deposited on the mountains of Sumatra and this period is the driest in Singapore. From December to March winds blow from the north and northeast under the influence of the Northeast Monsoon and this

Table 1. Climate details of Singapore.

Rainfall	
100-year annual mean	2402 mm
Mean wettest month	Dec, 279.9 mm
Mean driest month	Jul, 161.3 mm
24-hour maximum	315 mm, Dec 1969
Temperature	
Annual 24-hour mean	26.6 °C
Mean daily maximum	30.7 °C
Mean daily minimum	23.8 °C
Mean hottest month	Jun, 27.4 °C
Mean coolest month	Dec – Jan, 25.6 °C
Humidity	
Annual 24-hour mean	84.3 %
Mean maximum	96.1 %
Mean minimum	64.0 %

produces the wettest and coolest times of the year. The intervening inter-monsoon periods in April and October – November are usually characterised by frequent thunderstorms. Many of these winds are caused by air masses moving over Sumatra that become strongly heated. Locally called "Sumatras", they create disturbances, bringing high winds and large amounts of precipitation over relatively small areas.

By temperate standards Singapore appears to have a uniform climate but subtle variations exist, which make it less predictable than expected. For example, the Northeast Monsoon usually begins before Christmas with very heavy precipitation followed by a relatively dry period towards the end of March. However, long-term data show that this wet period can start as early as October or as late as January. Likewise the dry period can begin as early as January or as late as March. Even during the relatively dry Southwest Monsoon, short periods of heavy precipitation may be experienced. These variations are small, but they are significant and make their influence felt on the flora and fauna.

Flora

The flora of Singapore has been well studied by tropical standards and the transition from primeval vegetation to what it is today is probably better known than on any other tropical island in the world. General accounts of the vegetation have been written by Johnson (1973), Hill (1977) and Corlett (1987), while a more detailed account of the Republic's botany and general history can be found in Wee & Corlett (1986) and Wee & Ng (1994).

FLORISTIC HISTORY

Before it became a trading port and colony, Singapore was covered in lowland tropical rainforest. Mangroves covered all the coasts except for a few stretches of sandy beaches, and penetrated inland on the banks of rivers, covering perhaps 13 % of the whole island (Corlett, 1987). In a few of the low valleys, patches of freshwater swamp forest existed. In 1819, when Raffles founded Singapore, the island had a population of about 150 people who could only have had minimal impact on the vegetation. Agricultural development began with the cultivation of gambier (*Uncaria gambir*), a crop which demanded forest clearance both for cultivation and for firewood to make extracts from the leaves. This particularly destroyed much of the primary vegetation. By 1850, cultivated coconuts, pepper, nutmeg, pineapple and other fruit trees covered about 25 % of the island. By 1884, heavy exploitation of commercial timber trees and the abandonment of exhausted agricultural land had reduced the forest area to 4,000 ha (40 km²), resulting in large areas of wasteland. At this time some scattered forest reserves were created, though almost all had been degraded to some degree. Rubber planting began in the early 1900s and the demand was such that, by 1935, over 22,000 ha (220 km², 36 % of the island) was covered by rubber estates.

In the late 19th and early 20th centuries, an expanding population necessitated the construction of water storage reservoirs in the valleys of the central hills and consequently, the protection of their catchment areas. In 1951, the undisturbed forest at Bukit Timah, along with the mangrove reserves at Pandan and Kranji, were jointly designated Nature Reserves. To these were added the 1,800 ha (18 km²) of mainly secondary forest, forming the Central Water Catchment Area and 4 ha (0.04 km²) of cliff and rocky shore at Labrador. By 1968, the demand for land resulted in the abandonment of the Pandan Reserve, to be followed in 1973 by the Kranji Reserve.

Today the original vegetation has effectively been reduced to ca. 2,000 ha (20 km²) of the Central Catchment area and Bukit Timah. The cliff at Labrador has been managed as a park and much of its original character has been lost. Agricultural land covers less than 6,000 ha (60 km²) and it is getting smaller each year. Nearly all the mangroves have been lost. Patches of scrub are found on wasteland awaiting development, whilst the area of managed vegetation in the form of parks and gardens grows each year.

It has been estimated that only about 1 % of Singapore's original vegetation is still intact and whatever remains is much stressed (Ng, 1995). Animals have suffered greatly; many that used to be common are now extinct, threatened or endangered. In recent years, there has been a growing concern for Singapore's environment and her natural heritage. The green movement in Singapore in the 1990s to the present has seen the publication of many books, including the *Singapore Red Data Book* (Ng & Wee, 1994), *A guide to the threatened animals of Singapore* (Ng, 1995) and *A guide to the threatened plants of Singapore* (Tan, 1995). These publications have attempted to arouse interest and increase

awareness of Singapore's rich biodiversity. The *Singapore Red Data Book* (see discussion later) compiled the status of Singapore's flora and fauna, and highlighted the plight of many threatened and endangered species of plants and animals still found in our remaining habitats.

VEGETATION

Primary lowland rainforest

This is now confined to 75 ha (0.75 km²) at Bukit Timah Hill and tiny pockets in the Central Catchment area. Though all have been subjected to some degree of disturbance and are not primary in the strict sense of the word, the continuity of forest cover has never been broken at these sites (see Corlett, 1987). They are characterised by high species richness and the occurrence of giant emergent trees in excess of 50 m in height. A 0.1 ha (0.001 km²) plot in the catchment area contained more than 80 tree species, while a 2 ha (0.02 km²) forest plot in Bukit Timah Hill contained nearly 350 identified tree species (LaFrankie et al., 2005). As with most other Southeast Asian forests, the dominant tree family is the Dipterocarpaceae, the "meranti" of the commercial timber trade. Bukit Timah is characterised by the presence of *Shorea curtisii*, normally a hill forest species found above 250 m, which comes down to sea level on coastal hills. Other important dipterocarps are *Dipterocarpus*, *Anisoptera*, *Hopea* and *Vatica*. Another important family is the Leguminosae, containing *Koompassia*, *Sindora*, *Intsia*, *Parkia* and other genera.

In Bukit Timah alone, 124 species of birds can still be found; 72 species are resident breeders, eight are non-breeders, 42 are regular migrants and two are introduced forest-edge species (LaFrankie et al., 2005). Although it is of great ecological importance, the primary forest is now too small to be of great significance to the avifauna. The forest is dominated by forest understorey birds. Almost all of the birds are insectivores or feed opportunistically on a mixed diet of fruits, seeds and insects. Only parrots and pigeons are predominantly frugivorous. Bukit Timah is important for some birds and hold important populations of Asian Fairy Bluebird (*Irena puella*), Blue-rumped Parrot (*Psittinus cyanurus*), Scarlet Minivet (*Pericrocotus flammeus*) and Little Spiderhunter (*Arachnothera longirostra*). Some birds such as Glossy Swiftlet (*Collocalia esculenta*), Lesser Cuckooshrike (*Coracina fimbriata*), Buff-vented Bulbul (*Iole olivacea*) are confined mainly to Bukit Timah; a small population of Glossy Swiftlets has recently been discovered in the nearby Bukit Batok Nature Park.

Freshwater swamp forest

Corner (1978) described the original freshwater swamp forest in Singapore, which covered extensive areas around Mandai and parts of Jurong. All that remains of this special habitat is about 15 ha (0.15 km²) adjacent to Upper Thomson Road near Nee Soon (Yishun). Of all the freshwater habitats still extant in Singapore, the most important is the Nee Soon Swamp (Forest Ng & Lim, 1992). It is the only habitat for

many unique plant species. Its native aquatic fauna and flora makes the swamp a more important habitat than even Bukit Timah Nature Reserve (Ng & Lim, 1992). The swamp forest itself is a mixture of partially primary and old secondary vegetation types (Corner, 1978). Swamp forest plants such as *Pandanus* spp. are common. Corner (1978) suggested that the Mandai swamp (including the Nee Soon Swamp Forest) was intermediate between a freshwater and peat swamp forest; some parts of Nee Soon Swamp Forest are made up of mats of peat and decaying vegetation.

When Ng & Lim (1992) listed recent records of birds for Singapore, those from Nee Soon Swamp forest included the Silver-rumped Swift (*Rhipidura leucopygialis*), Great Slaty Woodpecker (*Mulleripicus pulverulentus*), Puff-backed Bulbul (*Pycnonotus eutilotus*), Bronzed Drongo (*Dicrurus aeneus*) and Ruby-cheeked Sunbird (*Anthreptes singalensis*). Unfortunately, none of these records were confirmed (see Species Accounts and Appendix III). The authors also stated three species of birds that are only known from the swamp forest (*Malacopteron magnirostre*, *Spilornis cheela*, *Treron olax*); today, *S. cheela* and *T. olax* have been recorded elsewhere in Singapore (see Species Accounts) while *M. magnirostre* was last recorded there in 1987.

Despite the small size of the isolated swamp forest, it is still a relatively important bird area; Ng & Lim (1992) recorded 111 species of birds from Nee Soon Swamp Forest. Several rare and endangered species are found in this swamp, including the White-bellied Woodpecker (*Dryocopus javensis*), Violet Cuckoo (*Chrysococcyx xanthorhynchus*), Drongo Cuckoo (*Surniculus lugubris*), Blue-rumped Parrot (*Psittinus cyanurus*), Little Green Pigeon (*Treron olax*), Thick-billed Green Pigeon (*Treron curvirostra*), Crested Serpent Eagle (*Spilornis cheela*), Blue-eared Kingfisher (*Alcedo meninting*), Scarlet Minivet (*Pericrocotus flammeus*), Greater Green Leafbird (*Chloropsis sonneratii*), White-rumped Shama (*Copsychus malabaricus*), Moustached Babbler (*Malacopteron magnirostre*), White-chested Babbler (*Trichastoma rostratum*) and Short-tailed Babbler (*Malacocincla malaccensis*). Many migrants and non-breeding visitors have been recorded in Nee Soon Swamp Forest as well, including the Barred Eagle Owl (*Bubo sumatranus*) and Brown-chested Jungle Flycatcher (*Rhinomyias brunneata*).

Secondary forest

Almost all 2,000 ha (20 km²) of the central catchment area are covered in tall secondary forest, most of it between 40 – 80 years old, though small patches are older (Corlett, 1987). Although the area is large, the forest cover is discontinuous and fragmented by the four reservoirs (MacRitchie, Lower and Upper Peirce, and Seletar), service roads, golf courses and open parks. Previous clearance has taken its toll on the floristic composition, and members of the Dipterocarpaceae are mostly absent. Dominant tree species are *Adinandra dumosa*, *Rhodamnia cinerea*, *Garcinia parviflora* and *Calophyllum pulcherrimum*. Along the edges of roads and tracks *Dillenia suffruticosa*, *Melastoma malabathricum* and various *Macaranga* species are found. The resam ferns,

Dicranopteris linearis and *D. curranii* also occur in open areas and form large patches 200 – 300 m across on old farmland, preventing the development of any other seedlings.

The avifauna in the secondary forest is of great importance to the island; although more disturbed as a habitat than the primary forest, its greater area has more potential for self-sustaining populations. Forty-five species of birds are found only in the forest, notably Red-crowned Barbet (*Megalaima rafflesii*), Violet Cuckoo (*Chrysococcyx xanthorhynchus*), Drongo Cuckoo (*Surniculus lugubris*), Chestnut-bellied Malkoha (*Phaenicophaeus sumatranaus*), Malaysian Eared Nightjar (*Eurostopodus temminckii*), Little Green Pigeon (*Treron olax*), Thick-billed Green Pigeon (*Treron curvirostra*), Greater Green Leafbird (*Chloropsis sonnerati*), Lesser Green Leafbird (*Chloropsis cyanopogon*), Black-headed Bulbul (*Pycnonotus atriceps*), Cream-vented Bulbul (*Pycnonotus simplex*), Red-eyed Bulbul (*Pycnonotus brunneus*), Short-tailed Babbler (*Malacocincla malaccensis*) and Chestnut-winged Babbler (*Stachyris erythropygta*). It is also likely that as many as 30 other species, which can also be found in other habitats, may be dependent upon the forest as a habitat reservoir vital to overall survival on the island, for example, Long-tailed Parakeet (*Psittacula longicauda*), Rufous Woodpecker (*Celeus brachyurus*), Crimson Sunbird (*Aethopyga siparaja*) and Purple-throated Sunbird (*Nectarinia sperata*).

The opening up of the forests by various man-made structures has also allowed open country bird species such as the Yellow-vented Bulbul (*Pycnonotus goiavier*) to invade. Lim (1999a) noted a sharp decline in forest bulbuls such as the Cream-vented Bulbul (*P. simplex*) and Red-eyed Bulbul (*P. brunneus*). Two introduced species, the House Crow (*Corvus splendens*) and Javan Myna (*Acridotheres javanicus*), are also found on the fringes of the forests. If uncontrolled, they could prove a threat to the native forest species.

Mangroves

When Singapore became a British colony in 1819, her coasts and estuaries were fringed with extensive mangroves (Corlett, 1991; Murphy & Sigurdsson, 1990). It has been estimated that 13 % [7,800 ha, (78 km²)] of the main island was originally covered in mangroves (Corlett, 1987; 1991). Almost all of Singapore's once extensive mangroves has been destroyed. By 1969, through land reclamation and other development, only 488 ha (4.88 km²) of highly-degraded mangroves remained scattered throughout the island in small patches, with the largest areas in the northern part of the mainland and on Pulau Tekong, Pulau Ubin and Pulau Semakau (Corlett, 1991; Murphy & Lee, 1991; Ng & Sivasothi, 1999; Turner & Yong, 1999), representing about 6 % of the original area; as much as 50 % of this may have been lost in the past few years. Total obliteration of this habitat seems likely if the policy of coastal reclamation continues. Currently only a tiny patch of mangroves at Sungei Buloh is protected. Mangrove formations typically contain few plant species, the 62 species of mangroves plants recorded in Singapore once made them among the richest in the world (Ng & Sivasothi, 1999). Turner

& Yong (1999) reported the extinction of seven species of mangrove trees over the years and of 13 more in immediate danger of extinction unless there is some form of positive human intervention.

Much of the Singapore mangroves have regenerated on previously-cleared sites, the tolerant and easily-dispersed *Avicennia alba* and *Sonneratia alba* usually dominating these areas. Species of *Rhizophora* and *Bruguiera* invade later. The poor species composition and lack of ground flora means the mangroves are structurally-simple and this in turn has led to the colonisation of only a few specialist mangrove birds.

The remaining mangroves in Singapore are still important despite being heavily-disturbed and the ecosystem no longer complete, with top predators such as tigers gone. Mangroves are a highly specialised habitat which contains its distinct avifauna. Over 100 species of birds have been recorded from mangroves and adjacent mudflats throughout Singapore (Ng & Sivasothi, 1999a). In Singapore, the Ruddy Kingfisher (*Halcyon coromanda*), Mangrove Pitta (*Pitta megarhyncha*) and Mangrove Blue Flycatcher (*Cyornis ruficauda*) are confined entirely to the mangroves of Pulau Tekong and Pulau Ubin. In addition, the island populations of Mangrove Whistler (*Pachycephala grisola*) and Ashy Tailorbird (*Orthotomus ruficeps*) may all be dependent to a large extent upon the existence of mangroves, although they both occur in other habitats. Ward (1968) pointed out that many species of birds of open country, gardens and parks have their natural origins in mangroves but now seem largely independent of them. Examples include, the Common Iora (*Aegithina tiphia*), Pied Triller (*Lalage nigra*), Pied Fantail (*Rhipidura javanica*), Olive-backed Sunbird (*Nectarinia jugularis*), Sunda Pygmy Woodpecker (*Dendrocopos moluccensis*), Collared Kingfisher (*Todirhampus chloris*) and Golden-bellied Gerygone (*Gerygone sulphurea*).

Of great importance to the Singapore's avifauna are the coastal mudflats, which are usually found adjacent to mangrove areas. These muddy coastlines form the wintering and migratory feeding grounds for many species of herons (Ardeidae), plovers (Charadriidae) and sandpipers (Scolopacidae). Fifty-eight bird species are dependent to a large extent upon these mudflats for their occurrence in Singapore. Mangrove formations form spawning grounds and nursery areas for many of the benthic organisms upon which these birds feed.

Wasteland

Land which has been cleared of vegetation or old buildings, and often left idle for several years, undergoes an invasion of plants leading to a succession from herbaceous vegetation to woody perennials. Many of the invading species are exotics that have been introduced to Singapore and are now wild. The herbaceous plants, which start the succession, are dominated by Compositae, Gramineae, Leguminosae and Cyperaceae (Wee & Corlett, 1986). At this stage the land provides good habitats for ground-dwelling birds such as the Spotted Dove (*Streptopelia chinensis*), Peaceful Dove (*Geopelia striata*) and Paddyfield Pipit (*Anthus rufulus*). This

is also almost the only setting where large flocks of munias (Passeridae) can be found; grasses and sedges such as *Eleusine indica*, *Fimbristylis dichotoma*, *Panicum maximum* and *Cyperus* spp. being very attractive to them. As woody species invade, the variety of birdlife increases; the Greater Coucal (*Centropus sinensis*) and Lesser Coucal (*C. bengalensis*) soon appear when a few bushes develop, and Blue-throated Bee-eater (*Merops viridis*) and Blue-tailed Bee-eater (*M. philippinus*) also feed there when perching sites are available. Many of the woody trees and bushes have bird-dispersed seeds and are attractive food sources when in fruit; they include *Adinandra dumosa*, *Dillenia suffruticosa*, *Ficus grossularioides*, *Melastoma malabathricum*, *Rhodamnia cinerea* and *Muntingia calabura*. Frugivores attracted to these sites include the Pink-necked Green-Pigeon (*Treron vernans*), Yellow-vented Bulbul (*Pycnonotus goiavier*), Javan Myna (*Acridotheres javanicus*), Asian Glossy Starling (*Aplonis panayensis*) and Scarlet-backed Flowerpecker (*Dicaeum cruentatum*). One of the tree invaders is *Acacia auriculiformis*, an exotic from New Guinea and northern Australia, a species not particularly attractive to birdlife. It is interesting that the Little Bronze Cuckoo (*Chrysococcyx minutillus*) and its host, the Golden-bellied Gerygone (*Gerygone sulphurea*), can frequently be found associated with this tree as both these genera are of Australasian origin (White & Bruce, 1986).

Although these pockets of wasteland are temporary, they are undoubtedly of great importance in providing natural refuges for urban bird species; this wasteland being usually close to a built-up areas. These species of birds persist in Singapore because they are adaptable and have survived habitat transformation from a natural jungle to an urban jungle (Goh et al., 2002).

Sandy shores

Most of the natural sandy shorelines of Singapore have been destroyed by reclamation or converted to seaside parks where most of the original vegetation is replaced by ornamental species and mowed grasses. To the east and the south the material deposited by man is still sand but of a much coarser grain than would normally be found in the prevailing conditions. Fortunately, many of the native seashore plant species such as Seashore Morning Glory (*Ipomoea pes-caprae*) and Common Creeping Remirea (*Remirea maritima*) are rapid colonisers of new shores and soon form a thick fringe around the edges of reclaimed land. The rigours of the habitat have required that many indigenous beach-forest trees be used for planting, such as Casuarina (*Casuarina equisetifolia*), Sea Almond (*Terminalia catappa*), Sea Hibiscus (*Hibiscus tiliaceus*) and Bintangor (*Calophyllum inophyllum*).

The avifauna of the landward side is typical of parks and gardens all over the island: Spotted Dove (*Streptopelia chinensis*), Collared Kingfisher (*Todiramphus chloris*), Common Iora (*Aegithina tiphia*), Yellow-vented Bulbul (*Pycnonotus goiavier*), Black-naped Oriole (*Oriolus chinensis*), Common Tailorbird (*Orthotomus sutorius*), Paddyfield Pipit (*Anthus rufulus*), Brown-throated Sunbird

(*Anthreptes malacensis*), Olive-backed Sunbird (*Nectarinia jugularis*), Eurasian Tree Sparrow (*Passer montanus*) and Scaly-breasted Munia (*Lonchura punctulata*) being dominant species.

The steep profile of the artificial beaches and the coarse nature of the substrate make most of the reclaimed beaches unsuitable for shorebirds. In the shallower waters around Changi, however, mud has been deposited and here various marine algae (*Ulva*, *Cladophora*, *Enteromorpha*) have become established. At low tide these beds provide important feeding grounds for shorebirds, several of which are more commonly found in this situation than on muddy shorelines, for example, the Grey Plover (*Pluvialis squatarola*), Kentish Plover (*Charadrius alexandrinus*), Greater Sand Plover (*C. leschenaultii*), Ruddy Turnstone (*Arenaria interpres*), Sanderling (*Calidris alba*) and Red-necked Stint (*C. ruficollis*). The Changi reclaimed land is also the breeding ground of our resident Malaysian Plover (*Charadrius peronii*), a globally near-threatened species. This area, unfortunately, has been designated for aerospace exhibitions.

Coral reef flats

Although the western part of the main island once held some coral reefs, land reclamation, intensive coastal development and dumping of earth spoils have now limited their distribution to the southern islands. At low tide the rocky reef flat is exposed and contains many pools of water. Almost all the Singapore shorebirds occur there in small numbers, but these flats are the sole habitat of the one and only Beach Thick-knee (*Esacus magnirostris*), while the highest concentrations of Pacific Reef Egret (*Egretta sacra*) and Great-billed Heron (*Ardea sumatrana*) are also found there. Opportunists such as House Crow (*Corvus splendens*) and Common Myna (*Acridotheres tristis*) are often seen at low tide.

Freshwater wetlands

This is a relatively recent type of habitat in Singapore, formed as a result of reservoir construction. The earliest reservoirs were constructed in the valleys of the low hills in the centre of the island. The first (MacRitchie) was built in 1862 and the most recent (Upper Peirce) in 1973. With steep sides, and forested to the shoreline, these reservoirs have always offered little to anything other than kingfishers, terns and sea-eagles. The sea-eagles feed and breed in the vicinity of the central reservoirs. In the 1970s, shallower reservoirs were constructed in coastal regions by barraging the estuaries of the larger rivers. The first, on the sites of the Sungei Kranji and Sungei Poyan, were followed by four along the west coast, two in the south and one on Pulau Tekong and, more recently, at the mouth of the Sungei Seletar. Those in the west and at Kranji have very shallow banks and are bounded by fairly large marshland areas.

The flora of these marshes is unremarkable but they have been invaded by a number of bird species which were formerly rare or absent from the island. Notable are the Grey Heron (*Ardea cinerea*), Purple Heron (*A. purpurea*), Yellow Bittern

(*Ixobrychus sinensis*), Red-wattled Lapwing (*Vanellus indicus*), Common Moorhen (*Gallinula chloropus*), Purple Swamphen (*Porphyrio porphyrio*) and other rails. They also form refuges for large numbers of migrant *Acrocephalus* and *Locustella* warblers and other rare or accidental visitors such as the Eurasian Marsh Harrier (*Circus aeruginosus*), Greater Spotted Eagle (*Aquila clanga*), Common Coot (*Fulica atra*) and Pheasant-tailed Jacana (*Hydrophasianus chirurgus*). The attraction of the habitat is enhanced by coverage of the water surface by waterweeds such as Water Hyacinth (*Eichhornia crassipes*) and Water Spangle (*Salvinia molesta*) although these are now largely controlled by the water authorities.

ZOOGEOGRAPHY OF SINGAPORE AND THE RIAU-LINGGA ARCHIPELAGO

Singapore is separated from the Malay Peninsula by the Johore Strait. To the south, approaching the coast of Sumatra, are a group of islands collectively known as the Riau-Lingga Archipelago. This Archipelago can be broadly divided into two groups: the north Riau (Batam, Bintan and islets), separated from Singapore by the Singapore Strait; and the southern Lingga group isolated by the Dempo Strait. These islands have been viewed, along with Singapore, as an extension of the Malay Peninsula (Gibson-Hill, 1952c).

All the islands were once joined with Sumatra and the Malay Peninsula when sea levels were lower during the Pleistocene. Sundaland, a vast continent nearly 2,000 km across, joined the islands of Sumatra, Java, Borneo and Palawan to continental Asia. Rising sea levels in the post-glacial period reduced this to the now submerged Sunda Shelf, leaving the four main islands of the Greater Sundas exposed and isolated from the continent. During the existence of Sundaland, the terrestrial fauna of the Greater Sundas could mix freely where habitats were contiguous. However, it is thought that the fragmentation of the rain forest biome, brought about by the climatic vagaries of the glacial periods, promoted speciation leading to the great avifaunal diversity found in the forests of Southeast Asia today (Wells, 1985). The fauna of the whole area is still sufficiently similar to be regarded by some authors as a physiographic "Malaysia" (Chasen, 1935).

Isolation of the major land masses within the Sunda Shelf has led to varying degrees of specialisation in the avifauna of each. Within the equatorial belt most extinction in the forest avifauna seems to have occurred on the Malay Peninsula (Wells, 1985). Sumatra shows a high degree of similarity to the Malay Peninsula but with slightly greater specialisation. Borneo, the third largest island in the world, shows a moderate degree of endemism and extinction. Java, the smallest of the three islands, has suffered a large number of extinctions but its avifauna shows a high degree of specialisation, with the majority of birds being well-marked subspecies.

Singapore has not been isolated long enough to show any degree of avifaunal specialisation. The narrow Johore Strait (500 m wide in places) is less than 10 m deep along most of its

length and is likely to have been inundated to its present size only within the last 7,000 years. Prior to this it was undoubtedly a river course which may or may not have been a faunal barrier. That the present Strait is a barrier to bird distributions is uncertain.

The ecological processes causing population extinctions in islands have been discussed by Terborgh & Winter (1980), but two processes stand out as being important for Singapore. One would have been the flooding of low areas of the island by a sea at a higher level than today. Nearly all the island is flat and only 35 % of the land lies higher than 15 m above sea level. There is evidence to suggest a Holocene sea about 6 m above present levels (Haile, 1971, in Medway & Wells, 1976), and there are recent alluvial sediments in Singapore up to 8 m above the present sea level (Hill, 1973). Such a rise in sea level could have reduced the island to almost half its present size and caused a considerable loss of habitat.

The second event aggravating extinction rates has been large-scale habitat destruction by human activity. Forest clearance began in the early 19th century and proceeded at such a rate that by 1859 almost 30 % of the island was covered by abandoned agricultural land (Johnson, 1973), large areas of it being reduced to grassland that formed considerable fire hazards (Wee & Corlett, 1986). The first reliable bird documentations in Singapore did not take place until the late 1870s (Kelham, 1881). It is probable that most extinction since then have been caused by man. Brook et al. (2003) estimated that 82 % of the original avifauna may have been lost since 1819 (however, see discussion on birds which have died out). Forty-four birds went extinct since formal documentations were available; 37 of these (84.1 %) have been lost during the course of the last century, with 18 species (40.9 %) having disappeared within the last 55 years (Table 2).

The biota of any island is a balance between extinctions and immigrations (MacArthur & Wilson, 1967). Although Singapore has many bird species introduced by man (Appendix IV), there are very few new residents as a result of natural immigration. Amongst the new natural introductions, the herons (*Ardea cinerea*, *A. purpurea*, *Nycticorax nycticorax*), Yellow Bittern (*Ixobrychus sinensis*), Purple Swamphen (*Porphyrio porphyrio*) and Red-wattled Lapwing (*Vanellus indicus*) have all benefited from the creation of freshwater wetlands by water storage reservoirs. The Little Tern (*Sterna albifrons*) and Savanna Nightjar (*Caprimulgus affinis*) are very new additions which have opportunistically settled on the unnatural large areas of sand formed by coastal reclamation. The spread of the Coppersmith Barbet (*Megalaima haemacephala*) down the Malay Peninsula and into Singapore appears to have resulted from forest clearance. Whether or not the Black-naped Oriole (*Oriolus chinensis*) and Common Myna (*Acridotheres tristis*) invasions were entirely natural remains a controversy, but both only inhabit cleared, open country habitats. The only new addition that has apparently not benefited from human activities is the Crested Goshawk (*Accipiter trivirgatus*); as an uncommon bird of prey, it may previously have been overlooked.

Table 2. Time line of local bird extinctions. For species with an asterisk (Oriental Pied Hornbill, Barred Eagle Owl, Lesser Adjutant) where there are recent sightings of wild birds, extinction dates are based on the disappearance of the original populations in Singapore. For details on the records and the date of last records, please refer to the Species Accounts. For birds that were extinct from 1949 onwards, the exact year of extinction cannot be ascertained and is taken as the year when the species was last recorded in publication.

Birds extinct before 1900		
Species	Last recorded	Habitat
1. Oriental Pied Hornbill (<i>Anthracoceros albirostris</i>)*	1898	forests
2. Rhinoceros Hornbill (<i>Buceros rhinoceros</i>)	1898	forests
3. Dusky Broadbill (<i>Corydon sumatranus</i>)	1871	forests
4. Black-and-yellow Broadbill (<i>Eurylaimus ochromalus</i>)	1871	forests
5. Maroon-breasted Philentoma (<i>Philentoma velatum</i>)	1879	forests
6. Yellow-bellied Bulbul (<i>Alophoixus phaeocephalus</i>)	before 1900	forests
7. Black-capped Babbler (<i>Pellorneum capistratum</i>)	1899	forests
Birds extinct after 1900 but before 1949		
Species	Last recorded	Habitat
1. Greater Flameback (<i>Chrysocolaptes lucidus</i>)	1908	mangroves
2. Orange-backed Woodpecker (<i>Reinwardtipicus validus</i>)	1920	forests
3. Buff-rumped Woodpecker (<i>Meiglyptes tristis</i>)	1921	forests
4. Blue-eared Barbet (<i>Megalaima australis</i>)	1921	forests
5. Brown Barbet (<i>Calorhamphus fuliginosus</i>)	1921	forests
6. Red-naped Tropicbird (<i>Harpactes kasumba</i>)	1921	forests
7. Rufous-collared Kingfisher (<i>Actenoides concretus</i>)	1938	forests
8. Diard's Tropicbird (<i>Harpactes diardii</i>)	1921	forests
9. Oriental Bay Owl (<i>Phodilus badius</i>)	1928	forests
10. Barred Eagle Owl (<i>Bubo sumatranus</i>)*	1925	forests
11. Lesser Adjutant (<i>Leptoptilos javanicus</i>)*	1938	mangroves
12. Banded Broadbill (<i>Eurylaimus javanicus</i>)	1928	forests
13. Green Broadbill (<i>Calyptomena viridis</i>)	1941	forests
14. Dark-throated Oriole (<i>Oriolus xanthornotus</i>)	1941	forests
15. Bar-bellied Cuckoo-shrike (<i>Coracina striata</i>)	1922	forests
16. Large Woodshrike (<i>Tephrodornis gularis</i>)	1940s	forests
17. Yellow-breasted Flowerpecker (<i>Prionochilus maculatus</i>)	1923	forests
18. Plain Flowerpecker (<i>Dicaeum concolor</i>)	1931	forests
19. Spectacled Spiderhunter (<i>Arachnothera flavigaster</i>)	1921	forests
Birds extinct from 1949 onwards		
Species	Last recorded	Habitat
1. Grey-capped Pygmy Woodpecker (<i>Dendrocopos canicapillus</i>)	1952	wooded areas
2. Crimson-winged Woodpecker (<i>Picus puniceus</i>)	1949	forests
3. Checker-throated Woodpecker (<i>Picus mentalis</i>)	1949	forests
4. Olive-backed Woodpecker (<i>Dinopium rafflesii</i>)	1949	forests
5. Buff-necked Woodpecker (<i>Meiglyptes tukki</i>)	1949	forests
6. Grey-and-buff Woodpecker (<i>Hemicircus concretus</i>)	1949	forests
7. Oriental Dwarf Kingfisher (<i>Ceyx erithacus rufidorsa</i>)	1949	forests
8. Black-bellied Malkoha (<i>Phaenicophaeus diardi</i>)	1949	forests
9. Garnet Pitta (<i>Pitta granatina</i>)	1949	forests
10. Black-and-red Broadbill (<i>Cymbirhynchus macrorhynchos</i>)	1949	forests
11. Fiery Minivet (<i>Pericrocotus igneus</i>)	1949	forests
12. Bronzed Drongo (<i>Dicrurus aeneus</i>)	1949	forests
13. Green Iora (<i>Aegithina viridissima</i>)	1949	forests
14. Rufous-winged Philentoma (<i>Philentoma pyrhopterum</i>)	1949	forests
15. Grey-bellied Bulbul (<i>Pycnonotus cyaniventris</i>)	1949	forests
16. Spectacled Bulbul (<i>Pycnonotus erythrophthalmos</i>)	1949	forests
17. Purple-naped Sunbird (<i>Hypogramma hypogrammicum</i>)	1949	forests
18. Grey-breasted Spiderhunter (<i>Arachnothera affinis</i>)	1949	forests

Gibson-Hill (1952c) surveyed the birds of the Riau-Lingga Archipelago in the context of previous land connections to Singapore and the Malay Peninsula. He regarded its avifauna as "an impoverished version of that of Singapore Island". It is true that over 40 % of the avifauna of Singapore has never been recorded on the islands of the Archipelago, but to make a direct comparison of the Archipelago with Singapore is probably mistaken because, as will be shown below, it has closer affinities with Sumatra.

The Riau-Lingga Archipelago is isolated to the north by the Singapore Strait. This is more than 30 m deep over most of its length and contains several "deeps" of 80 – 100 m, with the deepest over 220 m just south of St. John's Island. The Strait marks the submarine course of the proto-Kampar River valley, which once ran from the present Kampar River in Sumatra northeast along the course of the Singapore Strait and out onto the Sunda peneplain. A river this size would have formed a large water barrier between Singapore and the Riau group well into the Tertiary period. Likewise, the Riau group is separated from the Lingga group by the Dempo Strait, about 50 m deep, which marks the Tertiary course of the Indragiri River and contains similar "deeps" to those south of Singapore. These straits would have contained water, either fresh or saline, long before the surrounding plains were flooded and would therefore have long existed as faunal barriers. Hence, Gibson-Hill (1952c) made the observation that within the Riau-Archipelago north-south avifaunal divisions are more marked than east-west. Because the east Sumatran coast now has an accreting shoreline, Gibson-Hill (1952c) assumed a much deeper sea bed in the past and longer separation between the Archipelago and Sumatra than may have been the case. The Lingga group is connected to Sumatra by a submarine shelf less than 20 m deep, the flooding of which may have occurred as recently as 8,000 – 9,000 years ago. The Riau group is separated from Sumatra by the Durian Strait, over 20 m deep and therefore implying slightly longer separation from the mainland.

HISTORY OF ORNITHOLOGY IN SINGAPORE

The first written account of Singapore's birds, a very general description by Major James Low, a former magistrate, in his journals of 1840 and 1841 when he described most aspects of life in Singapore, has no real scientific value.

Singapore's most famous naturalist was Sir Stamford Raffles (1781 – 1826). However, his collections were made mostly in Sumatra and Java, with some specimens also from Malacca. All his papers and specimens were lost in the tragic fire on board the "Fame" shortly after it left Bencoolen on 2 February 1824. Although the founder of Singapore, then a British colony, he spent only about 12 months in Singapore, divided between three visits. For much of that time, he was ill and had a heavy administrative load. His major contribution to Singapore's natural history was to support Dr Nathaniel Wallich's suggestion to establish a botanical garden at Fort Canning.

Between 1842 and 1845, Edward Blyth, the Curator of the Asiatic Society of the Bengal Museum, published several papers in their journal describing collections of birds from Malacca and Singapore. However, he did not visit the region and it appears that some species attributed to Singapore may have been collected elsewhere in the Malay Peninsula, having been purchased from professional collectors.

In 1849, Dr Thomas Oxley, a Senior Surgeon serving in the Straits Settlements, published a paper in *Logen's Journal (J. Malayan Archipelago & E. Asia)*, which described the zoology of Singapore in rather general terms. Although it described the habits of a few species, it was written very much through the eyes of a sportsman.

The eminent naturalist, Alfred Russel Wallace, visited Singapore several times between 1854 and 1862, mainly to provision his next sortie. His main preoccupation seems to have been with tigers and beetles. Robinson (1927) says that Wallace did collect birds but his ornithological work in Singapore seems to have been of little importance.

In 1873, Blyth's successor at the Museum of the Asiatic Society in Calcutta, Allan Octavian Hume, founded and edited the journal *Stray Feathers*, a specialist ornithological journal for India and its dependencies. Under his charge was a William Ruxton Davison who, born in Burma and raised in India, had been trained in analytical chemistry. Hume nurtured Davison's interest in natural history by training him, then sending him off for at least half of every year to make collections in India. In 1877, he sent Davison and another European collector, J. Darling, to the Malay Peninsula, where they made extensive collections. In the vicinity of Malacca alone, they collected over 30,000 skins. In 1879 and 1880 Hume published three important papers in *Stray Feathers* describing these collections.

Whilst in the Malay Peninsula, Davison worked extensively in Johore with occasional visits to Singapore. At this time, he met Captain (later Brigadier-General) H. R. Kelham of the 74th Highlanders, who was stationed in Singapore between 1877 and 1879. Still in his early 20s, Kelham, an avid hunter and bird collector, explored Singapore with his gun, collecting wherever he went. He and Davison seem to have met frequently and Kelham benefited a great deal from the latter's advice on bird identification. In return Kelham made his information freely available to Davison and was undoubtedly the "friend" referred to by Hume (1879). Kelham (1881; 1883) published an account of his collections in *Ibis* (1881 – 1882), these papers being reproduced in the *Journal of the Straits Branch of the Royal Asiatic Society* of 1882 – 1883. These papers were the first systematic accounts of Singapore birds.

In 1887, a newly-married Davison took up an appointment as Curator of the Raffles Museum in Singapore, joining the Museum just as it moved to new premises at the foot of the hill at Fort Canning. Though his skills and experience boosted the ornithological collection at the Museum, Davison's days of vigorous collecting seemed to be over by then as he was weak and often ill. He sent his collectors to the Malay Peninsula and made a trip to Pahang himself from 23 June to

5 September 1891, but clearly found the administration of the library and in-house battles against termites, fungus and even dysentery, extremely trying. He died on 25 January 1893.

The next person to publish his observations of Singapore's birds was Henry Nicholas Ridley who became Director of the Singapore Botanic Gardens in 1888. Besides his botanical achievements, Ridley closely observed birds and, in 1898, wrote of the birds in the Botanic Gardens and followed up with several notes on drongos, woodpeckers, owls and others. Having produced over 500 books, papers and notes on biological matters during his 63-year career, he can justifiably be described as Malaya's greatest naturalist.

The next work on Singapore's birds was by Major H. R. Baker, an active field man who also visited and studied the collections in the Raffles Museum. Unfortunately, since his reference source was the *Fauna of British India*, the names for some his birds referred to their nearest relative in India. As a result, his work (Baker, 1907) was largely ignored.

Local ornithology received its greatest boost when H. C. Robinson was appointed Curator of the Selangor Museum in Kuala Lumpur in 1903. As an assistant at the Liverpool Museum, his chief duty was that of cataloguing birds. In 1901 and 1902 he accompanied Dr Nelson Annandale (later Superintendent of the Indian Museum and Director of the Zoological Survey of India), on an anthropological and zoological expedition to the Malay Peninsula. The results of this were written up in several volumes named *Fasciculi Malayaenses*, the completion of which was interrupted by Annandale's removal to Calcutta and Robinson's to Kuala Lumpur.

Robinson started systematic work on the vertebrates of Southeast Asia, intending to write a series of volumes analogous to those of the *Fauna of British India*. He was joined in Kuala Lumpur in 1908 by Cecil Boden-Kloss. Both men, of a similar mind and disposition, soon formed a close association and produced a formidable list of works on the birds and mammals of Southeast Asia.

Robinson was made Inspector of Fisheries in 1906. By 1914 his official title was Director of Fisheries and Museums, Federated Malay States. These administrative demands often took Robinson away from natural history but he still found time to publish over 150 papers on a range of topics including anthropology, mammalogy, ornithology and entomology, many of them co-authored with Boden-Kloss.

Since Davison's death in 1893, the Raffles Museum has not had an easy time. In 1895, Dr. R. Hanitsch was appointed Director, and was replaced in 1919 by J. C. Moulton, a former Curator of the Sarawak Museum and founder of its journal. Boden-Kloss became Director of the Raffles Museum in October 1923 when Moulton became Chief Secretary of Sarawak.

Boden-Kloss, a serious systematic scientist, arranged an exchange with the Selangor Museum, and had all the bird and mammal skins at Selangor transferred to Singapore in

return for the insect collection at Singapore. This significant acquisition for the Raffles Museum made it one of the most important bird collections in Asia.

Upon retirement, and at the request of the Government, Robinson began work on the five-volume *Birds of the Malay Peninsula* which to this day, remains as one of the most important ornithological references in Southeast Asia. In 1927 he published the first volume on the common birds, and in 1928 another on montane species. He died in May 1929, without completing the project.

In 1921, Frederick Nutter Chasen was appointed Taxidermist at the Raffles Museum under Moulton, being promoted to Assistant Curator in October the same year. In 1923, the year he became the Curator, Chasen published the first completed list of Singapore birds with notes on the habitats found on the island.

Sir John Bucknill, a former Chief Justice of the Straits Settlements, had prepared a manuscript for a popular book on 40 common Singapore birds, a project he had started with Moulton. Boden-Kloss, as the new Director of Museums, became heir to Bucknill's manuscript and, not inclined to write a popular book, had turned to his assistant F. N. Chasen to finish the project. Its scope was widened to include all the common birds, and led to the publication, in 1927, of *Birds of Singapore Island* by Bucknill and Chasen. Boden-Kloss retired from the Raffles Museum in 1932. He then formed a close and productive association with Chasen, going on many field trips together and publishing numerous joint papers.

Chasen became Director of the Raffles Museum in March 1932 and was soon recognised as the authority on Malayan birds and mammals. He took over the *Birds of the Malay Peninsula*, which Robinson had started. Using many of Robinson's notes and papers, in 1936, he produced *Volume III Sporting birds; Birds of the Shore and Estuaries*, in posthumous collaboration with Robinson.

In 1938, Chasen was visited by Carl Gibson-Hill, a young medical doctor and a keen naturalist, bound for duty on Christmas Island. Chasen advised him on the collections he could make there and how they could be sent to Singapore. The two became firm friends and Gibson-Hill collected extensively for Chasen, both vertebrates and invertebrates. Gibson-Hill's love of the sea and sea birds resulted in large collections of frigate birds which Chasen made into a mounted display in 1940. In 1939, Chasen (1939a) wrote *Birds of the Malay Peninsula Volume IV (The Birds of the Low Country Jungle and Scrub)*. He produced a *Hand List of Malaysian Mammals* around this time and was apparently working on a faunal treatise for the birds of the Malay Peninsula.

World War II came and Malaya was invaded by the Japanese in 1941 and Singapore surrendered in February 1942. After sending many of the skins to the Botanic Gardens and to Raffles College, where he hoped they would be safe from enemy bombing, Chasen left Singapore on the eve of the final Japanese attack. However, he lost his life when the SS

Guan Bee, in which he was being evacuated, was sunk. Much of his notes and records were lost with him, including his plans for *Volume V* of the *Birds of the Malay Peninsula*. Meanwhile Gibson-Hill had worked, and studied natural history, on Christmas Island and the Cocos-Keeling Islands. He returned to Singapore in December 1941. When Chasen left, Gibson-Hill was appointed Acting Curator on 12 February. By Sunday, 15 February, the Japanese were negotiating the British surrender. Gibson-Hill remained at the Museum until 23 February, when he was removed to Changi Prison Camp and later Sime Road Civil Internment Camp.

In the years before the war, many individuals had taken an interest in studying birds, carefully noting their observations. Notable amongst them were Dr B. Molesworth, E. H. Bromley, F. G. H. Allen, G. C. Madoc, E. J. H. Berwick and A. T. Edgar. Many of them spent the war in Changi Prison Camp and formed the Changi Ornithological Study Group.

While still in Changi Prison and to provide reference material for this group, Madoc (1956) stole paper, negotiated a typewriter and produced *An Introduction to Malayan Birds* reconstructing this from a memory of information contained in notebooks and diaries he had lost during the retreat from Malaya. It was re-published by the Malayan Nature Society after the war and is still being reprinted and widely used by birdwatchers in Southeast Asia today.

One result of these prisoner-of-war activities was that R. J. Spittle published in 1949 what is, to this day, the only major paper on the nesting habits of Singapore birds, based on observations made during excursions around the prison camp in work parties. Some of Gibson-Hill's post-war publications also dealt with observations made at the Sime Road Civil Internment camp.

Archibald Glenister (1951), a mining engineer and prospector who lived in Ipoh but travelled widely, published *The Birds of the Malay Peninsula, Singapore and Penang*, a book aimed mainly at providing identification of all the species on the Malayan list. Although it lacked sufficient colour plates to make it a classic, it is still a valued reference source and has been reprinted several times.

After the war, all foreign prisoners-of-war were repatriated, Gibson-Hill amongst them. Michael W. F. Tweedie, who had joined the museum in 1932 and risen to be Curator under Chasen, was made the first post-war Director in March 1946. Under Tweedie the Museum had two Curators, one for Zoology and one for Ethnography and Anthropology. The Zoology post was given to Gibson-Hill who returned in 1947. In 1960, Tweedie published another bird book, *Common Malayan Birds*, which provided some information to beginners of birds but was not very useful for advance birders.

Before the war, Chasen had made arrangements to transfer the bird and mammal type specimens in the Raffles Museum to the British Museum (Natural History) in London because it was felt that the skins would survive better in a temperate

climate. One of Gibson-Hill's first tasks was to complete this project. He transferred type specimens of 71 birds and 99 mammals. He found 32 bird specimens to be missing but seven of these were traced after publishing a notice in *Ibis* (1948). In 1949, Gibson-Hill produced an updated *Annotated Checklist of the Birds of Malaya* (Gibson-Hill, 1949), and followed the next year with an updated version of Chasen's *Checklist of the Birds of Singapore* (Gibson-Hill, 1949a), which forms the basis of this work.

Gibson-Hill started a series of Ornithological notes from the Raffles Museum (Gibson-Hill, 1950; 1950a; 1950b; 1952; 1952a; 1952b; 1956) published in the Museum's Bulletin, in which he published a long series of notes and papers on his own observations. He was found dead in his home in Singapore a few days before he was to relinquish the post of director in August 1963. With his death, ornithological research at the Raffles Museum effectively ended.

Less than a year later, Singapore lost Loke Wan Tho, a businessman, photographer, philanthropist and amateur naturalist. He had made contributions to ornithology and conservation, not only in Singapore but throughout the Orient. His interest in birds was consolidated during the World War II when he was evacuated to India. There he came in contact with Salim Ali and accompanied him on several expeditions when the Indian State Surveys were being carried out by the Bombay Natural History Society. On his return to Singapore, though business matters left him little time for field studies, his philanthropy supported Asian ornithology extensively. He published several articles, but his best-known work is a book entitled *A Company of Birds* (1958), illustrated with his own photographs, many of which were taken in Singapore. He was killed in an air crash in Taiwan in June 1964.

Between 1965 and 1968, Peter Ward, an ornithologist, whilst lecturing at the University of Singapore, studied the origins of Singapore's urban avifauna and the cause of seasonal breeding in equatorial birds. His work on the Yellow-vented Bulbul (Ward, 1969) became a cornerstone for this field. By this time, the centre of ornithological studies had shifted to the University of Malaya in Kuala Lumpur, where Lord Medway (now Earl of Cranbrook), David Wells and Ian Nisbet made great strides in advancing the knowledge of birds in the region. In the early 1960s, they began a series of annual *Malayan Bird Reports*, summarising records from both Peninsula Malaysia and Singapore. Part of this was supported by the Migratory Animal Pathological Survey (MAPS) of the U.S. Army under the directorship of the late Elliot McClure. MAPS used the University of Malaya as one of their ringing centres, through which equipment and rings were supplied to Singapore, where members of the Malayan Nature Society, British Army Bird Club and the Royal Air Force Ornithological Society joined forces in ringing migratory birds and observing their movements. Until this work, very little was known about the details of migration through the region.

The plates Chasen had intended to use in *Volume V* of the *Birds of the Malay Peninsula* had been deposited in the

Bird Room of the British Museum (Natural History). These came to light again in 1964 along with a replacement text that had been prepared not long after the war by E. Banks, a former Curator of the Sarawak Museum. Since much of Bank's text was now well out of date, new plans were made and, in 1975, Medway and Wells completed *Volume V* of the *Birds of the Malay Peninsula* which had been started 48 years earlier by Robinson and had out-lived two successive authors. The work summarised the knowledge of birds in this region up to that date, including the advances that had been made in Singapore.

The Bird Study Group of the Malayan Nature Society (Singapore Branch), or SBBG, continued the activities of the MAPS project. In 1975 and 1976, a ringing team led by Ng Soon Chye, studied migratory birds at Serangoon Sludge Treatment Works. In 1986, the Nature Society (Singapore Branch) formed a Bird Group and the sight records of its members form the bulk of the information in the Species Accounts in this manuscript. The Group currently has a quarterly newsletter called *Singapore Avifauna* in which all interesting sightings are carefully recorded and verified by a Records Committee in the Nature Society (Singapore). This enabled Singapore's first *Annual Bird Report* to be published for 1986.

In early 1987, Christopher Hails and artist Frank Jarvis, published an introductory guide to the birds of Singapore (Hails & Jarvis, 1987). It is a very readable book for beginners, with many interesting facts about the common birds seen in the country. Many other publications on the avifauna of Singapore were produced over the next 10 – 15 years. Lim Kim Seng (1992) highlighted the plight of many threatened and endangered species in *Vanishing birds of Singapore*. Morten Strange and Allen Jeyarajasingam (1993) produced a field guide, *Birds: a photographic guide to the birds of Peninsula Malaysia and Singapore*. Many photographs of birds were seen for the first time. It is also another useful book meant for beginners. In 1994, Clive Briffett and Sutari bin Supari produced a little hardcover publication called *The birds of Singapore (Images of Asia)*. Some interesting species are highlighted in this account. Lim Kim Seng and Dana Gardner (1997) produced *An Illustrated Field Guide To The Birds of Singapore*, that became quite handy for beginners new to birds in Singapore. David Wells (1999) produced the first volume of *The birds of the Thai-Malay Peninsula*. This book included Singapore's avifauna in its discussion and is meant for serious birders. In the same year, Allen Jeyarajasingam and A. Pearson wrote another book, *A field guide to the birds of West Malaysia and Singapore*. This book seem rather like a rehash of previous field guides and added very little to increase the knowledge of local birders.

It is clear that birdwatching as a hobby is now in a state of rapid growth. It seems likely that formal records will continue to be kept, and it is our hope that the present checklist will act as a stimulus to promote further interest in birds and serve as a foundation upon which more accurate synopses can be built in the future.

In recent years, some of the people who have contributed to the knowledge of avifauna in Singapore include: Clive Briffett, who led the Nature Society (Singapore) Bird Group in the 1980s and concentrated efforts on saving wetlands in Singapore. He left the country in 2000. Lim Kim Keang took over the leadership of the Bird Group till this day. Lim Kim Seng holds the bird records for the Nature Society (Singapore) and edits the publications of the Bird Group, together with Lim Kim Chuah and Yong Ding Li. The Bird Group of Nature Society (Singapore) also has a Records Committee, which keeps and validifies bird sightings submitted by members. These sightings are published in their publication, *Singapore Avifauna*. Ho Hua Chew has been instrumental in campaigning for nature conservation in the country and is constantly surveying potential habitats for conservation. Subaraj Rajathurai, who was active in submitting most records in the early series of *Singapore Avifauna*, continues to take a strong interest in birds and all aspects of nature and conservation. Ashley Ng and various members of the Pigeon-Holes are digiscopers who, in recent years, have contributed tremendous information on plumages of birds, sightings and nest records. Dr Wee Yeow Chin, Subaraj Rajathurai and Richard Hale started a new group called the Bird Ecology Study Group in late 2005. They lead birdwatchers to study the behaviour of birds and document the interaction of birds with the environment and other animals in a more systematic way. Through their blog, sightings of birds, breeding records and observations of bird behaviour are made readily and rapidly available to everyone.

SINGAPORE'S AVIFAUNA

Appendices I and II list the 404 species of birds which have been recorded in the wild state in Singapore. The 75 species in Appendix III are those for which the collecting locality is in doubt but which have nevertheless been labelled "Singapore", as well as those unconfirmed and otherwise doubtful records that have no detailed notes.

Forty-four species are now extinct or have not been recorded in the last 50 years (Appendix II). Some of these previously-extinct species have been recorded in Singapore again as non-breeding visitors. These species are not included in the analysis below. Thus, there are 364 species which currently occur in Singapore. Of these 342 species occur here naturally and 22 species have been introduced by man and are found in a feral state.

Of the naturally-occurring species still found in Singapore, 56 families (Table 3) are represented, the most diverse being the Scolopacidae (36 species), Accipitridae (29 species), Muscicapidae (20 species), Sylviidae (20 species), Ardeidae (18 species), Corvidae (17 species) and Passeridae (17 species), all the others being represented by 15 species or less. There are 121 species whose residency has been proven by breeding records and 21 other presumed residents which have not been proven to breed here (Table 3). Most of this latter group are probably true residents, the absence of breeding records being a reflection of the difficulty of locating

nests in the tropics. Most of these species are either canopy species or live on offshore islands.

One hundred and fifty-four species are winter visitors and/or passage migrants, although the distinction between these two groups must be treated with some caution: sightings of certain rare species are so infrequent that it is impossible to be exactly certain to which category they should belong. We have listed 25 species as non-breeding visitors; in most instances these are species resident in the Malay Peninsula, which have occurred in Singapore on several occasions. Twenty-one species which have been recorded only once or twice are listed as accidentals (sometimes called vagrants). Some of the accidentals are migratory species which have clearly strayed from their normal route or over-shot their normal wintering range, for example, the Eurasian Wigeon (*Anas penelope*) and Pectoral Sandpiper (*Calidris melanotos*), whilst others are resident elsewhere in Southeast Asia, for example, the Whiskered Treeswift (*Hemiprocne comata*) and Glossy Ibis (*Plegadis falcinellus*). This latter group of accidentals, together with certain non-breeding visitors such as the Cotton Pygmy-goose (*Nettapus coromandelianus*), Jambu Fruit Dove (*Ptilinopus jambu*) and Cinnamon-headed Green Pigeon (*Treron fulvicollis*) could conceivably settle and become resident, thereby demonstrating the mechanism of natural colonisation of islands, which is balanced against extinctions. As a case in point, a single individual (presumably the same bird) of Beach Thick-knee (*Esacus magnirostris*) has resided on the reef-flats of some of the southern islands for at least 20 years; presumably the occurrence of a mate is all that is required for potential colonisation.

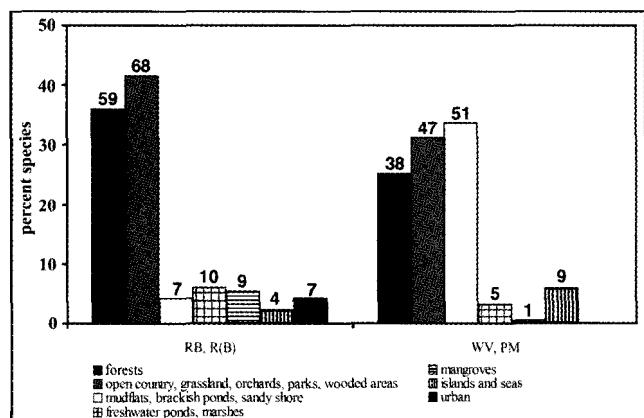


Fig. 2. Distribution of major habitat types of resident and migrant birds in Singapore. Vagrants and non-breeding visitors are excluded. The number above each bar indicates the total number of species recorded at each habitat.

Only a few species do not have at least reasonably clear status. The Lesser Cuckoo Shrike (*Coracina fimbriata*) is a non-migratory forest species confined to Bukit Timah Nature Reserve and recorded only three times in the last 29 years. Three species of leafbirds (*Chloropsis* spp.) occur here; the Blue-winged Leafbird (*C. cochinchinensis*) occurs regularly, but not often enough to suggest resident status. A handful of recent sightings of the Thick-billed Spiderhunter (*Arachnothera crassirostris*) are also difficult to account for. None of these species mentioned here are known to undertake migrations or occur in irruptions. They are

encountered too infrequently to be confidently ascribed resident status, though in areas of adjacent Malaysia, where they are known to reside, they are encountered frequently. Only two possibilities exist: either all these species represent the last few survivors of relict populations or some hitherto undocumented process is causing them to wander from forests elsewhere in the region.

For a few forest species long-distance non-migratory movements are well-documented, such as various species of Columbidae, which are often netted at migration watchpoints. A bird ringed in Singapore on 20 June 1965 was netted at night on 11 May 1967, about 500 km to the north, at the summit of Gunong Brinchang, Cameron Highlands (Wells, 1999). The occurrence of Cinnamon-headed Green Pigeon (*Treron fulvicollis*) and Jambu Fruit Dove (*Ptilinopus jambu*) in Singapore can most plausibly be explained in this way. Also the Ashy Bulbul (*Hemixos flavala*), normally a submontane resident above 210 m in the hills in the Malay Peninsula, occasionally appears in Singapore between October and April and in lowland areas of Malaysia and has even been recorded on a ship off Singapore (Medway & Wells, 1976). As more knowledge accumulates on the habits of Asian forest birds, more species may be found to have these wandering habits. Such knowledge may be important for regional conservation efforts.

RESIDENT SPECIES

The tropical rainforest is the climax habitat of equatorial Southeast Asia and, under normal circumstances, is where the greatest bird diversity occurs. For example, in the Malay Peninsula as a whole, 65 % of the resident bird species are found in rainforest (Medway & Wells, 1976). The small size of Singapore and the history of forest destruction has meant the loss of some 37 resident species from the forest (Appendix II and Table 2). Of the 164 extant species in the RB/R(B) and I categories (Table 3), only 59 (36 %) live in the forest now (see Fig. 2). Sixty-eight species (41.5 %) rely on open country habitats, wooded areas, gardens and parks, environments that are becoming more prominent in Singapore. Thirty resident species are dependent largely upon freshwater, mangroves and offshore island habitats. Seven species are now closely associated with man.

The most diverse group of residents are the Sylviidae with 10 species. When eight residents of Nectariniidae are added this underlines the importance of forest habitats to the maintenance of diversity of the resident Singapore avifauna. Other notably diverse families are Cuculidae (eight species), Rallidae (seven species), Ardeidae (seven species), Corvidae (seven species), Passeridae (seven species), with all but the Ardeidae having over 50 % of their species dependent upon forests.

The Annual Bird Census, organised by the Nature Society (Singapore) Bird Group, has provided important population estimates of our bird species since 1991. The census data shows a significant decrease in both the diversity and abundance of resident species (Table 4).

Table 3. The number of species in different status categories in Singapore. For status definitions, please refer to abbreviations listed in Convention III on page 35.

Family	RB	R(B)	WV, PM	NBV	A	I	Total
Phasianidae	2						2
Dendrocygnidae	1					1	2
Anatidae			3	1	4		8
Turnicidae	1						1
Picidae	5	1			1		7
Megalaimidae	2					1	3
Bucerotidae	1						1
Coraciidae	1						1
Alcedinidae		1	2				3
Halcyonidae	3		2				5
Meropidae	1		1				2
Cuculidae	8		6	1			15
Centropodidae	2						2
Psittacidae	1	2				4	7
Apodidae	4	1	4	1			10
Hemiprocnidae	1			1			2
Tytonidae	1						1
Strigidae	4		1	1	1		7
Eurostopodidae		1					1
Caprimulgidae	2		1				3
Columbidae	5	1		4		2	12
Heliorhithidae				1			1
Rallidae	7		3		1		11
Scolopacidae			32		4		36
Rostratulidae	1						1
Jacanidae			1				1
Burhinidae		1					1
Charadriidae	2		9				11
Glareolidae			2				2
Laridae	2		9		3		14
Accipitridae	5	1	18	4	1		29
Falconidae			2	1	2		5
Podicipedidae	1						1
Sulidae				1			1
Ardeidae	7	1	9		1		18
Threskiornithidae					1		1
Pelecanidae				1			1
Ciconiidae				1			1
Fregatidae				2			2
Procellariidae			1		1		2
Pittidae	1		2				3
Pardalotidae	1						1
Irenidae	1	3					4
Laniidae	1		2				3
Corvidae	7	3	6			1	17
Muscicapidae	3		17				20
Sturnidae	3		2		2	3	10
Sittidae				1			1
Hirundinidae	1		4				5
Pycnonotidae	6	1		2		3	12
Cisticolidae	2						2
Zosteropidae						1	1
Sylviidae	10		8			2	20
Nectariniidae	8	4		1			13
Passeridae	7		6			4	17
Fringillidae			1				1
Total	121	21	154	25	21	22	364

Table 4. Diversity and abundance of birds surveyed during Annual Bird Census from 1991 to 2003.
 [Unpublished data, courtesy of Nature Society (Singapore) Bird Group].

	Total no. species recorded	No. Sites	Most abundant bird (n)	Most diverse site (no. of species)	Most populous site (n, % of total)	Total no. of birds counted
1991	163	24	Pacific Golden Plover (1,232)	Punggol (75 spp)	Sg Seletar (1,452, 12.5%)	11,616
1992	155	20	White-winged Tern (880)	Senoko (70 spp)	Punggol (1,301, 13.8%)	9,429
1994	138	19	Pacific Golden Plover (1,578)	Senoko (81 spp)	Sg Mandai (2,031, 22.6%)	9,004
1996	150	20	Pacific Golden Plover (1,697)	Serangoon (67 spp)	Sg Mandai (1,699, 15.7%)	10,834
1997	146	20	Pacific Golden Plover (1,463)	Sg Buloh (63 spp)	Sg Mandai (1,290, 14.1%)	9,130
1998	141	19	Pacific Golden Plover (2,244)	Sg Buloh (58 spp)	Sg Mandai (1,977, 21.6%)	9,166
1999	153	19	Pacific Golden Plover (1,752)	Sg Buloh (62 spp)	Sg Mandai (2,672, 28.3%)	9,454
2000	152	20	Pacific Golden Plover (1,677)	P Ubin (55 spp)	Sg Mandai (2,965, 32.3%)	9,189
2001	162	19	Pacific Golden Plover (1,546)	Serangoon (59 spp)	Sg Mandai (2,656, 29.1%)	9,128
2002	139	19	Pacific Golden Plover (1,587)	P Ubin (61 spp)	Sg Mandai (2,470, 28.5%)	8,679
2003	136	22	Javan Myna (832)	P Ubin (67 spp)	Sg Mandai (1,083, 15.4%)	7,020

Total number of birds has declined by 40 % since 1991 and the number of species has declined by nearly 17 %. The most abundant bird species is a migrant, the Pacific Golden Plover (*Pluvialis fulva*). Other abundant species include the Javan Myna (*Acridotheres javanicus*), Asian Glossy Starling (*Aplonis panayensis*), House Crow (*Corvus splendens*), Pink-necked Green Pigeon (*Treron vernans*), Yellow-vented Bulbul (*Pycnonotus goiavier*), Common Redshank (*Tringa totanus*) and Whimbrel (*Numenius phaeopus*). The most important site in terms of bird population is Sungei Mandai, an unprotected mudflat and mangrove ecosystem while Sungei Buloh Wetland Reserve and Pulau Ubin are important in having the most diversity of birds.

Several resident species seem to be represented by very small populations. There are probably less than ten pairs of Great-billed Heron (*Ardea sumatrana*) on the shores of the southern islands. As stated, only a single individual of Beach Thick-knee (*Esacus magnirostris*) is known. The White-bellied Woodpecker (*Dryocopus javensis*), Moustached Babbler (*Malacopteron magnirostre*), Mangrove Blue Flycatcher (*Cyornis rufigastra*), Ruddy Kingfisher (*Halcyon coromanda*) and Mangrove Pitta (*Pitta megarhyncha*) may perhaps all be of single-figure populations. Nearly all of these were more common in the past but have suffered badly from habitat destruction.

MIGRANT SPECIES

There are 154 species that are definite winter visitors and/or passage migrants, although a clear distinction between these two groups is sometimes difficult to make.

The migrants start to arrive as early as the end of July and depart beginning in March, with minimal presence in June (Table 5). The low-point occurs in the last two weeks of June but even then there are records of Watercock (*Gallicrex cinerea*), Little Egret (*Egretta garzetta*), Great Egret (*Casmerodius albus*), Pacific Golden Plover (*Pluvialis fulva*), Lesser Sand Plover (*Charadrius mongolus*), Whimbrel (*Numenius phaeopus*), Common Redshank (*Tringa totanus*) and Barn Swallow (*Hirundo rustica*), to name some species.

Species diversity builds up steadily after the end of July, the maximum being attained by November. The rise from July through to September is mainly accounted for by arriving shorebirds, most species being present by the middle of September and certainly by the end of that month. Passerine arrivals lag a little behind the waders, with the maximum number of species not occurring until December.

Although certain migrant species are recorded in every month of the year, evidence for over-summering of winter visitors is slim. An extensive ringing study of Barn Swallow (*Hirundo rustica*) in Malaysia yielded only passage birds in June and July (Medway, 1973), though regular observations of waders in Sungei Buloh Wetland Reserve (WLK, pers. obs.) and netting of waders in Malaysia has provided some circumstantial evidence of over-summering of certain species (Wells, 1984) in small numbers of which the Pacific Golden Plover (*Pluvialis fulva*), Whimbrel (*Numenius phaeopus*), Common Redshank (*Tringa totanus*), Common Greenshank (*Tringa nebularia*), Marsh Sandpiper (*Tringa stagnatilis*), Lesser Sand Plover (*Charadrius mongolus*) and Red-necked Stint (*Calidris ruficollis*) can be found in every month in Singapore, regular enough to support an over-summering hypothesis. In 1985 a flock of nine Common Greenshank (*Tringa nebularia*) were seen (on regular visits) throughout the summer period at the Senoko prawn ponds (LKS, pers. comm.) and is the most secure evidence to date supporting over-summering of this species.

Other summer records of migrant visitors include the Osprey (*Pandion haliaetus*) and it is assumed that these visitors are of the southern hemisphere subspecies, although this has not been proven. The only southern hemisphere bird proven to reach Singapore is Horsfield's Bronze Cuckoo (*Chrysococcyx basalis*), previously known only from a specimen taken at the turn of the last century but recent records prove its continued occurrence (see Species Accounts).

Several species previously recorded as winter visitors have been found breeding in Singapore in recent years. These include the Asian Koel (*Eudynamys scolopacea*), Purple Heron (*Ardea purpurea*), Yellow Bittern (*Ixobrychus sinensis*), Red-legged Crake (*Rallina fasciata*) and Little Tern

Table 5. The occurrence of migrants and winter visitors in Singapore.



Table 5. The occurrence of migrants and winter visitors in Singapore. (Continued)

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ruddy Turnstone <i>Arenaria interpres</i>												
Asian Dowitcher <i>Limnodromus semipalmatus</i>												
Great Knot <i>Calidris tenuirostris</i>												
Red Knot <i>Calidris canutus</i>												
Sanderling <i>Calidris alba</i>												
Spoon-billed Sandpiper <i>Calidris pygmeus</i>												
Red-necked Stint <i>Calidris ruficollis</i>												
Temminck's Stint <i>Calidris temminckii</i>												
Long-toed Stint <i>Calidris subminuta</i>												
Sharp-tailed Sandpiper <i>Calidris acuminata</i>												
Dunlin <i>Calidris alpina</i>												
Curlew Sandpiper <i>Calidris ferruginea</i>												
Broad-billed Sandpiper <i>Limicola falcinellus</i>												
Ruff <i>Philomachus pugnax</i>												
Pheasant-tailed Jacana <i>Hydrophasianus chirurgus</i>												
Black-winged Stilt <i>Himantopus himantopus</i>												
Pacific Golden Plover <i>Pluvialis fulva</i>												
Grey Plover <i>Pluvialis squatarola</i>												
Common Ringed Plover <i>Charadrius hiaticula</i>												
Little Ringed Plover <i>Charadrius dubius</i>												
Kentish Plover <i>Charadrius alexandrinus</i>												
Lesser Sand Plover <i>Charadrius mongolus</i>												
Greater Sand Plover <i>Charadrius leschenaultii</i>												
Oriental Plover <i>Charadrius veredus</i>												
Oriental Pratincole <i>Glareola maldivarum</i>												
Small Pratincole <i>Glareola lactea</i>												
Black-headed Gull <i>Larus ridibundus</i>												
Gull-billed Tern <i>Gelochelidon nilotica</i>												
Caspian Tern <i>Sterna caspia</i>												
Lesser Crested Tern <i>Sterna bengalensis</i>												
Great Crested Tern <i>Sterna bergii</i>												
Common Tern <i>Sterna hirundo</i>												
Little Tern <i>Sterna albifrons</i>												
Bridled Tern <i>Sterna anaethetus</i>												
Whiskered Tern <i>Chlidonias hybridus</i>												
White-winged Tern <i>Chlidonias leucopterus</i>												
Osprey <i>Pandion haliaetus</i>												
Jerdon's Baza <i>Aviceda jerdoni</i>												
Black Kite <i>Aviceda leuphotes</i>												
Oriental Honey-buzzard <i>Pernis ptilorhyncus</i>												
Black Kite <i>Milvus migrans</i>												
Short-toed Snake Eagle <i>Circaetus gallicus</i>												
Eurasian Marsh Harrier <i>Circus aeruginosus</i>												
Hen Harrier <i>Circus cyaneus</i>												

Table 5. The occurrence of migrants and winter visitors in Singapore. (Continued)



Table 5. The occurrence of migrants and winter visitors in Singapore. (Continued)

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mugimaki Flycatcher <i>Ficedula mugimaki</i>												
Blue-and-white Flycatcher <i>Cyanoptila cyanomelana</i>												
Blue-throated Flycatcher <i>Cyornis rubeculoides</i>												
Siberian Blue Robin <i>Luscinia cyan</i>												
Common Stonechat <i>Saxicola torquata</i>												
Purple-backed Starling <i>Sturnus sturninus</i>												
White-shouldered Starling <i>Sturnus sinensis</i>												
Rosy Starling <i>Sturnus roseus</i>												
Sand Martin <i>Riparia riparia</i>												
Barn Swallow <i>Hirundo rustica</i>												
Red-rumped Swallow <i>Hirundo daurica</i>												
Asian House Martin <i>Delichon dasypus</i>												
Lanceolated Warbler <i>Locustella lanceolata</i>												
Pallas's Warbler <i>Locustella certhiola</i>												
Black-browed Reed-Warbler <i>Acrocephalus bistrigiceps</i>												
Oriental Reed Warbler <i>Acrocephalus orientalis</i>												
Dusky Warbler <i>Phylloscopus fuscatus</i>												
Inornate Warbler <i>Phylloscopus inornatus</i>												
Arctic Warbler <i>Phylloscopus borealis</i>												
Eastern Crowned Warbler <i>Phylloscopus coronatus</i>												
Forest Wagtail <i>Dendronanthus indicus</i>												
White Wagtail <i>Motacilla alba</i>												
Citrine Wagtail <i>Motacilla citreola</i>												
Yellow Wagtail <i>Motacilla flava</i>												
Grey Wagtail <i>Motacilla cinerea</i>												
Red-throated Pipit <i>Anthus cervinus</i>												
Yellow-breasted Bunting <i>Emberiza aureola</i>												
Monthly species total	145	137	131	107	55	22	35	54	102	135	149	149

(*Sterna albifrons*). In most cases this has involved a small southward extension of the breeding range, in some cases probably facilitated by habitat changes. The Black Bittern (*Dupetor flavicollis*) has been recorded in June and is thought to breed elsewhere in Southeast Asia (White & Bruce, 1986).

The East Asian-Australasian Flyway stretches from Siberia through north and southeast Asia to Australia and New Zealand. On a local scale it would seem that some of the flight lines which follow the Malay Peninsula converge on Singapore. Such a convergence of migrants probably explains why observations made on the island contribute to a large part, or even all, of the knowledge of the occurrence of certain species in the region. Records for the Glossy Ibis (*Plegadis falcinellus*), Small Pratincole (*Glareola lactea*), Caspian Tern (*Sterna caspia*) and Horsfield's Bronze Cuckoo (*Chrysococcyx basalis*) stem only from Singapore and the same can be said for a large proportion of other regional rarities: Chinese Egret (*Egretta eulophotes*), Northern Pintail (*Anas acuta*), Common Teal (*Anas crecca*), Eurasian Wigeon (*Anas penelope*), Northern Shoveler (*Anas clypeata*), Oriental Plover (*Charadrius veredus*), Asian Dowitcher (*Limnodromus semipalmatus*), Sharp-tailed Sandpiper (*Calidris acuminata*), Spoon-billed Sandpiper (*Calidris pygmaea*) and Short-eared Owl (*Asio flammeus*).

OVERVIEW OF SHOREBIRDS

The first comprehensive surveys of shorebirds covering several major coastal wetlands were conducted by INTERWADER and compiled by Parish & Wells (1984) and Hails & Mueller (1984). From August to October 1983, shorebird counts amounted to 2,981 birds of 21 species at Serangoon Sludge Treatment Works and Prawn Ponds. Counts at nearby Punggol recorded 10 species with a maximum count of 1,961 birds (Parish & Wells, 1984). Combined reports from local observers suggested that Serangoon Estuary may have had up to 10,000 shorebirds, including the Asian Dowitcher (*Limnodromus semipalmatus*) and other endangered species such as Nordmann's Greenshank (*Tringa guttifer*) and Spoon-billed Sandpiper (*Calidris pygmaea*). The surveys in November 1984 at Serangoon Estuary confirmed a shorebird population of 6,000 to 8,000 birds of 31 species and in March – April 1985, about 5,000 shorebirds were recorded on northward migration, ranking this site as one of the most important shorebird sites in the Malay Peninsula (Parish & Wells, 1984). Counts taken at the same period at Senoko Prawn Ponds totalled 1,330 birds of 16 species. Unfortunately, landfill operations began at Serangoon Estuary in 1984 and the site was nearly completely destroyed by 1987. While most of the bird species can still be found there, the absolute numbers have been reduced with the decline in available mudflats for feeding (Briffett, 1993).

From 1990 onwards, the Nature Society (Singapore) Bird Group participated in the Annual Waterfowl Census (AWC), organised by Wetlands International. The total of ten wetland sites in Singapore are surveyed every year. The

ranking of the most abundant species changes in different years, although the Pacific Golden Plover (*Pluvialis fulva*) remains by far the most abundant species since 1994 (Table 6). These counts are all held in January which is not the peak migration period for Singapore and higher counts of shorebirds can be expected in September – October (Briffett, 1993). The other most abundant species include Common Redshank (*Tringa totanus*), Common Greenshank (*Tringa nebularia*), Marsh Sandpiper (*Tringa stagnatilis*), Common Sandpiper (*Actitis hypoleucos*), Lesser Sand Plover (*Charadrius mongolus*) and Little Egret (*Egretta garzetta*) (see Table 6).

The loss of mudflats through reclamation and damming of estuaries, and canalisation of rivers has resulted in a decline in the waterbird density and diversity, as shown in the AWC counts (Table 6). The number of available sites for surveys has also declined. Current total shorebird population in Singapore is only about 4,000 to 5,000 birds, a vast decrease from the large wintering population of 10,000 birds in a single site, Serangoon Estuary, in 1985. Some shorebirds were badly affected as the mudflats became more degraded. The Curlew Sandpiper (*Calidris ferruginea*) formerly wintered in numbers exceeding 5,000 birds. Present day counts during the AWC hardly reach 1,000 birds (see Table 6). Other adversely-affected species include Black-tailed Godwit (*Limosa limosa*), Rufous-necked Stint (*Calidris ruficollis*) and White-winged Tern (*Chlidonias leucopterus*).

In terms of site importance, Mandai is the most important to more than half of the shorebird population in Singapore, while Lorong Halus remains the most species-rich site for shorebirds (Fig. 3). Today, Sungei Buloh Wetland Reserve is the only protected coastal wetland site. While it has 40 – 50 % of the shorebird diversity in Singapore, the number of birds feeding in Sungei Buloh is low; the birds mainly use this site for roosting (Wang, 1997). The population of shorebirds using Sungei Buloh is highly dependent on other coastal mudflats such as Mandai, Seletar and Pasir Ris for feeding grounds. If left unprotected or destroyed, the loss of these mudflats could spell disaster for the shorebirds using Singapore as a staging ground for migration.

INTRODUCED SPECIES

Appendix I lists 22 species which have been introduced by man and have since established feral populations. Singapore was founded in 1819 as a trading settlement and trade has formed the bulk of its income since that time. Keeping birds in cages is a part of many cultures in Asia and there were probably traders dealing with birds well before Raffles visited the region. Certainly by the time the first collectors were working, there were non-native species already feral on the island. Hume (1879) reports his collectors taking Red Avadavat (*Amandava amandava*), Dusky Thrush (*Turdus naumanni*) and *T. ruficollis*. He also described the habits of Java Sparrow (*Lonchura oryzivora*). By 1924, Chasen was describing it as Singapore's most common species. Today only a few small flocks are left and it would seem well on its way to local extinction.

Table 6. Total counts of waterbirds from all sites in Singapore during the Asian Waterfowl Census, 1994 – 2003.
[Unpublished data, courtesy of Nature Society (Singapore) Bird Group].

	1994	1995	1996	1997	1998	1999	2000	2001	2003
1 Wandering Teeduck		5	1						
2 Lesser Teeduck	11	8	35		2	1		5	2
3 Cotton Pygmy Goose		5	9						
4 Garganey		2	1						
5 Slaty-breasted Rail	1	3	5	1				1	
6 White-breasted Waterhen	37	79	42	26	13	21	9	64	41
7 White-browed Crake	1				3	1		2	1
8 Watercock	2	3		2					
9 Purple Swamphen	1		2						
10 Common Moorhen	6	6	15	14	5	1	1	11	7
11 Pintail Snipe	5	3	3					5	
12 Common Snipe	24	8						17	
13 Black-tailed Godwit	3		9	1	1	2		1	
14 Bar-tailed Godwit						1			
15 Whimbrel	202	91	217	329	149	321	71	112	240
16 Eurasian Curlew		382		3		1	1		
17 Common Redshank	479	1,076	1,004	333	778	898	292	205	336
18 Marsh Sandpiper	517	244	696	722	901	480	391	682	215
19 Common Greenshank	230	82	390	664	299	439	137	290	267
20 Wood Sandpiper	65	25	11	1		5	1	26	2
21 Terek Sandpiper	26	228	60		14	20	17	10	23
22 Common Sandpiper	121	1	165	131	105	172	128	198	154
23 Grey-tailed Tattler						2			2
24 Ruddy Turnstone	1		14				5	5	4
25 Great Knot						2			
26 Sanderling			22			78	12	2	8
27 Red-necked Stint	1		21			78	6	400	310
28 Long-toed Stint	2	1	10		2	2		40	
29 Curlew Sandpiper	411	96	7	3	180	215	50	25	0
30 Broad-billed Sandpiper	11		9						
31 Greater Painted-snipe	1							2	
32 Black-winged Stilt		1							
33 Pacific Golden Plover	1,584	1,270	2,636	1,195	1,428	2,424	1,217	1,306	1,383
34 Grey Plover	13	11	38	1		24	9		41
35 Common Ringed Plover	1	2							
36 Little Ringed Plover	68	122	58	35	18	28		156	9
37 Kentish Plover	40	3	13	1		6	2	2	
38 Malaysian Plover		1	4			8			8
39 Lesser Sand Plover	454	659	452	1,000	591	751	715	617	161
40 Greater Sand Plover		2	4			53		25	2
41 Oriental Pratincole		7							
42 Black-headed Gull		10							
43 Lesser Crested Tern	54	2				3	5		
44 Great Crested Tern	63	46	37	6	11	42	51	274	3
45 Black-naped Tern		8	2	1				2	
46 Common Tern			1						
47 Little Tern	11	17	22	1	25	10	14	2	
48 White-winged Tern	553	42	19	8	3		7		
49 Little Grebe		5	18	9	12	8	5	1	3
50 Little Egret	31	212	150	119	103	153	58	129	159
51 Chinese Egret	1	2	1				1	2	
52 Pacific Reef-egret	19	14	10	17	10	6	8		4
53 Grey Heron	25	84	101	58	68	81	74	126	110
54 Purple Heron	19	48	62	31	3	101	134	107	9
55 Great Egret	21	51	44	12	21	48	19	27	37
56 Intermediate Egret	11	13	10	9	1	6	3	1	4
57 Cattle Egret	75	52	115	15		120	50	146	2
58 Chinese Pond Heron		20						2	
59 Striated Heron	50	59	75	30	47	74	32	66	79
60 Black-crowned Night-heron	7	326	3		6	3		3	1
61 Yellow Bittern	31	42	27	13	5	4	2	17	11
62 Cinnamon Bittern	2	5	1	1				1	
63 Black Bittern	1	1							3
64 Little Cormorant								1	
Number of sites	13	15	17	10	10	10	11	10	9
Total number of birds	5,292	5,485	6,651	4,792	4,804	6,693	3,527	5,116	3,641
Number of species	56	51	48	33	28	41	35	53	34

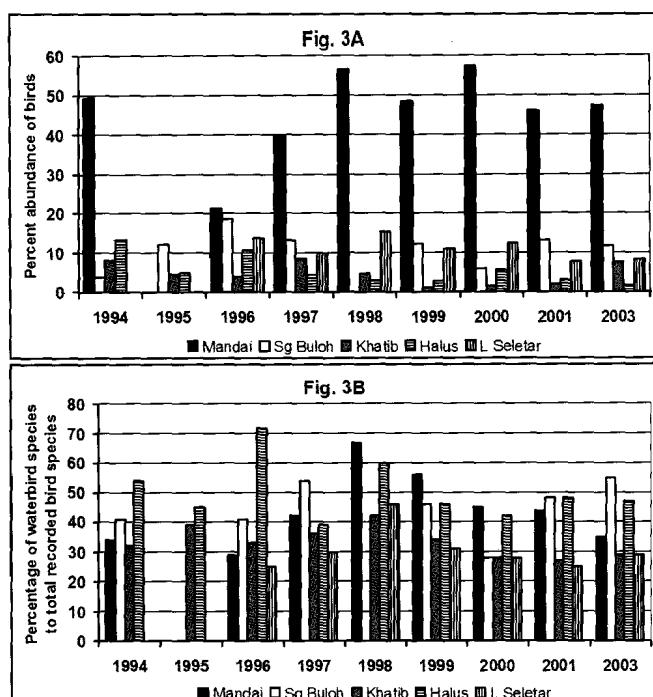


Fig. 3. Waterbirds abundance and diversity in major wetland sites surveyed during Asian Waterfowl Census from 1994 – 2003: A) shows the percentage abundance of waterbird at each major wetland sites; B) shows the percentage of waterbird species to total bird species at each major wetland site.

It was in the early 1920s that the Javan Myna (*Acridotheres javanicus*) became established and also the first specimens of the Black-winged Starling (*Sturnus melanopterus*) were taken, although the latter did not seem to become established until later. This same period also gave us the Sooty-headed Bulbul (*Pycnonotus aurigaster*), Red-whiskered Bulbul (*P. jocosus*) and Javan Munia (*Lonchura leucogastroides*).

Most of the introduced psittacines seem to have appeared just prior to World War II, certainly the Sulphur-crested Cockatoo (*Cacatua sulphurea*) first appeared flying free around a British Army officers' mess and the western taste for keeping parrots may have given rise to the others. House Crows (*Corvus splendens*) became established during the World War II, whether from escaped cage birds or as shipborne immigrants is not known.

In modern high-rise Singapore, the keeping of caged birds is generally encouraged and bird singing contests attract large numbers of entrants. The demand for captive birds has undoubtedly been at the root of the drastic decline of wild stocks of the Oriental Magpie Robin (*Copsychus saularis*) (Lim, 1999a) and the almost total extermination of the White-rumped Shama (*C. malabaricus*). The Hwamei (*Garrulax canorus*) is one of the more fashionable species entered in bird singing contests and a feral population has built up in the last decade. The Rock Pigeon (*Columba livia*) receives no mention in the literature until the 1960s (Ward, 1968), although it would be very surprising if it had not been around before then, having been ignored because it was a domesticated species (see Species Accounts). The Red Collared Dove (*Streptopelia tranquebarica*) appeared briefly in 1940 and again in 1980; this last showing seems more successful and the population has expanded from a mere 20

birds seen at Changi Airport in 1981 to an estimated 1,000 birds covering the eastern half of Singapore by 1987 (Lim, 1999a). It is now found throughout mainland Singapore and Pulau Ubin. The recent appearance of this species on offshore oil rigs means that the possibility of a natural invasion cannot be completely ruled out.

Over the last 10 years, the White-crested Laughing Thrush (*Garrulax leucolophus*) and Lineated Barbet (*Megalaima lineata*) have been rapidly expanding their range and invading the forest, especially at Bukit Timah. The effects of these invasive birds are not immediate and need to be studied and action taken before the native species suffer as a result of the invasion.

All the 22 species of introduced birds have been seen regularly over a period of years and all are breeding, with established feral populations. Most of them are common; their success probably due to their association with man and have exploited their tolerance of man to their advantage. There are many other species that have been recorded once or twice over a period of a few months and are assumed to have died out (Appendix IV). The trend of free-flying exhibits at the Jurong BirdPark, Singapore Zoological Gardens and Night Safari has resulted in several species such as Cattle Egret (*Bubulcus ibis*) becoming established in these places and ranging all over the whole island. The complete list of these occasional appearances is not worthy of enumeration and only the more common ones are listed.

SPECIES THAT HAVE DIED OUT

The pattern of local extinctions which have occurred in Singapore can provide a valuable case study for the region on the relative robustness and adaptability, or lack thereof, of species or families.

Out of a total of 185 resident birds recorded in Singapore since 1819 (excluding all introduced species which are feral), 44 (23.8 %) of them have been extinct or not recorded in the last 50 years. Of the 104 resident forest birds, 41 (39.4 %) have become extinct. This number is much more conservative than that given by previous authors. Hails & Jarvis (1987) reported an alarming 87 (82 %) species of forest birds lost as a result of forest destruction and disturbance. Lim et al. (1994) and Lim (1999) reported a staggering total 73 – 74 species extinct in Singapore. Castelletta et al. (2000) and Brook et al. (2003) estimated a loss of 61 (75.3 %) out of 81 forest-dependent species. Many of the species quoted by these authors were, in fact unconfirmed records of specimens from the 19th century, many had doubtful provenance and are likely to have been trade skins from Malacca (see Appendix III). Brook et al. (2003) went further to infer the loss of bird species in Singapore since 1819, using forest bird diversity in the Malay Peninsula as a baseline for comparison. However, the authors did not take into account that Singapore, as a low-lying island at the southern extremity of the Malay Peninsula with modest habitat diversity, may have always had a naturally-low richness of bird species (Delacour, 1947), even if the distance between Singapore and Malaysia is only 600 m. Our present

study includes a total of 104 known forest resident birds in the 2,000 ha (20 km²) central forests of Singapore is a rather modest number compared to a total of 166 resident forest birds in the 777 ha (7.77 km²) Pasoh Forest Reserve (Medway & Wells, 1976; Lee & Kang, 1990). Based on forest bird diversity in Peninsula Malaysia, Brook et al. (2004) and Sodhi et al. (2004) estimated that as many as 168 bird species had once resided in the forest of Singapore. By this assumption, that Singapore has the same bird diversity as the much larger southern half of the Peninsula Malaysia, Brook et al. (2003) and Sodhi et al. (2004) appear to have exaggerated the rate of local bird extinctions by up to 46 % before the first checklists were compiled and as high as 82 % since 1819 (worst-case scenario). Nonetheless, this was the first consolidated attempt to estimate the rate of extinction in Singapore and forms a clear basis for moving forward.

Lim (1999a) reported a loss of four species every five years. However, the higher percentage loss is again due to the inclusion of unconfirmed specimen records in the 19th century. Thirty-four species or 82.9 % of these birds went extinct between 1900 and 1950. Even with this consideration, this equates to 3.4 species lost every five years, an alarming rate of extinction for a small island like Singapore. It is also not surprising that Castelletta et al. (2000), Brook et al. (2003) and Sodhi et al. (2004) reported a two-fold higher rate of extinctions in Singapore compared to other deforested tropical areas, when the forests that once covered most parts of Singapore were reduced to less than 5 % of the land area. The destruction of the forest would have led to the extinction of many species because of the lack of refuges to which they could retreat (Johnson, 1973).

Terborgh & Winter (1980) used extinctions from each bird family calculated as a percentage of the original number of species in each family (of the whole community), as an indication of the degree of resistance or susceptibility to extinction. From Appendix II, the most susceptible families were Trogonidae and Eurylaimidae, both of which showed 100 % loss. Picidae lost 56.3 % of its species and Corvidae, 30 %.

Not all the Singapore bird families have suffered extinctions, but those which have not are mostly represented by only one species, and it is not really meaningful to say that these families are resistant to extinction. The only multi-species family still intact are the Psittacidae, with three species, although these may have been boosted by nomads. Other families with seemingly low extinction rates are the Rallidae, Halcyonidae, Apodidae, Ardeidae, Passeridae and Sturnidae. These families are mostly non-forest-dependent and able to survive in more than one habitat.

It is notable in the context of the humid tropics that the susceptible Singapore bird families are predominantly those of the forest, whereas the resistant families exist largely in open country and scrub. In fact, of the 44 extinctions only three were not dependent for a large part of their existence upon tropical rainforests. Forest species such as the Green Broadbill (*Calyptomena viridis*) became extinct from the forests as recently as 1941. This emphasises the role that

habitat destruction has played in shaping the Singapore's avifauna. The failure of tropical forest species to survive extreme habitat destruction has been discussed elsewhere (Ward, 1968; Medway & Wells, 1976; Brook et al., 2003).

In Singapore, only a few species have successfully made the transition from forest origins to survive in open habitats whereas a large number of open country colonisers have originated from mangrove or coastal scrub habitats (Ward, 1968). The Long-tailed Parakeet (*Psittacula longicauda*) and Golden-bellied Gerygone (*Gerygone sulphurea*) have managed to even breed in these open habitats, while the Collared Scops Owl (*Otus lempiji*) and Rufous Woodpecker (*Celeus brachyurus*) still require the forest or heavily-wooded areas to breed in. Gregory (1970) reported an increase in species showing a preference for grassland, scrub and irrigation channels, as a direct result of the continual denudation of the forest and the subsequent increase of cultivated land. Some of this land was neglected and led to the development of "wasteland", where quails, crakes, tailorbirds, warblers and swifts can be seen. Preservation of some of this "wasteland" is important to allow displaced forest species to adapt and survive in their new habitat.

CHALLENGES AHEAD FOR BIRD CONSERVATION IN SINGAPORE

Briffett (1990) reported that 41 resident species are considered at risk and unless serious efforts are made to conserve remaining undisturbed habitats in the near future, further losses will be incurred. In 1994, the first *Singapore Red Data Book* was published (Ng & Wee, 1994). Lim et al. (1994) listed 52 bird species at risk from extinction. Four more species have been added in the revised version of *Singapore Red Data Book* (Lim et al., in prep.). According to these authors, it seems that many birds in Singapore are doomed. Yet, in the new edition of the *Red Data Book*, Lim et al. (in prep) have estimated a 40 – 400 % increase in population numbers for several of the species described. It is uncertain whether the increase was due to more conservation measures taken or as a result of the recommendations from the first *Singapore Red Data Book* or is due to better and more extensive monitoring done since 1994. Some of the population estimates are questionable, due to the lack of intensive and extensive studies, especially of the forest species. Thus, the *Red Data Book* should primarily be used as a guideline.

However, the higher population numbers reported by Lim et al. (in prep.) are encouraging and show a positive outlook for some of these threatened birds such as Straw-headed Bulbul (*Pycnonotus zeylanicus*). Lim (1992) reported the Straw-headed Bulbul in grave danger, with an estimated population of 50. By 2000, Lim reported that the Pulau Ubin population had declined to 30 (Collar et al., 2001) but the total nation-wide population for this bulbul is now 60 and overall, the prospects for the species appear better than a decade before (Collar et al., 2001). Indeed, Tan (2001) conducted an island-wide survey of this globally-endangered species and reported a viable wild population in Singapore, estimated to be closer to nearly 90 individuals. Ho (2001)

conducted a similar study of the bulbul on Pulau Ubin, and reported a breeding population size of 32 pairs of birds. These estimates were significantly higher than the original estimates made by Lim et al. (1994). Ho (2001) suggested the increasing trend in the population is probably due to the decline of poaching on Pulau Ubin. Nevertheless, in the bigger picture, this species was once considered a rare bird and confined mainly on Pulau Ubin. Today, this beautiful songster can now be heard and seen in various corners of Singapore.

Similar cases can be seen in the population estimates for the Blue-crowned Hanging Parrot (*Loriculus galgulus*), where a 400 % increase is reported by the authors of the new *Red Data Book*, compared to the earlier estimate in 1994 (Lim et al., 1994; in prep.). According to the authors, the Drongo Cuckoo (*Surniculus lugubris*) has increased in population by 60 %. This significant increment could indicate the population is indeed breeding and increasing in numbers in our central forests; its host species being the Striped Tit-Babbler (*Macronus gularis*), a common species that frequents our forests. The Thick-billed Green Pigeon (*Treron curvirostra*), formerly a nationally-endangered species of a maximum population size of 70 (Lim et al., 1994), has been downgraded to nationally-vulnerable, with an estimate population size of 100 – 200 birds. This is quite a healthy trend for this frugivore, which feeds mainly on *Ficus* species in the forest canopy.

The number of bird species is probably under-recorded, especially for those that live in dense forests. This could be a reflection of the lack of extensive and intensive field studies and surveys in Singapore, despite having more than several dozen experienced birdwatchers. To better understand the extent of species loss in Singapore, more in-depth studies and monitoring need to be carried out, especially for our resident populations. Nationwide bird breeding surveys and nest monitoring such as those carried out in the United Kingdom and United States could be organised in Singapore. If we understand the ecological requirements of many of these threatened species, perhaps we might be able to delay or even prevent the extinctions of these populations in Singapore by drawing up conservation measures.

Appendices V and VI list species at risk locally and globally, respectively. Of the list of threatened species, 34 (63 %) can be found in the forests. The patches of forests left in Singapore are mostly protected in the Central Catchment Nature Reserve and should provide a safe haven for the forest birds. However, the forests are relatively too fragmented, small and constantly bombarded by the hundreds, even thousands, of visitors who are looking for a refuge to escape from the boredom and noise in the city. The impact of the large numbers of visitors in nature areas has not been studied in Singapore but may negatively impact bird communities, as studies have shown elsewhere (Chace & Walsh, 2006). Bird communities have been shown to change in relation to human activity along trails, mainly through avoidance behaviour (Miller et al., 1998) or decreases in time spent in foraging (Burger & Gochfeld, 1998), both of which may result in lower survivorship, especially during breeding periods.

While some forest-dependent species such as the Short-tailed Babbler (*Malacocincla malaccensis*), Asian Fairy Bluebird (*Irena puella*) and Chestnut-bellied Malkoha (*Phaenicophaeus sumatranus*) are still regularly encountered in the forest, many others have not been reported for 13 to 20 years and are feared to have become extinct. These include the Moustached Babbler (*Malacopteron magnirostre*), last recorded in 1987 and Buff-vented Bulbul (*Iole olivacea*), last recorded in 1992.

One worrying trend of the forest birds is the lack of breeding records for even common species such as the Cream-vented Bulbul (*Pycnonotus simplex*) and Little Spiderhunter (*Arachnothera longirostra*) especially from the Bukit Timah Nature Reserve. This might again be due to lack of observations but could also reflect the low density of birds and stress levels in this tiny forest fragment.

A possible solution might be to increase the forest patch size by connecting the smaller Bukit Timah Nature Reserve to the much larger Central Catchment forest. The former was separated from the latter when a six-lane expressway was built between the two in 1986. Connecting the forests might allow more movement of animals and plants between the two patches. This is even so for aerial organisms like birds. Many forest birds are secretive or weak fliers and are reluctant to cross open spaces. A green corridor might just encourage them to do so. Briffett et al. (1997) and Sodhi et al. (1999) reported that green corridors could serve as functional habitats for some birds, especially if the existing diversity of habitats surrounding the corridors is preserved.

Another 16 (29.6 %) species of threatened birds are found in the mangroves and wetlands. Preservation of these most threatened of ecosystems in Singapore is of utmost importance to the survival of the birds found in these special habitats. Many of the species are highly-specialized and are confined only to the mangroves. Loss of intact mangrove ecosystems could spell disaster to these birds. Several mangrove specialists are no longer found in our wetlands, including the Lesser Adjutant (*Leptoptilos javanicus*) and Greater Flameback (*Chrysocolaptes lucidus*).

Tropical deforestation will alter avian community composition. Is there any value in conserving the forest fragments in Singapore? Turner & Corlett (1996) reported that conserving even small fragments of rainforest is important to serve as seed reservoirs for the process of forest reclamation. Turner et al. (1996) also suggested that tiny rain forest fragments can remain diverse repositories of germplasm for many years following isolation. Mature secondary forests are also important to maintain the current biodiversity. With improvement in the quality of this habitat, we could perhaps slow down the rate of local extinction of avifauna. Similarly, reclamation and habitat degradation will lead to dwindling numbers of shorebirds. Our remaining habitats need to be protected and laws protecting wildlife must be strictly enforced, so that the birds may have a chance to coexist with us.

ANNOTATED CHECKLIST OF BIRDS OF SINGAPORE

In compiling the checklist, the following conventions have been adopted:

I. With a few exceptions, all nomenclatural and systematic order are as suggested by:

Inskipp, T., Lindsey, N., & Duckworth, W. (1996). *An Annotated Checklist of the Birds of the Oriental Region*, Oriental Bird Club, Bexhill-on-Sea. 294 pp. We have decided to use this systematic order over others as this has been the most widely adopted by various authors of bird books and birders in Asia, including Singapore.

II. Where available, other common names and Malay names are provided. They appear in the text immediately after each species name.

III. Each species name is followed by a status code:

- WV Winter visitor: a species which spends all or part of the north temperate winter in Singapore.
- PM Passage migrant: a species which only appears, or is more common, during the periods of north-or-south-bound migration.
- NBV Non-breeding visitor: a species not known to undertake a definite migration but which occurs in Singapore from time to time.
- RB Resident breeder: present throughout the year, with a viable population and breeding in Singapore proven.
- R(B) Resident, breeding not proven: present throughout the year but with no record of breeding in Singapore.
- A Accidental or vagrant: a species recorded in Singapore only rarely and on an irregular basis.
- I Introduced: a species introduced to Singapore by man and has established feral populations.
- E Extinct: a species which used to be recorded in the wild but of which there have been no records in the last 50 years.

IV. Whenever possible, which is not always the case, the status is qualified by the following terms:

- (vR) Very rare: less than three records in the last 50 years.
- (R) Rare: Three to 10 records for residents or one to two per year for passage migrants and winter visitors.
- (U) Uncommon: recorded almost every year but only in small numbers.
- (C) Common: recorded every year in comparatively large numbers.

V. All months are abbreviated to three letters followed by a full stop. Where a species has been recorded infrequently, all known records are given with as many details of place, date and observer as are available. For commonly occurring migrants and winter visitors, the earliest and latest

dates of their occurrence (as known) are added. Where possible, the population (as counted as accurately as possible) of each migrant species through the years since monitoring started, is plotted against the months of their arrival in Singapore.

VI. The data used in this work is collated from various sources: Avifauna, Annual Bird Census, Annual Waterfowl Census, Bird Reports, Mid-year Bird Census, Fall Migration Bird Census, Interwader reports, MAPS reports, RAFOS reports, Heron Watch, ringing records of the first author, museum records, salvage records, sightings submitted through e-groups (Bird Ecology Study Group, Pigeon Holes, Wildbirds) and through individual submission to the authors and personal observations.

VII. To construct the histograms, data from the above sources, mainly from 1986 onwards, were used. The histograms show an accumulation of data across the years. They show the peak counts of each month of every year and not a representation of the sum of peak counts during each weekly period of the year. These histograms illustrate patterns of peak counts during each winter.

These histograms do not accurately represent the migration patterns for many species, especially the common ones such as the Arctic Warbler, Asian Brown Flycatcher, Brown Shrike, Tiger Shrike, Common Kingfisher and others as records for these common species are often not submitted or published. For some common migrants such as Whimbrel, Black-tailed Godwit, Watercock, Common Redshank, Common Sandpiper, Great Egret and others, the histograms might show a curious month-by-month clumping of records. This is due to an artefact: island-wide counts for migrants are only conducted in certain months: January (Asian Waterfowl Census), March (Annual Bird Census), June (Mid-year Bird Census) and September (Fall Migration Bird Census). For other months, counts depend on individuals and are not consistent or thorough. For each month in each year, the maximum number of birds sighted in all the localities is used for the histogram. Birds seen in the same locality by different observers are counted once only.

VIII. For migrants that oversummer, the early and late dates were decided based on the first and last major influx or departure of that species.

IX. Under "Records" in the Species Accounts, mainly the first, and perhaps a second record for Singapore, as well as recent records only are shown. Not all records are listed unless they are rare species, hence the records and the histograms may not be representative of each other.

X. Under "Locality" of the Species Accounts, the main localities where the species have been recorded as collated from the sources listed in Convention VI. Localities in parentheses indicate that the localities no longer exist, have been disturbed or developed so that the original habitats and the bird species are no longer found. Major localities are represented on the Singapore map (see Fig. 1).

XI. The number of museum specimens housed in each museum is listed, categorised into whether the specimens are males (MM), females (FF) or unsexed (AA).

XII. The 404 species listed here are for species recorded in a wild state in Singapore, including those that are extinct as well as introduced species that have established feral populations. There are 364 species considered to be extant and another 44 species considered to be extinct in Singapore. These two numbers do not add up to the total number of recorded species (404) as four species have re-established in the wild, are escapees from captivity, or non-breeding visitors (see Appendix II). Doubtful or unconfirmed species and escapees are included in Appendices III and IV. Confirmed records refer to those that have been published; new records or rare records must be accompanied by detailed notes for review. Unconfirmed records refer to those that might have been published but no notes were available to provide sufficient evidence to support the acceptance and confirmation of the record.

XIII. Wherever possible, statements in the text are supported by reference to published material, which can be found in the Literature Cited at the end. Those references that are used most frequently are abbreviated as follows:

B & C – Bucknill & Chasen
 BR – Bird Reports
 G-H – Gibson-Hill
 J & P – Jeyarajasingam & Pearson
 M & W – Medway & Wells
 L & G – Lim & Gardner
 OBC – Oriental Bird Club
 R & C – Robinson & Chasen
 SINAV – Singapore Avifauna

Other abbreviations are of observers, localities and museums:

ABC – Annual Bird Census
 AC – Alfred Chia
 AMNH – American Museum of Natural History
 AN – Ashley Ng
 Arch – Archipelago
 Ave – Avenue
 AWC – Asian Waterfowl Census
 BBNP – Bukit Batok Natura Park
 BBW – Bukit Batok West
 BM – British Museum
 BSW – Bedok Sewage Works
 BT – Bukit Timah
 Bt – Bukit (Hill)
 BTNR – Bukit Timah Nature Reserve
 C – Central
 CB – Clive Briffett
 CC – Central Catchment
 CCK – Choa Chu Kang
 Coll. – Collection
 CS – Cutforth Swamp (Near Kranji)
 E – East
 ECP – East Coast Park
 FMNH – The Field Museum

HN – Hindhede Nature Park
 Imm – Immature
 Is – Island
 J – Jalan (Road)
 JBP – Jurong BirdPark
 KAP – King Albert Park
 KB – Khatib Bongsu
 Kg – Kampung (Village)
 KR – Kent Ridge
 KRP – Kent Ridge Park
 LCK – Lim Chu Kang
 LH – Lorong Halus
 LKC – Lim Kim Chuah
 LKK – Lim Kim Keang
 LKS – Lim Kim Seng
 Lor – Lorong (Lane)
 MAPS – Migratory Animal Pathological Survey
 MCP – Marina City Park
 MF – Mount Faber
 Mt – Mount
 N Is – Northern Islands (P Tekong, P Ubin and their islets)
 NE – Northeast
 NS – Nee Soon
 NT – Neo Tiew
 NW – Northwest
 P – Pulau (Island)
 Pgl – Ponggol (Punggol)
 PR – Pasir Ris
 RAFOS – Royal Air Force Ornithological Society
 Rd – Road
 Res – Reservoir
 RFO – Richard F. Ollington
 RMBR – Raffles Museum of Biodiversity Research
 S – South
 S Is – Southern Islands (Sentosa, P Brani, P Tekukor, Lazarus Is, Kusu Is, St. John's, The Sisters, P Sebarok, P Semakau, P Jong, P Bukom, P Busing, P Hantu, Jurong Is, P Sudong, P Pawai, P Senang, Raffles Lighthouse)

SBBG – Singapore Branch Bird Study Group
 SBG – Singapore Botanic Gardens
 SBWR – Sungei Buloh Wetland Reserve
 SCR – Swiss Club Road
 SE – Southeast
 Ser – Serangoon
 Sg – Sungei (River)
 SINAV – Singapore Avifauna
 SJI – St. John's Island
 SR – Subraj Rajathurai
 Ssp. – Subspecies
 SW – Southwest
 TBH – Telok Blangah Hill
 Tg – Tanjong (Cape)
 TM – Tanah Merah
 USNM – National Museum of Natural History, Smithsonian Institution
 UWBM – University of Washington Burke Museum
 W – West
 WCP – West Coast Park
 WLK – Wang Luan Keng
 YDL – Yong Ding Li

SPECIES ACCOUNTS

FAMILY PHASIANIDAE

1. Blue-breasted Quail

Coturnix chinensis chinensis U/RB

Blue-breasted Button-Quail, Painted Quail
Burung Pikau

Status. – Uncommon resident.

Range. – Malay Pen, Singapore and E Sumatra. Also in India, throughout Indochina to China, Taiwan and Hainan. Other ssp. in Sumatra (not E), Java, Borneo, Sulawesi, the Moluccas, the Philippines, Australia and New Britain.

Locality. – Bedok, Marina E, Pgl, PR, Prince George's Park, [P Ayer Merbau (Chasen, 1924a)], P Ubin, P Tekong Besar, [SBG (Ridley, 1898)], (Senoko), Ser, TM, Tuas, WCP.

Habitat. – Found in small numbers in dry grassland, reed beds stretches of abandoned cultivation and marshy beds. Frequently invades grassy reclaimed land (L & G, 1997).

Breeding. – Recorded between Apr., Jun., Aug. at Changi Promontory (Spittle, 1949). Eggs formerly found in Sime Rd, Jan., late Sep., Oct. [G-H (1949a)]. Ridley (1898) believed it bred in the SBG although he did not find the eggs. RFO recorded eggs in Mar.; four chicks with parents at Tuas on 5 Apr. 1992 in a letter to D. Wells on 24 Jun. 1992.

Materials examined. – BM 10 (5 FF, 5 MM), RMBR 2 (2 MM).

2. Red Junglefowl

Gallus gallus spadiceus U/RB

Wild Junglefowl
Ayam Hutan

Status. – Uncommon resident.

Threats. – Nationally-vulnerable; threatened by habitat loss due to various development projects, poaching and interbreeding with domestic fowls (Lim, 1989; 1992; Lim et al., 1994).

Records. – Unrecorded in Singapore before 1970s (Kelham, 1883; Chasen, 1924). A small breeding population on P Ubin was established ca. 1985 (Hails, 1988; Ubin villagers, pers. comm.) although discovered on the island in the early 1970's (Lim, 1992). Natural re-invasion of P Ubin is possible, but escaped or released captives cannot be excluded. Three tame birds at J Asas, on the boundary of BTNR on 14 Nov. 1994 were apparently escapees (Iora 1). Two females seen on a track at Poyan on 29 Jan. 1998 were the first record of the species there and may have arrived there naturally from SW Johor (SINAV 12-1). One male and three females first seen on

mainland, Loyang in Jan. 1999, believed to be wild birds (SR, pers. comm.) and Changi on 1 Mar. 1999 and 17 Apr. 1999 (OBC Bull. 30); presumed to be escaped or released birds. Introduced in SBWR ca. 1999 and now breeding freely in the Reserve since 2001.

Range. – SW Yunnan, Myanmar, Thailand (not E), Malay Pen, Singapore and N Sumatra. Other ssp. in India, Nepal, Bangladesh, SC China, Vietnam, Indochina, E Thailand, S Sumatra, Java, Bali, Lesser Sundas and the Philippines.

Locality. – Confined to P Ubin where it is common. Also recorded in various parts on mainland Singapore: BBW, Changi, Poyan, P Tekong (Wells, in press), SBWR, Sentosa.

Habitat. – In secondary jungle in the neighbourhood of cultivated areas, including orchards, plantations and mangroves.

Breeding. – First recorded on 22 Nov. 1987 on P Ubin. First mainland breeding: three chicks at Changi Coastal Rd, 30 Apr. 2002. (OBC Bull. 36). Chicks seen from Nov. through Apr. Imm in May., Dec.

Materials examined. – None.

FAMILY DENDROCYGNIDAE

3. Wandering Whistling-duck

Dendrocygna arcuata arcuata U/I RB

Lesser Whistling Teal, Lesser Whistling Duck
Itik Belibis

Status. – Introduced (from free-flying birds from JBP) but uncommon.

Records. – First recorded at Marina S, 1 Oct. 1989 (SINAV 3-4). Since the pond at Marina S was cleared, numbers have declined with the last few birds confined to Ser (LKS, pers. comm.). Recorded in MCP and SBG since 2003.

Range. – Native to S Borneo, Sulawesi, Java, Lesser Sundas and the Philippines. Other ssp. in New Guinea, New Britain, Fiji Is and N Australia.

Locality. – KRP, LH, MCP, SBG, SBWR, Ser.

Habitat. – Lives in ponds and marshes.

Breeding. – Chicks found in Feb., Jun. Imm seen in May.

Materials examined. – None.

4. Lesser Whistling-duck

Dendrocygna javanica U/RB

Indian Whistling Duck
Belibis Kembang, Itik Belibis

Status. – Uncommon resident, often supplemented by free-flying birds from JBP. Formerly a rare non-breeding visitor (Chasen, 1924; B & C, 1927), occasionally taken in Singapore (G-H, 1949; 1949a; Tweedy, 1970).

Threats. – Nationally-vulnerable (Lim, 1992) and threatened (Lim et al., 1994). Has been declining steadily in the last 20 years due to the combined pressures of poaching and habitat loss. Estimated population 250 (Lim, 1989). The rather scattered distribution of this species is the result of a gradual loss of habitat to housing, industrial, urban and roadworks projects (Lim, 1989).

Records. – Small flocks occur each ‘winter’ particularly on the W Coast, at Poyan Res as well as on fish and prawn ponds near the coast (Hails, 1988). Recent monitoring in Singapore shows flocks of 20 or more can occur at any time of year (Wells, 1999). Reclamation of coasts in Singapore saw a temporary increase in numbers reported, with a flock of 107 at the Senoko in Jun.1987 (SINAV 2). However numbers have decreased since the 1990s when most freshwater habitats were destroyed.

Range. – Throughout India, Sri Lanka, E to S China and Taiwan, S to Indochina, Malay Pen, Singapore, Sumatra, Borneo, Java and Kangean Is.

Locality. – BSW, (CS), J Kedai, (Jurong River), Kranji, KRP, Lentor Ave, LH, Loyang, Marina E, MCP, NT Lane, Pgl, Portsdown Rd, Poyan, PR, P Tekong, SBG, SBWR, Seletar, Sembawang, (Senoko), Ser, Sg Api-Api, (Simei), Tampines, Tg Murai, WCP.

Habitat. – Prefers small bodies of shallow fresh water with abundant marshy vegetation and surrounded by trees, for roosting. Avoids brackish wetlands.

Breeding. – First breeding record: a pair with downy young at Sembawang, 31 Mar.1977 (Wells, 1983), where a small group was resident until the habitat was disturbed in 1980 (LKS, pers. comm.). Used to nest on the lake in SBG (Ridley, 1906). Chicks seen in Jan., Feb., Apr., May., Jul., Aug., Sep.

Materials examined. – UWBM 1 (1 FF).

FAMILY ANATIDAE

5. Cotton Pygmy-goose

Nettapus coromandelianus coromandelianus R/NBV

Cotton Teal
Itik Kapas

Status. – Rare non-breeding visitor. Localised. Occasional visitor, encountered less frequently than Lesser Whistling Duck (G-H, 1949a).

Records. – Used for many years to frequent the lake in SBG in the spring but would only remain a few weeks on passage

(Ridley, 1898; 1906). Maximum number of 35 recorded on 16 May.1992 (SINAV 6-2).

Range. – Malay Pen, Sumatra, Riau Arch, Banka, Borneo and Java. Other ssp. found in Sri Lanka, India to Myanmar, Thailand, Vietnam, Hainan, China, the Philippines, Sulawesi and Australia.

Locality. – (Jurong River), Kranji Res, LH, Lower Seletar Res, (Marina S), Poyan Res, (SBG), (Senoko), W Coast.

Habitat. – Deep freshwater ponds and reservoirs with marshes and occasionally prawn ponds.

Materials examined. – None.

6. Eurasian Wigeon

Anas penelope vR/A

Wigeon, European Wigeon
Itik Wigeon, Itik Puteri

Status. – Very rare vagrant.

Records. – First record: an Imm female seen by Hails & Phillips at SBWR prawn ponds from 23 Dec.1986 till 22 Feb.1987 (Wells, 1990b). No further records.

Range. – Breeds across the N Palaearctic from Iceland to Manchuria and far E USSR; winters S to the N tropics of Africa, W and C Europe, the Indian subcontinent, China, Hainan, Taiwan, Indochina, Thailand, Malay Pen to Borneo, the Philippines, Sulawesi and New Guinea.

Locality. – SBWR.

Habitat. – Brackish ponds, mudflats and mangroves.

Materials examined. – None.

7. Gadwall

Anas strepera strepera vR/A

Itik Bemban

Status. – Very rare vagrant.

Records. – An Imm female seen (LKK, LKS, SR) at Pgl on 1 – 19 Jan.1989 is the first record for Singapore (SINAV 3-1; Lim, 1990). No further records.

Range. – Indian subcontinent, China, Myanmar, Thailand, Hong Kong, Luzon and Singapore. Breeds around the N temperate zone E in Asia to NE China, Pacific Russia and Hokkaido; migrates to tropical E Africa, the Indian subcontinent and SE Asia.

Locality. – Pgl.

Habitat. – On ponds and mudflats.

Materials examined. – None.

8. Northern Shoveler

Anas clypeata R/WV

Shoveler

Itik Paruh Sudu, Itik Paruh Bajak

Status. – Rare winter visitor.

Records. – One old specimen seen mounted in the house of a sportsman, said to have been killed in Singapore (Chasen, 1924), was doubted by G-H (1949). First recorded on Nov.1959, no other details were given (Allen, 1961). Second confirmed record of one bird at Ser, Nov.1983 (Wells, 1990). Singles claimed at Ser on 18 Dec.1993 to 1 Mar.1994 (Ollington et al., 1999 in Wells, in press). One eclipse male on 6 Dec.1999 (SINAV 14-1), a female at LH from 30 Jan.2000 till 13 Feb.2000 (SINAV 14-1).

Range. – Breeds in Europe, across Asia to N America, migrates to Africa, the Indian subcontinent, Indochina, C Thailand, the Malay Pen to Borneo, the Philippines and New Guinea.

Locality. – LH, Poyan, SBWR, Ser.

Habitat. – Ponds, marshes, rivers and mudflats.

Migration. – See Fig. 4.

Early and late dates. – 6 Nov. – 13 Feb.

Materials examined. – None.

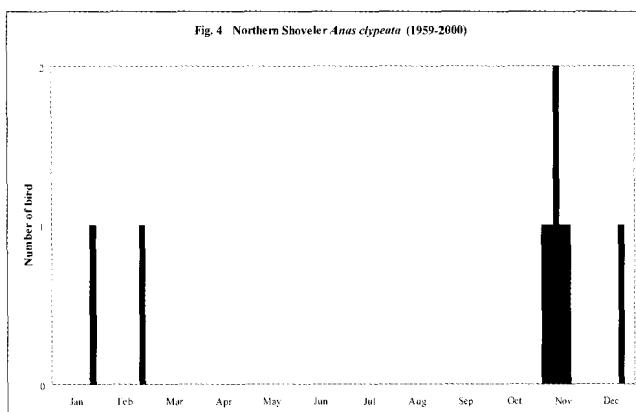


Fig. 4. Northern Shoveler *Anas clypeata* (1959 – 2000).

9. Northern Pintail

Anas acuta R/WV

Pintail, Common Pintail

Itik Ekor Runcing, Itik Muara

Status. – Rare winter visitor.

Records. – First recorded at Jurong River: a male remained from 30 Dec.1967 to 29 Jan.1968 (Tweedy, 1970). Second confirmed record: two on Poyan Res, Nov.1983 (Wells, 1990). Third record of two males and a female seen at Senoko S, 22 – 29 Nov.1992 and again on 13 Dec.1992, and two birds on 17 Jan.1993 (SINAV 6-4; AWC 1993). No records since.

Range. – Breeds throughout the Holoartic; winters to the N tropics of S America and Africa, E Asia from Japan and the Changjiang Valley, S Vietnam, Thailand to as far as Java, Borneo, the Philippines, New Guinea and the S Pacific.

Locality. – (Jurong River), Poyan, (Senoko).

Habitat. – Rivers, ponds and reservoirs.

Early and late dates. – Nov. – 29 Jan.

Materials examined. – None.

10. Garganey

Anas querquedula U/WV

Itik Garganey, Itik Berkik

Status. – Uncommon but regular winter visitor.

Records. – R & C (1936) refer to a mounted specimen said to have been shot near Singapore by a Chinese sportsman, but the record was regarded as dubious (G-H, 1949). First confirmed record in Jan.1967; no details were given (Medway & Nisbet, 1968a).

Range. – Breeds across N America, Europe and Asia to Japan, winters in Africa, the Indian subcontinent, Indochina, Thailand, the Malay Pen, Sumatra, Java, Borneo, the Philippines, Sulawesi to New Guinea and Australia.

Locality. – (Jurong River), Marina S, Poyan, (Senoko), Ser, SBWR, TM, Tuas.

Habitat. – Found on brackish ponds, mudflats and occasionally on rivers.

Migration. – See Fig. 5.

Early and late dates. – 6 Oct. – 30 Mar.

Materials examined. – None.

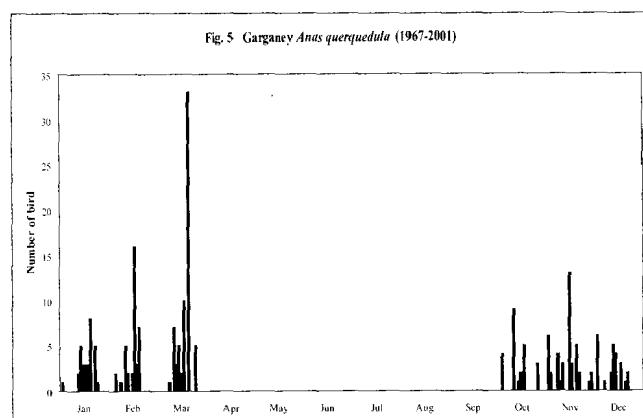
11. Common Teal

Anas crecca crecca vR/A

Green-winged Teal, European Teal

Itik Eropah

Status. – Very rare vagrant.

Fig. 5. Garganey *Anas querquedula* (1967 – 2001).

Records. – One bird with Garganeys on the Jurong River, 29 Oct. 1978 (SBSG: H. Buck and D. Bradford) is the first and only definite record for Singapore (Wells, 1984). No further records.

Range. – Breeds throughout Europe, E Asia, China, N Japan and N America; moves S in winter to Africa, the Indian subcontinent and Indochina; vagrant in the Malay Pen, Sabah and the Philippines.

Locality. – (Jurong River).

Habitat. – Ponds, rivers and mudflats.

Materials examined. – None.

12. Tufted Duck
Aythya fuligula vR/A

Tufted Pochard
Itek Berjambul

Status. – Very rare vagrant.

Records. – First recorded by LKS on 25 Dec. 1999 on the sandy mudflats of TM (SINAV 14-1). One at Changi C and S on 26 Dec. 1999 was probably the same bird (OBC Bull. 31). No further records.

Range. – Breeds across the N Palaearctic, from Iceland to the Pacific; winters S from the breeding range throughout N tropical Africa, Indochina, Thailand, the Malay Pen, to Borneo, the Philippines and Micronesia.

Locality. – Changi, TM.

Habitat. – Normally in freshwater ponds.

Materials examined. – None.

FAMILY TURNICIDAE

13. Barred Buttonquail

Turnix suscitator atrogularis C/RB

Puyuh, Burung Puyuh Tanah

Status. – Common resident.

Range. – Malay Pen, Singapore and extreme N Sumatra. Other ssp.: *T. s. suscitator* in S Sumatra, Java and Bali; *T. s. kuiperi* in Billiton; *T. s. fasciata* in the Philippines. Also found throughout the Indian subcontinent, Sri Lanka, Indochina, Thailand, S China and Taiwan.

Locality. – BBW, Bedok, Changi, Marina E, Pgl, Poyan, P Tekong, P Ubin, (SBG), SBWR, (Senoko), Sentosa, Tampines.

Habitat. – Open grassy country and agricultural areas.

Breeding. – Recorded by Kelham (1883), Ridley (1898), Chasen (1924a) and B & C (1927) in SBG; Spittle (1949) in Changi. Eggs found in Aug., Oct. Chicks seen in Jan., Apr., Jul., Aug.

Materials examined. – BM 16 (6 FF, 9 MM, 1 AA), RMBR 3 (1 FF, 2 MM).

FAMILY PICIDAE

14. Sunda Pygmy Woodpecker

Dendrocopos moluccensis moluccensis C/RB

Malaysian Pygmy Woodpecker, Malaysian Pygmy Pied Woodpecker, Sunda Woodpecker, Brown-capped Woodpecker

Belatuk Kecil Kepala Coklat, Burung Belatuk Belacan

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra, Riau Arch, Billiton, Borneo, N Borneo Is, Java and Bali. Other ssp.: *D. m. grandis* in Lombok and Flores. Also in the Indian subcontinent, Sri Lanka, Thailand and Indochina.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Most frequent in mangrove and coastal areas, but also common in parks, gardens and tree-lined roadsides throughout Singapore.

Breeding. – Nest building observed in Feb. – May., Jul., Aug. Brooding in Mar., May., Jun. Chicks recorded in Apr. through Aug. Imm seen in Jun., Jul.

Materials examined. – AMNH 1 (1 FF), BM 10 (4 FF, 6 MM), RMBR 13 (5 FF, 7 MM, 1 AA).

15. Grey-capped Pygmy Woodpecker

Dendrocopos canicapillus auritus E

Oriental Pygmy Woodpecker, Oriental Pygmy Pied Woodpecker,
Grey-capped Woodpecker
Burung Belatuk Kasturi

Status. – Extinct.

Records. – Formerly recorded as scarce in Singapore (Robinson, 1927; G-H, 1949; 1949a). Possibly there may have been confusion with nomenclature of frequent sightings of *D. moluccensis*, which is extremely common in most habitats, though not in forests (Hails, 1988; Lim, 1990). Kelham (1881) records nearly misidentifying his Singapore specimens of *D. moluccensis* as *D. canicapillus* until corrected by W. R. Davison. But three specimens in the BM, collected in the 19th century (locality unknown) have been examined by WLK and were indeed of this species. Said to be present in small numbers on P Ubin, Tekong and the Ayer Merbau group (G-H, 1952). A specimen collected from P Senang by Chasen (1924) but the specimen was *D. moluccensis*, though labelled *Dryobates nanus auritus*. RAFOS (1968; 1970) and Tweedy (1970) reported several unconfirmed records from wooded areas in Singapore. An unconfirmed sighting by M. Hall in Oct. 1986 and Feb. 1987 (SINAV 1).

Range. – The Himalayan foothills, the Indian subcontinent, Korea, China, Taiwan, Hainan, SE Asia to Malay Peninsula, Sumatra and Borneo.

Habitat. – Formerly mostly in open wooded areas and fairly open secondary jungle (Robinson, 1927; G-H, 1949a).

Breeding. – Stated to have bred formerly (M & W, 1976) but no details were given.

Materials examined. – BM 3 (1 FF, 2 MM).

16. Rufous Woodpecker

Celeus brachyurus squamigularis U/RB*Belatuk Biji Nangka*

Status. – Uncommon resident.

Range. – Malay Pen and Singapore. Other ssp.: *C. b. badiosus*, in Borneo and N Natuna Is. Also in the Himalayas, the Indian subcontinent, Sri Lanka, China and Indochina.

Locality. – BBNP, BBW, Bt Brown, BTNR, CC forest, Changi, HNP, KAP, KB, Kranji, LCK, Loyang, NT Lane, Pgl, P Ubin, SBG, SBWR, Sentosa, Sg Api-Api, Simpang grassland, SJI, Tampines, Turut Track.

Habitat. – Wooded rural areas, orchards, forest edges and occasionally gardens.

Breeding. – Formerly bred in SBG (Ridley, 1898). Nest building observed in Apr.

Materials examined. – BM 4 (3 FF, 1 MM), RMBR 4 (3 FF, 1 MM).

17. White-bellied Woodpecker

Dryocopus javensis javensis R/R(B)*Great Black Woodpecker**Belatuk Hitam-Putih, Burung Belatuk Perut Putih*

Status. – Rare resident.

Threats. – Nationally-endangered. The population consists of only a few birds, mostly in the CC forest.

Records. – First recent record of three birds (one male, two females) together on 25 Jun. 1999 (OBC Bull. 30). Four birds were seen on a single tree at Sime Rd on 30 Sep. 2001 (SINAV 15-3); this is the highest published count of the species. A single bird seen at P Tekong Besar on 18 Jan. 2002 (OBC Bull. 35) is the first for the island.

Range. – Malay Pen, Singapore, Sumatra, Riau Arch, Banka Is, Mandalar Is, Borneo, N Natuna Is, N Bornean Is, Java and Bali. Other ssp. in the W Indian subcontinent, Andamans, W China, Korea and the Philippines.

Locality. – Mainly in the C forests: BTNR, MacRitchie, NS, Sime Rd. Occasionally outside the C forest: in Gymkhana Ave (SINAV 13-1; 16-1), J Mashhor (SINAV 13-1) and P Tekong.

Habitat. – Occasional sightings at forest edges and secondary growth, usually of single or paired birds. Ridley (1898) mentioned that in the SBG a pair once remained for some time in a large “jelutong” tree (B & C, 1927); birds roost in holes in dead snags (Wells, 1999).

Breeding. – Not recorded.

Materials examined. – None.

18. Banded Woodpecker

Picus miniaceus malaccensis C/RB*Banded Red Woodpecker**Belatuk Merah*

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra, Banka, Billiton and NW Borneo. Other ssp.: *P. m. dayak*, in Borneo (except lower slopes of Mt Kinabalu). Also in Myanmar and SW Thailand.

Locality. – BBNP, Bt Brown, Bt Mandai, BTNR, CC forest, HNP, KAP, KRP, Malcolm Park, Old Holland Rd, P Ubin, SBG, Sentosa, Sg China, Sunset Way, SCR, Third Ave, Tyersall Park, Ulu Pandan, Yishun Town Park.

Habitat. – Lives mainly in forests, but also found in wooded parks, gardens, rural areas and occasionally seen in mangroves (G-H, 1949a; L & G, 1997).

Breeding. – Hole-excavation leading to breeding attempts recorded during early Nov. to early May., Jul. Imm seen in May.

Materials examined. – BM 4 (3 FF, 1 MM), FMNH 1 (1 AA), RMBR 11 (7 FF, 4 MM).

19. Crimson-winged Woodpecker

Picus puniceus continentis E

Burung Belatuk Mas

Status. – Extinct. Former resident, occurring in small numbers (G-H, 1949a).

Records. – Seen in very small numbers in the MacRitchie Res area by RAFOS (Gregory, 1970) and Tweedy (1970). The few unconfirmed sightings in the 1970s may have confused it with *P. miniaceus* which has more crimson on the wing. One bird at BTNR on 19 Sep. 2004 during the Fall Migration Bird Census was the third record from this forest since 2001 (SINAV 18-4); details of the other two records were not available. Another bird photographed at SBG, 16 Oct. 2004 (SINAV 18-4). One bird heard and seen at BTNR in Feb. 2005, two birds on 21 Mar. 2005 and a male on 23 Mar. 2005 (LKS, in litt.). These recent records were probably birds displaced from Johore and most likely not from a remnant population in Singapore.

Range. – Malay Pen. Other ssp.: *P. p. observandus*, in Sumatra, Banka, and Borneo; *P. p. soligae* in Nias Is; *P. p. puniceus* in Java. Also in Myanmar and SW Thailand (Wells, 1999).

Habitat. – Formerly in less-disturbed wooded areas, lowland forests, secondary forests and coastal scrub.

Materials examined. – BM 2 (1 FF, 1 MM).

20. Checker-throated Woodpecker

Picus mentalis humii E

Burung Belatuk Ranting

Status. – Extinct. Former scarce resident (B & C, 1927).

Records. – A male collected on 10 Dec. 1879 (Hume Coll., BM). Said to occur in BTNR (Robinson, 1928; G-H, 1949a; M & W, 1976) but no details were available. Several unconfirmed records, mainly from the wooded central area (Gregory, 1970; Tweedy, 1970).

Range. – Malay Pen, Sumatra, Banka and W Borneo. Other ssp.: *P. m. saba* in E Borneo; *P. m. mentalis* in Java.

Habitat. – Formerly found in heavy, low-country jungle (its distribution was probably correlated with that of the large

Dipterocarpaceae timber trees, occasionally even on or near the verge of mangroves (Robinson, 1928; G-H, 1949a; M & W, 1976).

Materials examined. – BM 2 (2 MM).

21. Laced Woodpecker

Picus vittatus vittatus C/RB

Bamboo Green Woodpecker
Belatuk Hijau, Burung Belatuk Bakau

Status. – Common resident.

Range. – Malay Pen, Sumatra, Lingga Arch and W Java. Other ssp.: *P. v. connectens* in Langkawi Is. Also in S Yunnan, E Myanmar, SW Thailand.

Locality. – Admiralty Rd W, BBNP, BT Biking Trail, Changi, Gymkhana Ave, HNP, Japanese Garden, KAP, Kranji, KRP, Loyang, MF, Old Holland Rd, PR, PUbIn, SBWR, Sembawang Park, Sentosa, Sg Mandai, Springleaf Rd, Tyersall Woods, Ulu Pandan, Zehnder Rd.

Habitat. – Mangrove, secondary growth, rural areas and old plantations, especially coconut and rubber plantations. Not found in forests (L & G, 1997).

Breeding. – Nest inspection and building observed in Dec. – Apr., Jun. Brooding in Apr., May. Chicks recorded in Jun. Imm in Jun., Aug.

Materials examined. – RMBR 10 (5 FF, 4 MM, 1 AA).

22. Olive-backed Woodpecker

Dinopium rafflesii rafflesii E

Olive-backed Three-toed Woodpecker
Burung Belatuk Pinang Rimba

Status. – Extinct. Former rare resident but was repeatedly observed on P Ubin (B & C, 1927).

Records. – There was an undated specimen, collected by Gould in the 19th century. Another bird was collected in 1854 by A. R. Wallace and was listed by G-H (1949a) but no details were given. No records since 1949 until two unconfirmed reports from open country: Jul. 1985 by M. Strange and Dec. 1985 by See S. L. (Hails, 1988).

Range. – Malay Pen, SW Thailand, Myanmar, Sumatra and Banka. Other ssp.: *D. r. borneonensis* in Borneo.

Locality. – (P Ubin).

Habitat. – Formerly locally-distributed in small numbers in thickly-wooded areas (G-H, 1949a), in the densest evergreen jungle, found in small trees and in the undergrowth (Robinson, 1928).

Breeding. – Nesting habits unknown (Robinson, 1928).

Materials examined. – BM 2 (2 FF), RMBR 2 (1 FF, 1 MM).

23. Common Flameback

Dinopium javanense javanense C/RB

Golden-backed Three-toed Woodpecker

Belatuk Pinang Kecil, Belatok Mas, Burung Belatuk Pinang Muda

Status. – Common resident.

Range. – Malay Pen (S of Penang), Singapore, Sumatra, Riau Arch, W and C Java. Other ssp.: *D. j. intermedium* in the Malay Pen (N of Penang); *D. j. borneonensis* in Borneo; *D. j. raveni*, in Eraban Is and E Borneo; *D. j. exsul* in E Java and Bali; *D. j. everetti* in Palawan. Also in the Indian subcontinent, Indochina and Yunnan.

Locality. – Throughout Singapore and on most of the larger offshore islands: BBNP, BBW, Bishan Park, BT, Bt Brown, Changi, Gymkhana Ave, HNP, Japanese Garden, J Hang Jebat, J Kedai, J Lengkok Sembawang, KAP, KB, Kranji, KRP, LH, MacRitchie Res, Marina E, Marina S, NT Lane, Old Holland Rd, Pasir Panjang Hill, Pgl, PR, SCR, Seletar Res Park, Sembawang Park, Sg China, Simpang grassland, SJI, Springleaf Rd, Third Ave, Tyersall Ave, Ulu Pandan.

Habitat. – Rural areas, preferring coconut plantations, mangrove fringes, occasionally in parks and gardens; rarely seen in secondary or old jungle (Robinson, 1927). Usually found in pairs (Chasen, 1924a).

Breeding. – Nest described by Spittle (1949). Nest building in Jan. Brooding observed in Jul. Imm seen in Aug.

Materials examined. – RMBR 4 (2 FF, 2 MM), USNM 1 (1 MM).

24. Greater Flameback

Chrysocolaptes lucidus chersonesus E

Crimson-backed Four-toed Woodpecker

Burung Belatuk Pinang Tua

Status. – Extinct. Stated as not rare in Changi in 1908 but doubts that it still existed in Singapore in the late-1920s (Robinson, 1927) although it was still listed by G-H (1949a) as a very rare resident.

Records. – Last confirmed records were three birds collected from Woodlands: two females on 16 May 1904 and one female on 27 May 1904. Several unconfirmed records from heavily-wooded areas of Singapore (Gregory, 1970), no details were given. No subsequent records.

Range. – Malay Pen (extreme S), Sumatra, Riau Arch, W and C Java. Other ssp.: *C. l. strictus* in E Java, Bali and Kangean;

C. l. andrewsi in Sebatik Is and N Borneo. Also in the Himalayas, the Indian subcontinent, Sri Lanka, Indochina and Yunnan.

Habitat. – Formerly frequented mangroves as well as secondary growth and plantations on the immediate landward edges.

Breeding. – Nesting habits unknown.

Materials examined. – BM 3 (2 FF, 1 MM), RMBR 2 (2 FF).

25. Orange-backed Woodpecker

Reinwardtipicus validus xanthopygus E

Burung Belatuk Ranum

Status. – Extinct. Former rare resident.

Records. – Last recorded in Jurong: an Imm male was collected on 22 Aug. 1920 (RMBR). An unconfirmed record from Peirce Res in Oct. 1968 (Tweedy, 1970).

Range. – Malay Pen, Sumatra, Borneo and N Natuna Is. Other ssp. in Java.

Habitat. – Formerly in heavy forests (B & C, 1927; Robinson, 1928; G-H, 1949a).

Materials examined. – BM 2 (1 FF, 1 MM), RMBR 1 (1 MM). Specimens collected by A. R. Wallace (Robinson, 1928) were not found.

26. Buff-rumped Woodpecker

Meiglyptes tristis grammithora E

Fulvous-rumped Barred Woodpecker

Burung Belatuk Awan

Status. – Extinct. Former uncommon resident (G-H, 1949a).

Records. – Last recorded on P Ubin, 24 Sep. 1921.

Range. – Malay Pen, SW Thailand and Myanmar. Other ssp.: *M. t. micropterus* in Sumatra, Borneo, N Bornean Is and N Natuna Is; *M. t. tristis* in Java.

Habitat. – Formerly in lowland forests and orchards (B & C, 1927; G-H, 1949). Locally-distributed in small numbers, in thickly-wooded areas (G-H, 1949a).

Materials examined. – BM 5 (3 FF, 2 MM), RMBR 2 (2 FF).

27. Buff-necked Woodpecker

Meiglyptes tukki tukki E

Buff-necked Barred Woodpecker

Burung Belatuk Tuki-tuki

Status. – Extinct. Formerly not common in Singapore (B & C, 1927; G-H, 1949a).

Records. – Several unconfirmed records from heavily-wooded areas from the forested C areas in 1960s (RAFOS 1968; 1970; Tweedy, 1970), none since.

Range. – Malay Pen, SW Thailand, Sumatra, Billiton, N Borneo and N Natuna Is. Other ssp.: *M. t. percnerpes* in SW Borneo; *M. t. pulonis* in Banguey Is (N Borneo).

Locality. – (P Ubin).

Habitat. – Formerly in wooded areas (away from coast) and lowland forests (G-H, 1949a).

Materials examined. – BM 3 (1 FF, 2 MM), RMBR 4 (3 FF, 1 MM), USMN 1 (1 FF).

28. Grey-and-buff Woodpecker

Hemicircus concretus sordidus E

Burung Belatuk Daun

Status. – Extinct. Former scarce resident, one of the rarer local woodpeckers (B & C, 1927; Robinson, 1928). No records since 1949 (G-H, 1949a).

Range. – Malay Pen, SW Thailand. Other ssp.: *H. c. coccometopus* in Sumatra, Banka Is and Borneo; *H. c. concretus* in Java.

Habitat. – Formerly in the lowland forests and secondary scrub, being most abundant where there is much bamboo (Robinson, 1928).

Materials examined. – BM 6 (2 FF, 4 MM), USNM 2 (1 FF, 1 MM). Specimens collected by Chasen (1924a) on P Ubin were not found.

29. Great Slaty Woodpecker

Mulleripicus pulverulentus pulverulentus vR/NBV

Belatuk Kelabu, Burung Belatuk Kuda

Status. – Very rare non-breeding visitor. Formerly uncommon resident; said to occur in Singapore but never seen on the island (B & C, 1927).

Records. – A male was collected from Woodlands, 29 May 1904 (RMBR). Recently known from only two unconfirmed sightings in the late 1970s in Changi (Hails, 1988). Two recent sound records at NS on 19 Aug. 1990 (SINAV 4) and Feb. 1992 (SINAV 6) were attributed to the calls of the giant squirrel, *Ratufa affinis* (LKS, pers. comm.). No other records.

Range. – Malay Pen, Sumatra, Riau Arch, Borneo, N Natuna Is and Java (not E). Other ssp.: N Indian subcontinent, S Yunnan, Myanmar and the Philippines (Balabac and Palawan).

Habitat. – Open and swampy jungle near coast (Robinson, 1928; G-H, 1949a); dependent on big tall trees (G-H, 1949). Found in forests and scrub (L & G, 1997).

Breeding. – Not recorded.

Materials examined. – RMBR 1 (1 MM), USMN 1 (1 MM).

FAMILY MEGALAIMIDAE

30. Lineated Barbet

Megalaima lineata hodgsoni U/I RB

Takur Kukup

Status. – Introduced ca. 1996. Uncommon and localised.

Range. – Native to the Himalayan foothills E from Nepal and the NE Indian subcontinent; S and SW Yunnan; continental SE Asia to Malay Pen. Another ssp.: *M. l. lineata* in Java and Bali.

Locality. – BBNP, BBW, BTNR, Gymkhana Ave, Hillview, KRP, Lor Sesuai, Toh Tuck Rd.

Habitat. – Frequents open country and forest edges.

Breeding. – Nest building observed in Apr. Chicks recorded in Feb., Mar.

Materials examined. – UWBM 2 (1 FF, 1 AA).

31. Red-crowned Barbet

Megalaima rafflesii malayensis U/RB

Many-coloured Barbet

Takur Kepala Merah, Burung Takur Mahkota Merah

Status. – Uncommon resident. Common in the C forests (RAFOS 1970) and apparently doing quite well (Lim, 1992). Formerly common on P Ubin (G-H, 1949a) but no longer seen there now.

Threats. – Globally near-threatened/low risk (Collar et al., 1994). Nationally near-threatened (Lim, 1998).

Range. – Malay Pen and Singapore. Other ssp.: *M. r. borneensis* in Borneo; *M. r. rafflesii* in Banka, Sumatra and Borneo; *M. r. billitonis* in Billiton.

Locality. – Restricted to the BTNR, CC forest, (Jurong), Old Upper Thomson Rd, (P Ubin), Rifle Range Link.

Habitat. – Forests and thickly-wooded country.

Breeding. – First recorded in 1979 when a nest with young was found at Peirce Res in Apr. (Wells, 1984). Nest inspection and building observed from Jan. through Apr., Jul. Imm seen in Apr., May., Jun.

Materials examined. – RMBR 8 (5 FF, 3 MM).

32. Blue-eared Barbet

Megalaima australis duvauceli E

Little Barbet

Burung Takur Akar

Status. – Extinct, due to forest shrinkage (Lim, 1989; 1992). Former very rare resident.

Records. – No records since seven birds were collected on P Ubin, 10 – 23 Jul. 1921.

Range. – Malay Pen (N to Perlis), Sumatra, Banka and Borneo. Other ssp.: *M. a. australis* in Java. Also in Himalayan foothills, the Indian subcontinent, Yunnan and Bali.

Locality. – (BTNR, P Ubin).

Habitat. – Formerly in small numbers in thickly wooded areas around BTNR; not confined to old jungle (Robinson, 1927; G-H, 1949; 1949a).

Breeding. – Nesting habits not recorded (Robinson, 1927) but believed to have bred on P Ubin, as very young birds have been collected there (Chasen, 1924a).

Materials examined. – BM 3 (1 imm, 2 AA), RMBR 7 (2 FF, 2 MM, 2 Imm, 1 AA).

33. Coppersmith Barbet

Megalaima haemacephala indica C/RB

Takur Akar, Burung Tukang, Burung Takau, Burung Takur Tukang Besi

Status. – Common resident.

Records. – Kelham (1881) shot a pair at BTNR; recorded as the only record in the S part of Malay Pen (Robinson, 1927; G-H, 1949a). During last century it has spread S from the N of Malay Pen, reaching Singapore in Jan. 1957 (Allen, 1951; Chasen, 1934; 1939; Garr, 1957; M & W, 1976; Tweedie, 1960; Wells, 1999).

Range. – Malay Pen and Singapore. Also in the Indian subcontinent, Sri Lanka and SW Yunnan. Other ssp. in Sumatra, Java, Bali and the Philippines.

Locality. – Throughout Singapore, more common in the S and E, most easily seen on Sentosa, SJI.

Habitat. – Parks, gardens, scrub, golf courses and open wooded country. Never in heavy jungle (Robinson, 1927).

Breeding. – Nest building in Jan., Feb., May., Jul., Dec. Brood observed in Jan., Feb., Mar., Jul. Chicks recorded in Mar. through Jul., Sep. Imm seen in Jun., Sep.

Materials examined. – AMNH 1 (1 MM).

34. Brown Barbet

Calorhamphus fuliginosus hayii E

Burung Takur Dahan

Status. – Extinct. Former common resident (B & C, 1927; Robinson, 1928).

Records. – Last record: 10 birds were collected on P Ubin, 23 – 24 Feb., 13 – 16 Mar., 21 Jul. and 9 Aug. 1921 (RMBR). It was definitely absent by 1982 (Hails, 1988). One unconfirmed sight record in 1992 at NS (Kang, pers. comm.) was rejected due to lack of evidence.

Range. – Malay Pen and Sumatra. Other ssp. range: *C. f. fuliginosus* in S Borneo; *C. f. tertius* in N Borneo.

Locality. – (P Ubin, Woodlands).

Habitat. – Formerly found in small parties in freshwater swamp forests and swampy coastal jungle (G-H, 1949).

Breeding. – There is reason to believe that this bird formerly bred on P Ubin but no definite evidence is available beyond the series of Imm birds collected (Chasen, 1924a).

Materials examined. – RMBR 13 (4 FF, 7 MM, 2 AA).

FAMILY BUCEROTIDAE

35. Oriental Pied Hornbill

Anthracoceros albirostris convexus R/RB

Burung Kelingking, Burung Lilin, Lang Ling, Enggang Kelingking

Status. – Rare resident.

Records. – Last recorded formally in 1855 by Wallace (quoted in Salvadori, 1874, in G-H, 1949a); also mentioned by Kelham & Ridley (1898); the latter had seen it once or twice at BT. Probably still in Singapore in the 1920s but no nesting found (Robinson, 1927). Two records from the Seletar area in 1968 (Gregory, 1970); at least five sightings in the Seletar and Changi areas (Gregory, 1970). Intermittent recent sightings, including Berani Is (M & W, 1976), with the exception of those on P Ubin and P Tekong, are of presumed wildlife-trade escapees (Lim, 1998; Wells, 1999). The Zoo is also known to release free-flyers into its area and might account for some sightings in the Seletar area. Recorded from P Ubin since 13 Mar. 1994 (Iora 1; Lim, 1998). Up to 15 counted on the 2002 mid-year Breeding Census conducted by the Bird Group (Nature Society, Singapore). The birds from P Ubin are likely to be visitors from across the Causeway and those from the CC are most probably escapees (as the northern ssp. is seen in the CC).

Range. – Malay Pen (N to Patani), Tambelan Is, Sumatra, Riau Arch, Sumatra, Borneo, Java and Bali. Other ssp.: *A. a. leucogaster* in Malay Pen. (S to Perak); *A. a. zamelaenus* in N Natuna Is. Also in the Himalayan foothills, NE India and Indochina.

Locality. – Bishan area (LKS, pers. comm.; SINAV 6-2), CC forest, Changi, Farrer Rd, P Tekong, P Ubin, SBG, Springleaf, Yio Chu Kang.

Habitat. – Forested coastal areas; cultivated areas, never found in old jungle (Robinson, 1927).

Breeding. – First recorded on P Ubin in 1997 and in subsequent years. Also bred in Seletar.

Materials examined. – AMNH 1 (1 FF).

36. Rhinoceros Hornbill

Buceros rhinoceros rhinoceros E

Enggang. Enggang Badak

Status. – Extinct.

Records. – Recorded once by Ridley (1898): a pair from the SBG. Old records from Diard [Schlegel (1862), in G-H, 1949a] have doubtful provenance (Chasen, 1924; Wells, 1999). No other records of wild birds. Escapees have been seen in BT and Linden Drive area and Lor Sesuai in 2004 – 2006 (various observers).

Range. – Malay Pen, Sumatra, Rhio Arch and Billiton. Other ssp.: *B. r. borneoensis* in Borneo. Also in Java.

Habitat. – Common in Malaysia, found nearly everywhere in heavy jungle (Robinson, 1928).

Materials examined. – None.

FAMILY TROGONIDAE

37. Red-naped Trogon

Harpactes kasumba kasumba E

Burung Kesumba, Burung Kesumba Batang

Status. – Extinct. Former uncommon resident. Not listed by G-H (1949a) as he had overlooked the specimens collected by Chasen in 1921.

Records. – Last records: A male collected from Ulu Pandan, 5 Aug. 1921 and another male collected from P Ubin, 29 Aug. 1921 (RMBR). Doubtful if it still existed on Singapore (Chasen, 1939).

Range. – Malay Pen and Sumatra. Other ssp.: *H. k. impavidus* in Borneo.

Locality. – (P Ubin, Ulu Pandan).

Habitat. – Formerly in lowland forests.

Materials examined. – BM 1 (1 FF), FMNH 1 (1 MM), RMBR 2 (2 MM).

38. Diard's Trogon

Harpactes diardii sumatrana E

Burung Kesumba, Burung Kesumba Diard

Status. – Extinct. Former uncommon resident (G-H, 1949a).

Records. – Last records: A male collected from Jurong, 24 Aug. 1920 and another bird collected from P Ubin, 26 Aug. 1921 (RMBR).

Range. – Malay Pen and Sumatra. Other ssp.: *H. d. diardii* in Banka and Borneo.

Locality. – (P Ubin).

Habitat. – Formerly in heavy forests.

Materials examined. – BM 4 (3 FF, 1 MM), RMBR 2 (1 MM, 1 AA).

FAMILY CORACIIDAE

39. Dollarbird

Eurystomus orientalis orientalis, abundus C/RB WV

Broad-billed Roller

Tiong Batu, Tiong Gajah

Ssp. – *Eurystomus o. orientalis* has relatively short wing < 195 mm, outer webs of alula, primaries and secondaries only finely-margined blue; *E. o. abundus* is longer winged, 186 – 205 mm, no male < 189 mm, outer webs of alula and flight feathers ultramarine blue (Wells, 1999).

Status. – Common resident and winter visitor.

Range. – Malay Pen, Singapore, W Sumatra, Borneo, Java and Bali. Also on the Indian subcontinent. Other ssp. in the Himalayan foothills, the Indian subcontinent, Sri Lanka, the Andamans, Pacific Russia S from Amurland, S Japan, Korea, China, Indochina, the Philippines, Sulawesi, Australia and Solomon Is.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Prefers open country with tall trees, often perching on dead branches; also in clearings at the edge of heavy jungle, scrub, mangroves, plantations, gardens.

Breeding. – In the 1970s, breeding season records ceased and it was presumed no longer to be resident (Hails, 1988). Regular breeding records from 1986 onwards. Courtship and

mating observed in Mar., May., Jun. Nest inspection in Jan. Brooding recorded in Apr., Oct. Chicks found in May. Imm seen in May. – Jul.

Migration. – In the winter months, large numbers of mostly young birds are found on all the islets and lighthouses (Robinson, 1927). Both ssp. were obtained almost side by side-by-side on P Ubin; *E. o. orientalis* in Jan., Feb., Mar., Jun., Jul., Sep., Oct., Nov.; *E. o. abundus* in Oct., Nov., Dec., Feb. (Chasen, 1924a). Collections from the Malacca Strait show *E. o. abundus* is roughly twice as common as *E. o. orientalis* in migration streams (G-H, 1950).

Early and late dates. – 21 Oct. – Apr.

Materials examined. – BM 2 (2 MM), RMBR 17 (8 FF, 8 MM, 1 AA).

FAMILY ALCEDINIDAE

40. Common Kingfisher

Alcedo atthis bengalensis C/WV PM

Raja Udang, Burung Pekaka Cit-cit

Status. – Common winter visitor and passage migrant. Recorded erroneously as resident in small numbers by G-H (1949) and Gregory (1970); breeding unrecorded S of Malacca (M & W, 1976).

Range. – Malay Pen, Singapore, Anamba Is, Sumatra, Rhio Arch, Java and Borneo. Also in S Asia. Breeds in N Africa, temperate Eurasia from the Atlantic to Sakhalin and Japan, China to the Indian subcontinent, Sri Lanka to SE Asia to N Sumatra, Wallacea, New Guinea to the Bismarck Arch and Solomon Arch. Northern populations migrate to S and SE Asia to the Bay of Bengal and Greater Sundas, Bali and the Philippines.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Open streams, canals, reservoirs, ponds, coasts, and to a much lesser extent in heavily-wooded districts (G-H, 1949). Never found far from water (Robinson, 1927; 1928).

Migration. – See Fig. 6.

Early and late dates. – 14 Aug. – 14 May.

Materials examined. – AMNH 1 (1 MM), BM 10 (2 FF, 6 MM, 2 AA), RMBR 6 (4 FF, 1 MM, 1 Imm AA), USNM 3 (2 FF, 1 MM), UWBM 1 (1 FF).

41. Blue-eared Kingfisher

Alcedo meninting verreauxi R/R(B)

Deep Blue Kingfisher

Binti-Binti, Burung Pekaka Bintik-bintik

Status. – Rare resident.

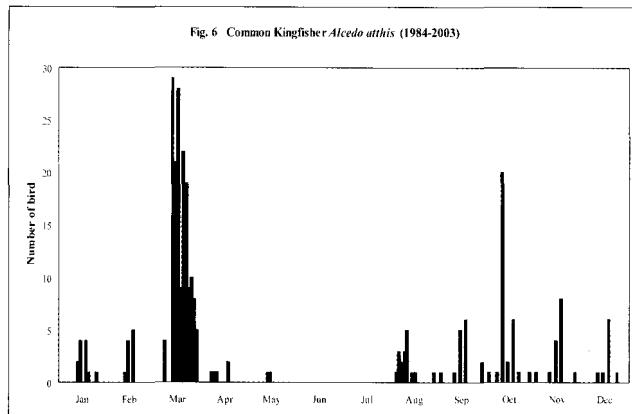


Fig. 6. Common Kingfisher, *Alcedo atthis* (1984 – 2003).

Threats. – Nationally-endangered, with an estimated population of 10 (Lim, 1989; 1992). Common in the 19th century (Kelham, 1882; Ridley, 1898) but became rare, presumably as a result of forest clearance (Hails, 1988); not common as of 1927 (B & C, 1927).

Records. – Infrequently seen in recent years. One ringed at Sime Forest, 17 Nov. 1974 and MacRitchie, 9 Mar. 1975 (SBBG 1974; 1975). One reported on P Tekong Besar on 17 Jan. 2002 (SR in OBC Bull. 35) and heard a few times in Jun., Jul. 2002 (OBC Bull. 36). An adult seen at Poyan, 10 Feb. 2002 (OBC Bull. 36) and 1 juvenile female ringed at SBWR on 20 Mar. 2002 (SINAV 16-1) were rare records away from the C forests; probably strays from Johore.

Range. – Malay Pen, Singapore, Sumatra, Riau Arch, Banka, Billiton and Borneo. Other ssp. in Java, the Philippines; the Himalayan foothills, the Indian subcontinent, Sri Lanka, Thailand, the Andamans, Yunnan, Bali and Lesser Sundas.

Locality. – Confined to the CC forest, mainly in the MacRitchie/Sime area (Lim, 1998a). Also recorded in Poyan, P Tekong, [SBG (Kelham 1881; Chasen, 1924; B & C, 1927)], SBWR.

Habitat. – Confined to the forest streams. Formerly found in small numbers, near and in the more heavily-wooded areas (G-H, 1949a).

Breeding. – Nest not found. Breeding reported in 1997 (Lim, 1998) which is erroneous (LKS, pers. comm.).

Materials examined. – AMNH 1 (1 AA), BM 2 (1 FF, 1 MM), USNM 1 (1 AA), UWBM (1 FF).

42a. Oriental Dwarf Kingfisher

Ceyx erithacus erithacus U/WV PM

Red-mantled Kingfisher, Black-mantled Kingfisher, Forest Kingfisher, Black-backed Kingfisher
Pekaka Api, Burung Pekaka Sepah

Status. – Uncommon winter visitor and passage migrant.

Records. – An adult ringed, 17 Nov. 1974 (SBBG, 1974) was the first recent record after World War II. Few subsequent

records; probably under-recorded as at least two to three birds were salvaged every winter (WLK, pers. obs.). In 2006, up to seven birds were salvaged in Oct. alone.

Range. – Malay Pen, Singapore, Sumatra, Aroa Is (Malacca Strait). Other ssp.: *C. e. motleyi* in Borneo, N Bornean Is and Nias Is (W Sumatra). Others in the Himalayas, the Indian subcontinent, Sri Lanka, Thailand, Hainan, Bali, the Philippines and Lesser Sundas E to Flores.

Locality. – BBNP, BTNR, CC forest (Lower Peirce, MacRitchie, Sime Rd), CCK, KRP, P Ubin, SBWR, Tuas, Tyersall Woods.

Habitat. – Mangroves, forests, scrub and wooded gardens. Usually occurs singly or in pairs along the banks of small streams. Occasionally found far from water (Robinson, 1928).

Migration. – See Fig. 7.

Early and late dates. – 22 Sep. – 16 Jun.

Materials examined. – AMNH 2 (2 AA), RMBR 4 (2 FF, 2 MM), UWBM 10 (3 FF, 7 MM).

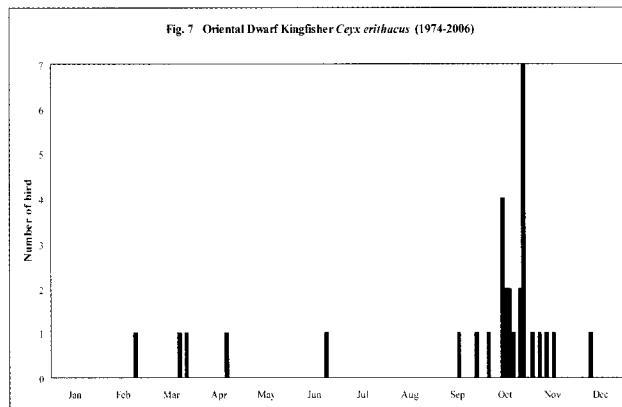


Fig. 7. Oriental Dwarf Kingfisher, *Ceyx erithacus erithacus* (1974 – 2006).

42b. Oriental Dwarf Kingfisher *Ceyx erithacus rufidorsa* E

Rufous-backed Kingfisher
Pekaka Api

Ssp. – Differs from *C. e. erithacus* only in having the mantle and scapulars almost entirely red, or if partially-black, with no blue streaks or wash.

Status. – Extinct. Previously recorded as uncommon but obtained in Singapore during the wet and stormy weather prevalent at the breaking of the SW monsoon when many birds used to appear, which were rarely met at other seasons of the year (Kelham, 1881). It was less plentiful than *C. e. erithacus* (G-H, 1949).

Records. – Last recorded in small numbers at the BT area (Robinson, 1928); no details available. One recent record in

the mangroves of P Tekong on 23 Jul. 1989 (SINAV 3) but unfortunately confirmation is not possible as the island is now a military area (Lim, 1992). One unconfirmed record, glimpsed as it flew past and called in the mangroves of P Tekong, 23 Jun. 2000 (SINAV 14-3).

Range. – Bandon (Thai Pen), Malay Pen, Sumatra, Riau Arch, Lingga Arch, Banka, Billiton, W Sumatra Is, Borneo, N Natuna Is, Java, Bali, Kangean Is and Bawean Is.

Habitat. – Formerly in heavy jungle.

Materials examined. – None.

FAMILY HALCYONIDAE

43. Stork-billed Kingfisher

Halcyon capensis malaccensis U/RB

Pekaka Emas, Burung Pekaka Buaya

Status. – Uncommon resident. Formerly recorded as a winter visitor in small numbers, more numerous on the larger off-lying islands such as P Ubin and P Tekong (Chasen, 1924a; B & C, 1927; G-H, 1949a; 1952).

Records. – First recorded in Sentosa on 1 Sep. 1989 and on SJI on 18 Feb. 1990 (SINAV 4).

Range. – Malay Pen, Riau Arch, and Lingga Arch. Other ssp.: *H. c. capensis* in Java and S Sumatra; *H. c. javana* in Borneo. Others in the Indian subcontinent, Sri Lanka, Indochina, Myanmar, Thailand, the Philippines and Lesser Sunda Is.

Locality. – CC forest, Changi, (CS), HNP, Japanese Garden, Kranji, Pgl, PR, P Pawai, P Senang, P Tekong, P Ubin, SBG, SBWR, (Senoko), Sentosa, Ser, Sg Seletar, Sg Tampines.

Habitat. – Occurs near water in coastal districts, mangroves, inland along streams, reservoir edges, open ponds and other open freshwater situations, particularly fond of the mouths of large creeks (Chasen, 1924a).

Breeding. – Recorded although no nest has been found. Fledgling observed in Dec.

Materials examined. – BM 1 (1 AA), RMBR 2 (1 FF, 1 AA), USNM 1 (1 MM). Specimens collected on P Ubin, P Tekong, P Senang (Chasen, 1924a; G-H, 1952) were not found.

44a. Ruddy Kingfisher

Halcyon coromanda coromanda U/WV PM

Pekaka Ungu, Burung Pekaka Belacan

Ssp. – *Halcyon c. coromanda*: wing 105 – 122 mm.

Status. – Uncommon winter visitor and passage migrant.

Records. – Probably overlooked; two to three birds salvaged or found dead each year since 2000 (WLK, pers. obs.).

Range. – Breeds in India, Myanmar, S China, Korea, S Japan and Taiwan, winters in Malay Pen (S to Johor), NE Sumatra, Sulawesi and the Philippines.

Locality. – BTNR, CC forest, Chinese Garden, Fort Canning Park, Loyang, Malcolm Park, PR, SBWR, (Senoko), Tuas, Tyersall.

Habitat. – Overwinters in forests and scrub.

Migration. – See Fig. 8.

Early and late dates. – 23 Sep. – 11 Apr.

Materials examined. – USMN 2 (1 MM, 1 AA), UWBM 7 (5 FF, 2 MM).

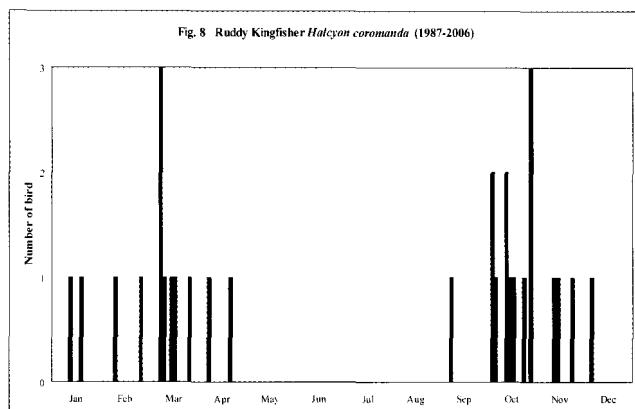


Fig. 8. Ruddy Kingfisher, *Halcyon coromanda coromanda* (1987–2006).

44b. Ruddy Kingfisher

Halcyon coromanda minor R/RB

Pekaka Ungu

Ssp. – *Halcyon c. minor*: wing 100–104 mm and the head is deeply washed with magenta which also forms an ill-defined broad pectoral zone (Chasen, 1924a).

Status. – Rare resident. Recorded in small numbers in the mangrove areas (G-H, 1949a). Residents were believed to have disappeared from Singapore possibly as recently as the 1980s (Wells, 1999). Sightings on P Tekong in 1985 and 1986 by SR, LKS and LKC were the first records for over 30 years (SINAV 1).

Threats. – Nationally-endangered, due to disturbance and habitat loss on the mainland (Lim, 1992), estimated population of 10 (Lim, 1989; 1992).

Range. – Borneo, Malay Pen (extreme S), Singapore, Tioman Arch, Riau Arch, W Sumatra and Java.

Locality. – (Ayer Merbau group, MacRitchie Res), P Tekong.

Habitat. – Now restricted to mangroves and adjacent coastal vegetation on the N coast of P Tekong. Formerly preferred the wilder, less frequented parts of Singapore and rarely, if ever, penetrated into populated districts (Chasen, 1924a; B & C, 1927).

Breeding. – Nest not found; adult observed feeding young in Aug. 1986 (SINAV 1).

Materials examined. – RMBR 1 (1 FF). Specimens collected on P Ubin, P Tekong, P Ayer Merbau by Chasen (1924a), Abbott and Boden-Kloss were not found.

45. White-throated Kingfisher

Halcyon smyrnensis fusca C/RB

White-breasted Kingfisher

Pekaka Dada Putih, Burung Pekaka Dusun

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra, W Java and the Philippines. Also in the Indian subcontinent, Indochina, S China and Taiwan. Other ssp.: S Turkey, Egypt and the E Mediterranean to Iran.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – In all inland open country habitats, ponds, reservoirs, scrub, gardens and orchard land. Not particularly attached to the vicinity of water. Not in heavy forests or among mangroves (Robinson, 1927).

Breeding. – Mating observed in Dec. Nest building in Sep. – Nov. Chicks found in Feb., Mar. Imm seen in May.

Materials examined. – AMNH 1 (1 AA), BM 3 (3 AA), RMBR 1 (1 FF), USMN 1 (1 FF), UWBM 7 (3 FF, 4 MM).

46. Black-capped Kingfisher

Halcyon pileata U/WV PM

Pekaka Kepala Hitam, Burung Pekaka Kopiah Hitam

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in the Indian subcontinent, Myanmar, Indochina, Korea, winters in Sri Lanka, the Andaman Is, Nicobar Is, Malay Pen, Singapore, Sumatra, Riau Arch, Simalur Is, Borneo, N Natuna Is, Java, N Sulawesi and the Philippines.

Locality. – CC forest, KB, Kranji, KRP, LH, Lor Lada Hitam, Marina S, Old Holland Rd, Pgl, PR, P Tekong, P Ubin, Raffles Country Club, SBWR, (Senoko), Ser, Sg Seletar Res, S Is, WCP.

Habitat. – In all open country habitats, reservoirs, prawn ponds, river coasts and mangrove edges.

Migration. – See Fig. 9.

Early and late dates. – 28 Sep. – 18 May.

Materials examined. – BM 2 (2 MM), RMBR 3 (2 FF, 1 MM), UWBM 1 (1 AA).

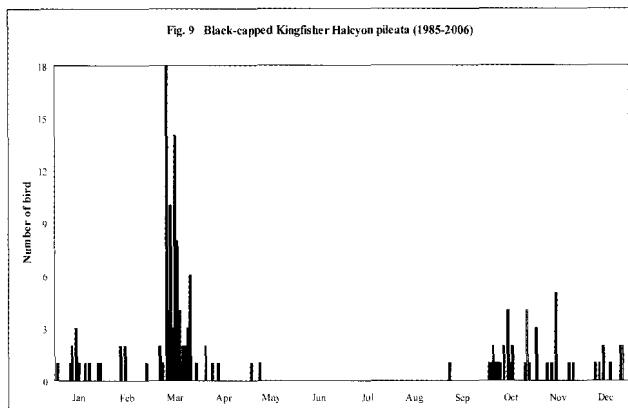


Fig. 9. Black-capped Kingfisher, *Halcyon pileata* (1985 – 2006).

47. Collared Kingfisher

Todiramphus chloris humii C/RB

White-collared Kingfisher, Mangrove Kingfisher
Pekaka Bakau

Status. – Common resident.

Range. – Malay Pen, Singapore, Tioman Arch and NE Sumatra. Other ssp.: the Red Sea, the Indian subcontinent, W Myanmar and C Vietnam to Sumatra, Borneo, Java, Bali, Wallacea, S New Guinea, N Australia and the Pacific Is to Samoa.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Most common around the coasts, mangroves and prawn ponds, but also occurs in orchards, parks and gardens throughout. Shows a marked affection for small islands (G-H, 1952a).

Breeding. – Nest described by Spittle (1949). Nest building observed in Jan., Feb., Mar., May. Eggs found in Apr., Jul. Brooding in Jan., Mar., Apr. Chicks recorded in Mar., May., Jun., Aug. Imm in Apr.

Materials examined. – BM 6 (2 FF, 3 MM, 1 AA), FMNH 1 (1 AA), RMBR 20 (4 FF, 15 MM, 1 Imm), UWBM 10 (5 FF, 5 MM).

48. Rufous-collared Kingfisher

Actenoides concretus concretus E

Chestnut-collared Kingfisher
Pekaka Rimba

Status. – Extinct ca. 1938.

Records. – One bird collected in 1871 (Hume Coll., BM). A bird collected from Changi, 23 Jul. 1908. Listed in old records

as locally-rare (Chasen, 1924) and also as an occasional visitor (G-H, 1949a). A bird collected from Singapore on 24 Sep. 1938. No further records since.

Range. – Malay Pen, Sumatra, Banka and Billiton. Other ssp.: *A. c. borneana* in Borneo.

Habitat. – Formerly in lowland forests.

Breeding. – Nesting unknown.

Materials examined. – BM 1 (1 AA), RMBR 2 (2 MM).

FAMILY MEROPIDAE

49. Blue-throated Bee-eater

Merops viridis viridis C/RB

Chestnut-headed Bee-eater

Beberek Leher Biru, Burung Berek-berek Pirus

Status. – Common resident (migrant breeder) and uncommon winter visitor.

Range. – Thailand and Indochina, S China, Malay Pen, Singapore, Java, Sumatra and Borneo. Other ssp.: *M. v. bicolor* in the Philippine Arch.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – When breeding, found in open country habitats, often near the seashore (Delacour, 1947), becoming less common with the arrival of *M. philippinus* (Hails, 1988). After Nov. the few seen are mostly in forests, forest edges and mangroves and are presumed winter visitors from further S (Hails, 1988).

Breeding. – Spittle (1949) recorded breeding near Changi. Mating observed in Apr. Nest building in Mar., May. Chicks recorded in May. – Jul. Imm seen in Jun. through Oct.

Migration. – Earliest parties crossing N over Singapore were dated 23 and 25 Jan. (Wells, 1999). Passage reaches peak intensity during Mar. to early Apr. then declines through to May., latest 7 May. (Wells, 1999). Breeding population is thought to migrate to Sumatra during non-breeding season, from Oct. to Mar., its niche replaced by *M. philippinus*.

Materials examined. – BM 5 (1 FF, 2 MM, 2 Imm), RMBR 1 (1 FF), USMN 3 (2 MM, 1 FF). Specimens collected on P Ubin by Chasen (1924a) were not found.

50. Blue-tailed Bee-eater

Merops philippinus philippinus C/WV PM

Brown-breasted Bee-eater

Beberek Ekor Biru, Burung Berek-berek Sawah

Status. – Common passage migrant and winter visitor.

Range. – Breeds in S and E Africa, the Indian subcontinent, Sri Lanka, Indochina, China, SE Asia to the Malay Pen, Sumatra, Borneo, Java, Bali, Kangean Is, the Philippines, Sulawesi and New Guinea to New Britain.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Open country, forest edges, mangroves, scrub, orchards, plantations, parks, gardens, grassland.

Migration. – Arriving in great numbers towards the end of Sep., it keeps in flocks of 10 – 20, and frequents low-lying ground and wet paddy fields (Kelham, 1881). No records from Singapore before 10 Sep. (Medway & Nisbet, 1968a), suggesting early W coast passage from the N diverts away, presumably to Indonesia via the Malacca Strait (Wells, 1999).

Early and late dates. – 10 Sep. – 15 Apr.

Materials examined. – BM 6 (2 FF, 1 MM, 3 AA), RMBR 2 (1 FF, 1 MM), USNM 1 (1 MM), UWBM 1 (1 FF).

FAMILY CUCULIDAE

51. Chestnut-winged Cuckoo *Clamator coromandus* U/WV PM

Red-winged Crested Cuckoo
Sewah Berjambul, Burung Sewah Kepak Merah

Status. – Uncommon passage migrant and winter visitor.

Range. – Breeds in the Indian subcontinent, Sri Lanka, S China, Indochina to SW Thailand, winters in S India, Sri Lanka, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines and Sulawesi.

Locality. – BBNP, BTNR, CCK, (Jurong), Holland Woods, KB, KRP, LH, MacRitchie Res, Marina E, Marina S, NT Lane, Poyan, P Tekong, P Ubin, [SBG (Ridley, 1898)], SBWR, Ser, Sg Api-Api, Sime Rd, TM, Tuas.

Habitat. – Mostly found near the coasts, in open country, scrub, plantations and mangroves.

Migration. – See Fig. 10.

Early and late dates. – 30 Sep. – 28 Apr.

Materials examined. – BM 1 (1 AA), RMBR 3 (1 MM, 2 AA), UWBM 5 (4 MM, 1 AA).

52. Large Hawk Cuckoo *Hierococcyx sparverioides* R/WV PM

Sewah Tekukor Besar

Status. – Rare winter visitor and passage migrant.

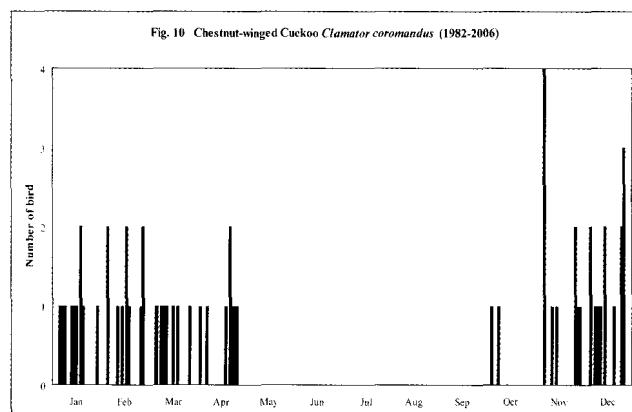


Fig. 10. Chestnut-winged Cuckoo, *Clamator coromandus* (1982 – 2006).

Records. – First recorded at Ulu Sembawang from 23 Feb. – 13 Mar. 1984 (Wells, 1990a). An Imm found dead in KRP, 6 Feb. 1993. One seen at Upper Seletar Res Park, 26 Feb. 1996 and another at TBH Park on 16 Mar. 1996 (AC, pers. comm.). A bird reported from Marina S, 10 Nov. 2002 (OBC Bull. 38). One bird at Marine E, 28 Dec. 2003 (A. Owyong, in litt.). A subadult photographed at Chinese Garden, 16 Dec. 2004 (SINAV 18-4).

Range. – Breeds in the Himalayas from W Pakistan to Nepal, Bhutan, China and the Indian subcontinent; winters in the Malay Pen, Singapore, Borneo, Sumatra, Java and the Philippines. Other ssp.: *H. s. bocki* in the mountains of Malaysia, Sumatra and Borneo.

Locality. – BTNR, Changi, Chinese Garden, Marina E, MCP, SJI, Telok Blangah Park, Tuas, (Ulu Sembawang), Upper Seletar Park.

Habitat. – Mangroves, secondary growth and orchards.

Migration. – Winters in Java and is thus very likely to pass through or over Singapore on migration (Hails, 1988). See Fig. 11.

Early and late dates. – 9 Nov. – 22 May.

Materials examined. – AMNH 1 (1 Imm).

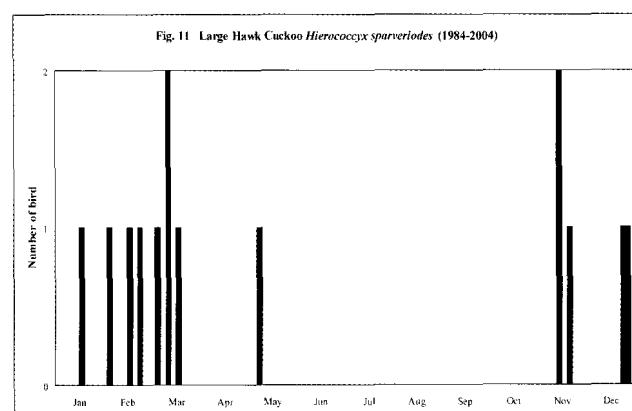


Fig. 11. Large Hawk Cuckoo, *Hierococcyx sparverioides* (1984 – 2004).

53. **Malaysian Hawk Cuckoo***Hierococcyx fugax fugax* R/NBV

Javan Hawk Cuckoo, Horsfield's Hawk Cuckoo, Hodgson's Hawk Cuckoo

Sewah Hodgson, Burung Sewah Hantu

Status. – Rare non-breeding visitor.

Records. – One specimen collected at MacRitchie Res on 8 Aug. 1970 (former Singapore National Museum) was thought to be the resident ssp., *H. f. fugax* from Malay Pen (Wells, 1975). One grown juvenile found on 28 Jul. 2000 (UWBM) was indicative of irruptive movements in the Malay Pen (Payne, 2005). One bird seen by LKC at Rifle Range Rd, 13 Nov. 2004 and another at BTNR, 12 Dec. 2004 (SINAV 18-4). Another bird seen on 11 Dec. 2005, HNP (AC, in litt.).

Range. – S Myanmar, Thailand, Malay Pen, Sumatra and Borneo.

Locality. – HNP, MacRitchie Res, Rifle Range Rd.

Habitat. – Scrub, forests and forest edges.

Materials examined. – BM 2 (2 AA), UWBM 1 (1 FF).

54. **Hodgson's Hawk Cuckoo***Hierococcyx nisicolor nisicolor* U/WV PM

Whistling Hawk Cuckoo; Horsfield's Hawk Cuckoo

Sewah Hodgson

Status. – Uncommon passage migrant and winter visitor.

Range. – Eastern Himalayas, Myanmar and S China, Thailand; migrates to Malay Pen, Sumatra, W Java and Borneo.

Locality. – BTNR, Changi, Chinese Garden, Kranji Res, Mandai, MF, NS, Peirce Res, (Senoko), Sentosa, Sime Rd, SJI, Xilin, Tuas, Tyersall.

Habitat. – Scrub, forests and forest edges.

Migration. – See Fig. 12.

Early and late dates. – 8 Aug. – 27 Mar.

Materials examined. – AMNH 2 (1 FF, 1 MM), RMBR 1 (1 MM), UWBM 2 (1 FF, 1 MM).

55. **Indian Cuckoo***Cuculus micropterus micropterus* C/WV PM

Indian Hawk-Cuckoo

Sewah India

Status. – Common winter visitor and passage migrant. Formerly listed as rare vagrant (G-H, 1949a).

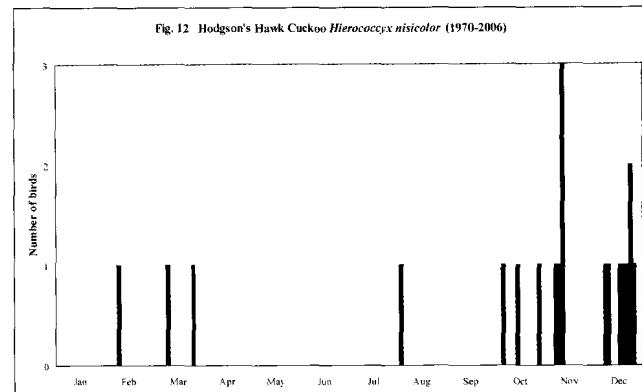


Fig. 12. Hodgson's Hawk Cuckoo, *Hierococcyx nisicolor* (1970 – 2006).

Range. – Breeds in the Indian subcontinent, Sri Lanka, Pacific Russia and China, Indochina, Myanmar, Thailand and Malay Pen to the Greater Sundas. Northern populations migrate to Singapore, Sumatra, Banka, Borneo, Java and Thousand Is. Other ssp.: *C. m. concretus* in Borneo, Sumatra and Java.

Locality. – BBNP, Bidadari Cemetery, BTNR, CC forest, Changi, ECP, KB, KRP, Linden Drive, Loyang, Mandai Quarry, MF, Poyan, P Ubin, PR, Sentosa, Sg Pandan, Xilin.

Habitat. – Forests, forest edges, secondary scrub, mangroves, occasionally in parkland and gardens.

Migration. – See Fig. 13.

Early and late dates. – 14 Sep. – 19 May.

Materials examined. – UWBM 2 (1 FF, 1 MM).

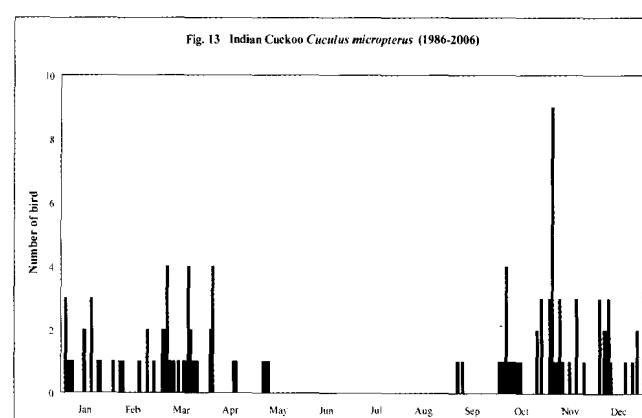


Fig. 13. Indian Cuckoo, *Cuculus micropterus* (1986 – 2006).

56. **Oriental Cuckoo***Cuculus saturatus saturatus* R/WV PM

Blyth's Cuckoo, Himalayan Cuckoo

Sewah Gunung, Burung Sewah Himalaya

Status. – Rare passage migrant and winter visitor.

Records. – First recorded on 29 Oct. 1989 in the CC forest by R. Flood (SINAV 3). One bird at Sime Rd, 14 Feb. 1990 (SINAV 4). One at Tuas, 21 Oct. 1995 and another at Sime Rd, 3

Nov.1995 (SINAV 11-4). A bird caught at Tuas, 2 Dec.1995 (P. Kennerley in litt.). An Imm seen at BBNP, 8 Feb.2000 (SINAV 14-1).

Range. – Breeds in Eurasia, Kamchatka, Japan, Mongolia, Korea, China, the Himalayas, the Indian subcontinent, N Myanmar, Vietnam and the Sunda region to Timor. Most populations migrate, wintering throughout the Sunda region including Borneo, Wallacea, Micronesia, New Guinea, the Solomons and Australia. Residents in Malay Pen are *C. s. lepidus*, also found in Sumatra, Java and Bali.

Locality. – BBNP, CC forest, MF, SBWR, Tuas.

Habitat. – Forest edges and woodland.

Migration. – See Fig. 14.

Early and late dates. – 30 Sep. – 10 Apr.

Materials examined. – M & W (1976) mentioned an old undated specimen labelled Singapore but this specimen was not found and was also not listed by Robinson (1928) and G-H(1949).

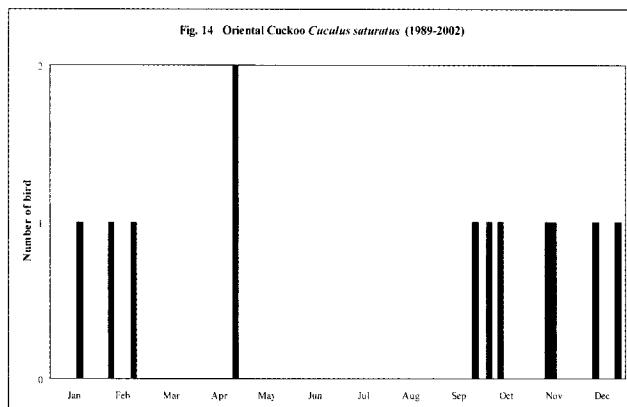


Fig. 14. Oriental Cuckoo, *Cuculus saturatus* (1989 – 2002).

57. Banded Bay Cuckoo

Cacomantis sonneratii malayanus U/RB

Burung Takuweh, *Burung Sewah Takuwih*

Status. – Uncommon resident.

Range. – Malay Pen, Singapore. Other ssp.: *C. s. fasciolatus* in Malay States (extreme S), Sumatra and Borneo; *C. s. musicia* in Java. Also in the Indian subcontinent, Sri Lanka, Indochina and Palawan Is.

Locality. – BBNP, BBW, BTNR, CC forest, (CS), HNP, Is Club Rd, (J Ulu Sembawang), KAP, Lor Sesuai, Loyang, Poyan, P Tekong, P Ubin, SBWR, SBG, SCR, (Senoko), Ser, Wei Hua Rd.

Habitat. – Forests, forest edges, mangroves and wooded areas, occasionally in parks and gardens.

Breeding. – Parasitising *Aegithina tiphia* in a garden at Hume Heights in 1978 and 1979 (Hails, 1988). Recent records of Imm being fed by *Aegithina tiphia* on 25 Jul.2004 (Chan Kim Cheng, in litt.) and 20 Aug.2004 (Ong K.S., in litt.).

Materials examined. – RMBR 1 (1 FF). A single example of the Sumatran ssp. *C. s. fasciolatus* has been taken on P Ubin (but the specimen cannot be found) but there is as yet no formal record for Singapore (G-H, 1949a; G-H, 1950); could just be an unusual variant of *C. s. malayanus* (Wells, 1999).

58. Plaintive Cuckoo

Cacomantis merulinus threnodes U/RB

Burung Mati Anak

Status. – Uncommon resident. Listed by G-H (1949a) as a winter visitor.

Range. – Malay Pen, Singapore, Sumatra, W Sumatran Is and Borneo. Other ssp.: *C. m. querulus* in Malay Pen; *C. m. lanceolatus* in Java; *C. m. merulinus* in the Philippines. Others in the Indian subcontinent, China and Sulawesi.

Locality. – BTNR, CC forest, J Kedai, (Jurong River), KB, Kranji, Lor Mayang, NT Lane, Poyan, P Tekong, P Ubin, SBWR, Sembawang, (Senoko), S Is (L & G, 1997), Tuas.

Habitat. – Gardens, orchards, wooded areas and mangroves. Less frequently met in forests.

Breeding. – Parasitises *Aegithina tiphia* (B & C, 1927). Mating observed in Jul. Imm in Aug.

Materials examined. – None. One male specimen collected from BT area, 19 Jul.1879 (Kelham, 1881) and P Ubin by Chasen (1924a) were not found.

59. Rusty-breasted Cuckoo

Cacomantis sepulcralis sepulcralis U/RB

Fan-tailed Cuckoo, *Indonesian Cuckoo*

Sewah Dada Oren, *Burung Sewah Gila*

Status. – Uncommon resident. Listed as indeterminate by Lim (1989; 1992), with an unviable population estimated between 10 – 30 individuals.

Range. – Malay Pen, Singapore, Sumatra, Borneo, Java and Bali. Also in Pen Thailand and Lesser Sundas.

Locality. – BBW, BTNR, CC forest, CCK, J Kedai, KB, Kranji, Lor Mayang, Mandai, MF, NT Lane, Poyan, P Tekong, P Ubin, PR, SBWR, Sembawang, (Senoko), Sentosa, Sg China, Simpang grassland, Springleaf.

Habitat. – Mainly near the coasts and mangroves, sometimes in forests, forest edges and plantations.

Breeding. – One Imm ringed at P Ubin in Mar. A pair of Olive-winged Sunbirds was around the net when the cuckoo was caught (SR, pers. comm.). A female was photographed laying egg in a Pied Fantail nest, Jun. (Ong K. S., in litt.).

Materials examined. – None. Specimens collected on P Ubin by Chasen (1924a) were not found.

60. Little Bronze Cuckoo

Chrysococcyx minutillus malayanus C/RB

Malaysian Green Cuckoo, Malayan Bronze Cuckoo
Sewah Daun

Status. – Common resident. Not recorded by G-H (1949) but listed by M & W (1976), without details of records.

Range. – Malay Pen, Singapore, Sumatra, Borneo, Maratua Is (E Borneo) and Java. Other ssp.: *C. m. aheneus* in Borneo; *C. m. albifrons* in Java; other ssp. S to Australia and E to New Guinea.

Locality. – Throughout Singapore: BBNP, Bedok, CCK, Changi, (CS), Fort Canning Park, KB, Kranji, KRP, LCK, Lor Mayang, Lower Seletar Dam, Loyang, MCP, Pgl, Poyan, PR, P Sudong, P Ubin, SBWR, (Senoko), Sentosa, Sg Mandai, Sunset Way, WCP, Yishun.

Habitat. – Parks, gardens, orchards, secondary scrub and mangroves.

Breeding. – Parasitises *Gerygone sulphurea*. Imm seen in May., Jun., Jul., Sep., Oct.

Materials examined. – None.

61. Horsfield's Bronze Cuckoo

Chrysococcyx basalis R/WV

Bronze Cuckoo
Sewah Horsfield, Burung Sewah Australia

Status. – Rare winter visitor.

Records. – A single female specimen taken in Singapore on 19 Jul. 1879 (Hume Coll., BM). No further records until one bird was photographed at Changi, 17 Aug. 1986 (Wells, 1990b). A second record of one seen in an *Albizia* tree at Sentosa on 20 Aug. 1990 (SINAV 4-3). Field identifications of a total of five individuals over the years were claimed in 1986, 1990, 1991, 1993 (RFO, 1992; 1993; BM; SINAV 4 in Wells, 1999) but no details were given. A bird reported at Changi C on 11 and 17 Aug. 2002 (OBC Bull. 38). The most recent record is a bird seen and photographed at MCP, 22 May. 2005 (Ivor Lee, in litt.). Another bird was seen again at MCP on 4 – 12 Jun. 2005 (LKS, in litt.).

Range. – Breeds in Tasmania and Australia; winters within Australia and N to the Lesser Sundas, Sulawesi, Borneo, Bali, Java, S Sumatra, Singapore and S Malay Pen.

Locality. – Changi, MCP, Sentosa.

Habitat. – Mostly in open, reclaimed coasts and secondary woodland.

Migration. – Breeds in Australia and arrives in Singapore during the S winter.

Early and late dates. – 22 May. – 28 Aug.

Materials examined. – BM 1 (1 FF).

62. Violet Cuckoo

Chrysococcyx xanthorhynchus xanthorhynchus
U/RB WV

Sewah Ungu, Burung Sewah Puteri

Status. – Uncommon resident, possibly augmented by winter visitors (G-H, 1949a). M & W (1976) had reported possible migrants on P Ubin but no details given.

Threats. – Nationally-vulnerable, considered at risk due to the present small numbers, estimated population at 20 – 25 (Lim, 1989; 1992).

Range. – Malay Pen, Sumatra, Borneo, N Natuna Is and Java. Other ssp.: *C. x. bangueyensis* in Banguey Is. Also in the Indian subcontinent, Yunnan, Indochina and the Philippines.

Locality. – Mainly in BTNR, CC forest; wanderers in BBNP, Bt Gombak, Dairy Farm Quarry, J Kedai, Jurong, KB, Lor Asrama, Old Jurong Rd, P Hantu, Pgl, [P Ubin (Chasen, 1924a)], Sarimbun, SBG, (Senoko), Sentosa, Sg China, Sunset Way, Tyersall, (Ulu Sembawang).

Habitat. – Canopy of forests and forest edges, occasionally in agricultural areas and rarely in mangroves (L & G, 1997).

Breeding. – Parasitises sunbirds. Unconfirmed report of a lone juvenile being fed by a pair of Brown-throated Sunbirds in secondary woodland during late-May. to early Jun. 1989 (SINAV 3). One young bird seen at Track 22, Old Jurong Rd, on 7 Sep. 1997 provides further evidence of breeding for this species (SINAV 11-3). One Imm female was observed being fed by a female Purple-throated Sunbird at Sime Rd, 3 Aug. 2000 (SINAV 16-3).

Materials examined. – BM 1 (1 AA), RMBR 2 (2 MM).

63. Drongo Cuckoo

Surniculus lugubris barussarum, dicruroides
U/RB WV

Burung Hamba Kera, Burung Sewah Sawai

Ssp. – *Surniculus l. barussarum*: wing 115 – 135 mm; *S. l. dicruroides*: wing 135 – 148 mm.

Status. – Uncommon resident (*S. l. barussarum*) and winter visitor (*S. l. dicruoides*).

Threats. – Nationally-vulnerable, considered at risk due to their present small numbers, estimated population levels of 15–20 (Lim, 1989; 1992; Ng & Wee, 1994).

Range. – *Surniculus l. barussarum* in Malay Pen, Singapore, Sumatra, Borneo; *S. l. dicruoides* breeds throughout the Indian subcontinent, Sri Lanka, China, SE Asia to the Greater Sundas, Bali, the Philippines, Sulawesi to the Moluccas. Northern populations migrate to Malay Pen, Singapore, Sumatra and N Natuna Is.

Locality. – BBNP, BTNR, CC forest, Changi, Malcolm Park, MF, Poyan, P Ubin, [SBG (Ridley, 1898)], SBWR, Sentosa, SJI, Xilin.

Habitat. – Secondary woodland, forests and forest edges.

Breeding. – A young fledgling was seen begging food from two *Macronous gularis* in Jul. (SINAV 16-3). Imm were recorded in the forests in Mar., Jul., Oct. Stated to lay its eggs in the nests of drongos, to which it bears a very close mimetic resemblance (Robinson, 1927).

Early and late dates. – 28 Oct. – Mar. (Lim, 1998).

Materials examined. – BM 1 (1 MM), RMBR 1 (1 AA), UWBM 1 (1 FF).

Note. – Sightings cannot be differentiated into residents or migrants in the field, although L & G (1997) suggested that residents occur in the C forests, while the winter visitors and passage migrants occur in wooded areas elsewhere. Ringing studies in Malaysia showed that both ssp. occur in the Pen as migrants (M & W, 1976).

64. Asian Koel

Eudynamys scolopacea malayana, scolopacea
C/RB WV

Koel

Tahu

Ssp. – *Eudynamys s. malayana*: female wing > 209 mm, male wing > 207 mm; *E. s. scolopacea*: wing < 210 mm (Wells, 1999).

Status. – Common resident and winter visitor. Formerly a rare bird in Singapore (Robinson, 1927); possibly one to two remain in those areas that are well-wooded throughout the year, but their numbers increase immensely during at the migration season. Listed as a winter visitor in small numbers and almost certainly was not breeding in Singapore in the 1920s (B & C, 1927; G-H (1949). But one female Imm was collected near Kranji River on 26 Nov. 1922 (RMBR). Resident population has increased in recent years since 1987.

Records. – First recorded when specimens were collected in Oct. 1891 (RMBR). Late birds recorded in Apr. 1964 (Medway

& Nisbet, 1965). Two seen in garden at Kg Ayer Gemuroh on 22 Oct. 1967 (Gregory, 1970). One seen on 24 Sep. 1987. As of 1964, common migrant on SJI, P Tekong, and Sentosa. First recorded on P Ubin on 24 Feb. 1921 (RMBR) and not seen there again until 17 Jan. 1987 (SINAV 1).

Range. – The Indian subcontinent, Sri Lanka, SE Asia to Malay Pen, Singapore, Sumatra, Borneo, Karimata Is, N Natuna Is, Java and the Lesser Sundas. Another ssp., *E. s. chinensis* breeds in China and eastern SE Asia.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Mangroves, secondary woodland, orchards, plantations, parks and wooded gardens. Rarely in forests.

Breeding. – Breeding has become widespread in Singapore since 1987. Parasitises *Corvus splendens*. Robinson (1927) recorded eggs from nest of *Corvus macrorhynchos* in Kelantan. Mating observed in Apr., Jun. Chicks seen in Jan., Apr., Oct. Imm seen in Mar., Nov.

Early and late dates. – 3 Sep. – 26 May.

Materials examined. – RMBR 1 (1 FF), UWBM 8 (7 FF, 1 MM).

65. Black-bellied Malkoha

Phaenicophaeus diardi diardi E

Lesser Green-billed Malkoha

Burung Sanok, Burung Cenok, Burung Krak, Burung Selayak, Burung Cenuk Perut Hitam

Status. – Extinct. Former scarce resident.

Records. – A bird collected on 10 Dec. 1879 (Hume Coll., BM). Last confirmed records ca. 1949 in small numbers (Molesworth in G-H, 1949a). Unconfirmed sightings in the 1960s (British Armed Forces), not recorded since.

Range. – SW Thailand, Malay Pen and Sumatra. Other ssp.: *P. d. borneensis* in Borneo.

Habitat. – Formerly in very heavily-wooded forests and swampy forests.

Materials examined. – BM 1 (1 AA), USMN 1 (1 AA).

66. Chestnut-bellied Malkoha

Phaenicophaeus sumatranus sumatranus U/RB

Rufous-bellied Malkoha

Cenuk Kecil, Burung Sanok, Burung Cenok, Burung Krak, Burung Selayak

Status. – Uncommon resident. Nationally near-threatened (Lim, 1998). Occurs widely but in small numbers.

Range. – Tenasserim, Thailand, Malay Pen, Singapore, Sumatra and Borneo.

Locality. – Mainly in BBNP, BTNR, CC forest, sometimes in Lor Asrama, P Ubin, SBWR.

Habitat. – Heavily-wooded areas, forests, forest edges, mangroves.

Breeding. – First recorded on 13 Jan. 1989 (SINAV 4-1) although an Imm specimen was collected by Chasen on 4 Jun. 1922, near Kranji River (RMBR). Courtship observed in Feb. (SINAV 12-1). Nest building in Jan., Mar., Jul. Brooding in Mar. to May., Nov. Imm in Sep.

Materials examined. – BM 2 (1 MM, 1 AA), RMBR 17 (5 FF, 7 MM, 1 Imm, 4 AA), USMN 2 (1 MM, 1 FF).

FAMILY CENTROPODIDAE

67. Greater Coucal

Centropus sinensis bubutus U/RB

Common Coucal, Crow-pheasant

Bubut Besar, Burung But-But Cari Anak

Status. – Uncommon resident. Formerly very common. Becoming scarce due to loss of suitable habitat (L & G, 1997).

Range. – Singapore N to the Malay Pen, in the latitude of Penang. Other ssp.: *C. s. intermedius* in N Malay Pen, Pen Thailand, China, Sri Lanka and the Indian subcontinent; *C. s. eurycercus* in Sumatra, Borneo, N Natuna Is, Bali and W Philippines.

Locality. – Throughout Singapore, N Is, S Is are suitable habitats. Formerly more numerous on the offshore islands than on the mainland (Chasen, 1924a; B & C, 1927).

Habitat. – Grassland, open country, plantations, forest edges and rural areas.

Breeding. – Clutch = 2. Young fledglings in Aug.

Materials examined. – AMNH 1 (1 FF), UWBM 1 (1 AA).

68. Lesser Coucal

Centropus bengalensis javanensis C/RB

Lesser Crow-pheasant

Bubut Kecil

Status. – Common resident. Formerly very abundant in Singapore (Robinson, 1927).

Range. – Malay Pen, Singapore, Sumatra, Borneo, N Natuna Is, Java, Bali, the Philippines and Lesser Sundas. Other ssp. in the Indian subcontinent, Indochinas and S China.

Locality. – Throughout Singapore, P Sudong, P Tekong, P Ubin.

Habitat. – Open country with tall grass and scrub.

Breeding. – Nesting described by Spittle (1949). Clutch = 2 – 3. Courtship in Jun., Jul. Nest building observed in Jun. Eggs found in Mar., Apr., May., Jul. Chicks in Jul., Aug. Imm seen in Jan., Feb., Mar., May., Jun., Aug., Sep., Oct., Nov.

Materials examined. – AMNH 1 (1 MM), BM 7 (4 FF, 2 MM, 1 Imm), RMBR 3 (1 FF, 1 MM, 1 AA).

FAMILY PSITTACIDAE

69. Yellow-crested Cockatoo

Cacatua sulphurea U/I RB

Lesser Sulphur-crested Cockatoo; Sulphur-crested Cockatoo
Kakatua Jambul Kuning

Status. – Uncommon. Introduced at least since 1927 (B & C, 1927); occasionally seen in the outskirts of Singapore particularly in the tall clumps of trees at Sepoy Lines in the 1920s. Not recorded by G-H (1949a).

Records. – Resident population established from escaped pets by 1970 (Gregory, 1970); breeding in the C Water Catchment area and seen in many localities. Birds seen with nesting material at Changi area were probably the first recorded incidence of this species breeding N of the Equator (Gregory, 1970). The largest flock is on Sentosa Is (J & P, 1999).

Range. – Native to Sulawesi and the Lesser Sundas.

Locality. – Mainly in Changi, Loyang, SBG, Sentosa, occasionally seen in KRP, MacRitchie Res, MF, NS, PR, SBWR, Ser, Third Ave, WCP.

Habitat. – Gardens, parks and secondary scrub.

Breeding. – Recorded in the Changi area; formerly also bred in CC forests (Gregory, 1970).

Materials examined. – None.

70. Tanimbar Cockatoo

Cacatua goffini C/I RB

Tanimbar Corella, Goffin's Cockatoo
Kakatua Tanimbar

Status. – Common. Introduced after 1980. Misidentified as *Cacatua sanguinea* (Little Corella) for several years and appears on certain lists as such (Hails, 1988).

Range. – Endemic to the Tanimbar Is.

Locality. – Established at Changi, Loyang, Sentosa, SBG, SJI. Also recorded in BBNP, Bt Kallang, Buona Vista, Cavenagh Rd, Commonwealth, Gilman Barracks, Kranji, KRP, Linden Drive, Lor Bekukong, Malcolm Park, Old Holland Rd, Poyan, PR, Prince George's Park, SBWR, SCR, Seletar, Sunset Way, Telok Blangah, Third Ave, Ulu Pandan.

Habitat. – Scrub, gardens and parks.

Breeding. – Nest inspection and building observed in Jan., Jul., Nov. Nest defence observed in Jul. Imm seen in Aug., Oct.

Materials examined. – None.

71. Blue-rumped Parrot

Psittinus cyanurus cyanurus R/R(B)

Little Malay Parrot
Puling, Bayan Puting

Status. – Rare resident.

Threats. – Nationally-endangered, facing extinction due to present low, possibly unviable populations levels of 10 – 20 (Lim, 1989; 1992; 1998). Globally low-risk/near-threatened (Collar et al., 1994).

Range. – SW Thailand, Malay Pen, Singapore, Sumatra and Borneo. Other ssp. on W Sumatra Is.

Locality. – Mainly in BTNR; rare in CC forest (Lim, 1989), (Senoko, Ulu Sembawang).

Habitat. – Forests and wooded areas.

Breeding. – Not recorded although a female was observed inspecting a tree hole in BTNR on 27 Nov. 1988 (SINAV 2).

Materials examined. – BM 1 (1 MM), FMNH 1 (1 FF).

72. Blue-crowned Hanging Parrot

Loriculus galgulus galgulus U/R(B)

Malay Lorikeet
Serindit

Status. – Uncommon resident. Imported into Singapore in large numbers, it being a favourite cage bird with the Malays (B & C, 1927).

Threats. – Nationally-endangered resident facing extinction because of its present low, possibly unviable population levels, estimated at 15 – 20 (Lim, 1989; 1992; 1994). Occurs widely in small numbers and probably under-recorded.

Range. – Malay Pen, Singapore, the Anambas, Sumatra and Borneo.

Locality. – BBNP, Bedok, BTNR, CC forest, CCK, Dover Rd, KRP, Linden Drive, Mimosa Park, Oriole Crescent, P Tekong, P Ubin, SBG, SBWR, Sembawang, Sentosa, SJI, Sunset Way, Turf Club Rd, Tyersall, Ulu Pandan. Records outside of C forests are presumed to be non-breeding visitors from Malaysia (L & G, 1997). Birds on SJI are believed to be escapees (Hails, 1988; Wells, 1999).

Habitat. – Forests, secondary growth, forest edges and wooded gardens.

Breeding. – Not recorded although a female was seen inspecting a dead tree in BTNR, 11 May 1997 (LKS, pers comm.).

Materials examined. – BM 4 (3 FF, 1 Imm MM), USNM 1 (1 AA), UWBM 1 (1 MM).

73. Rose-ringed Parakeet

Psittacula krameri manillensis U/I RB

Bayan Lepas

Status. – Introduced. Uncommon. Formerly common in the 1980s, now being replaced by Red-breasted Parakeet (LKS, pers. comm.). Popular as a cage bird.

Records. – A small population of nine individuals established in Jan. 1951 (eggs found) in the Buona Vista area (Allen, 1951; G-H, 1952). But a feral population is not known to have persisted (M & W, 1976). Seen regularly from 1986 onwards.

Range. – Native to tropical Africa, India and Myanmar. This ssp. occurs in Sri Lanka and the Indian subcontinent. This is the only record of the occurrence of *P. krameri* in the Malaysian subregion.

Locality. – Throughout Singapore: Ama Keng, Ang Mo Kio, BBW, Bedok, Bt Mandai, CC forest, CCK, Changi, (CS), Geylang, Gymkhana Ave, KB, Kranji, KRP, Lentor Drive, LCK, Lor Buangkok, Lower Seletar Dam, Loyang, Marina S, MF, NTU, Old Holland Rd, Pasir Panjang Hill, Pgl, Poyan, PR, Prince George's Park, P Ubin, SBWR, Seaside Park, (Senoko), Sentosa, Ser, Sg China, Singapore Polytechnic, SJI, Somapah, Ulu Pandan, Yio Chu Kang, Youngberg Hospital.

Habitat. – Scrub, orchards, gardens and parks.

Breeding. – First recorded on 24 Jan. 1951 (Allen, 1951). Nest building and eggs in Jan.

Materials examined. – AMNH 1 (1 MM).

74. Red-breasted Parakeet

Psittacula alexandri C/I RB

Moustached Parakeet
Bayan Dada Merah, Bayan Api

Ssp. – Ssp. not confirmed, either *P. a. alexandri* or *P. a. fasciata*.

Status. – Introduced (possibly from Java and S Borneo or the Indian region; G-H, 1949). Common.

Records. – A male first recorded in Changi by Spittle on 7 Aug. 1943 and three males on 8, 10, 13 of the same month (G-H, 1949; 1952); no females were observed. There was no indication that breeding occurred (G-H, 1952). A pair seen regularly in May 1969; probably escapees (Tweedy, 1970). Small numbers were seen in 1979, including 15 birds seen at Tuas during 27 – 31 Jan. 1979. No records between 1979 and 1986. Five birds seen in Mar. 1987 were first records since 1979. Birds recorded later perhaps represent new escapees replacing the old extinct population (Hails, 1988). Peak roost and flock counts in the range of 25 – 30 since at least the mid-1980s (RFO, 1993 in Wells, 1999; BR 1986-87; SINAV 1; 3; 4; 6).

Range. – Nominate ssp. is found in Java, Bali and S Borneo; *P. a. fasciata* in W Sumatra Is, the Andamans, E India, Indochina and S China.

Locality. – Boon Lay, CC forest, Changi, (CS), KAP, Lower Peirce Res, Old Holland Rd, Poyan, PR, P Ubin, SBG, Seletar, SJI, Sussex Estate.

Habitat. – Scrub, woodland and semi-open habitats.

Breeding. – Eggs in Jan. Brooding observed in Apr. Chicks found in Mar., Apr. Imm found in Jan., Mar., Apr., May., Jul., Oct., Nov. Nests found in Feb., Sep.

Materials examined. – UWBM 1 (1 FF).

75. Long-tailed Parakeet

Psittacula longicauda longicauda C/RB

Bayan Nuri

Status. – Common resident. Globally near-threatened (Collar et al., 1994).

Records. – Kelham (1881) recorded large flocks congregating in Jul. and Aug., particularly among the high trees (relics of the old jungle) in Changi. Common in the 1920s during autumn and recorded as a migrant (Chasen, 1924a; B & C, 1927) but was probably just a question of changing feeding grounds (Robinson, 1927). Seen mostly from May. to Jul. in the 1960s (Ward, 1968). Flocks can be seen now regularly throughout the year, as of the mid-1980s.

Range. – Malay Pen, Singapore, Anamba Is, Sumatra and Borneo. Other ssp., *P. l. defontainei* in the Riau Arch, Natuna Is and Karimata Is.

Locality. – Throughout Singapore: BBW, CC forest, College Green, Dover Rd, Hougang, J Lengkok, KB, King's Ave, Malcolm Park, NT Lane, Old Holland Rd, Poyan, PR, P Tekong, P Ubin, SBG, SBWR, Sembawang, (Senoko), Sg

China, Third Ave, Ulu Pandan, Woodlands. Less common in the S Is (L & G, 1997).

Habitat. – Large flocks found mainly in open country, also in secondary scrub, mangroves, orchards, plantations, gardens and parks.

Breeding. – Clutch = 2 (Wells, 1999). Courtship and mating observed in Apr., Oct. Nest found in Feb. through May. Nest building observed in Feb., Aug., Sep., Oct. Brood in Jan., Feb., Apr., May. Chicks found in Mar. Imm seen in May., Jun., Aug., Oct.

Materials examined. – BM 2 (1 FF, 1 MM), RMBR 10 (2 FF, 7 MM, 1 AA), USMN 2 (1 MM, 1 AA), UWBM 2 (1 FF, 1 MM).

FAMILY APODIDAE

76. Glossy Swiftlet

Collocalia esculenta cyanoptila R/R(B)

White-bellied Swiftlet

Layang-Layang Perut Putih, *Burung Layang-Layang Licin*

Status. – Rare resident. Recorded in small numbers by Robinson (1928) and G-H (1949a) and fairly widespread in Singapore (Gregory, 1970).

Threats. – Nationally-endangered, due to unviable population levels; estimated at only two individuals left (Lim, 1992). Probably an underestimate (see Records).

Records. – No confirmed records in the 1970s and 1980s (Hails, 1988). A few sporadic sightings at BTNR in the early 1990s, all between Dec. and Jan. (SINAV 4-4; 6-1; 6-4). Less than 10 recorded each year, all in Nov. – Feb. (Wells, 1999) but no details given. A small new population was discovered at BBNP in Jan. 2005, which persisted throughout the year (LKS, in litt.) and was still there in 2006 (A. Low, in litt.).

Range. – Malacca, Johor, Singapore, NE Sumatra, Lingga Arch, N Natuna Is and Borneo. Other ssp. in the Andaman Is, Nicobar Is, N Malay Pen, Java, Bali, the Philippines, mountains of N Borneo and Sumatra, Christmas Is, Wallacea and New Guinea to the Solomon Is.

Locality. – Restricted to BBNP, BTNR.

Habitat. – Forests and forest edges.

Breeding. – Not recorded.

Materials examined. – BM 1 (1 MM), USMN 1 (1 AA).

77. Black-nest Swiftlet

Collocalia maxima maxima C/RB

Low's Swiftlet, *Robinson's Swiftlet*

Layang-Layang Sarang Hitam, *Burung Layang-Layang Padi*

Status. – Common resident.

Range. – SE Vietnam, S Myanmar to Malay Pen, Singapore, W. Java. *Collocalia m. lowi* in Sumatra, Java and Borneo (not SE); *C. m. tichelmani* in SE Borneo.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Feeds over forests, open country, islets and coasts.

Breeding. – Breeds in small colonies in old buildings on Sentosa. Only known colony in Singapore, in 1988, at Dhoby Ghaut was destroyed a few years later. Nests found in Jun., Oct. Eggs and chicks found in Sep.

Materials examined. – AMNH 3 (1 MM, 2 AA).

78. Edible-nest Swiftlet

Collocalia fuciphaga amechana C/RB

Grey-rumped Swiftlet, German's Swiftlet, Thunberg's Swiftlet
Layang-Layang Gua

Status. – Common resident.

Range. – S Malay Pen, Singapore and Anamba Is. Other ssp.: *C. f. germani* in the rest of Malay Pen to W Hainan, coasts of Sarawak, N Borneo and the S Philippines; *C. f. perplexa* in Maratua Is (E Borneo). Other ssp. in the Andamans, Nicobar Is, Sumatra, Borneo, Java and Bali to the Lesser Sundas.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Feeds over forests, open country, islets and coasts.

Breeding. – Breeds in small colonies in old buildings on Sentosa.

Materials examined. – RMBR 23 (4 FF, 18 MM, 1 AA), USMN 2 (1 FF, 1 MM).

79. Silver-rumped Needletail

Rhaphidura leucopygia R/NBV

White-rumped Spine-tailed Swift, Silver-rumped Spinetail
Layang-Layang Ekor Pendek, Burung Layang-Layang Tongkeng Perak

Status. – Rare non-breeding visitor. Former uncommon resident (Robinson, 1927; 1928) in the rural districts of Singapore (B & C, 1927); in small numbers (G-H, 1949a).

Records. – Unconfirmed sightings in 1975 (SBBG) and on 4 Jun. 1989 over Seletar Res (SINAV 3). One seen over P Senang on 16 Nov. 1997 (SINAV 11-4).

Range. – S Tenasserim, S Vietnam to Malay Pen, Singapore, Sumatra, Borneo and Java.

Locality. – P Senang, Seletar Res.

Habitat. – Normally feeds close to the canopy of primary and tall secondary forests, edges of clearings and banks of streams running through thick jungle (Robinson, 1927; 1928); a habitat which is now very limited in Singapore.

Materials examined. – None. Specimens collected by Kelham (1881) in Jul. 1879 were not found.

80. White-throated Needletail

Hirundapus caudacutus caudacutus vR/PM

Northern Needletail

Burung Layang-Layang Ekor Runcing Utara

Status. – Very rare passage migrant.

Records. – Only two records: one on 27 Dec. 1982 at Hume Heights and two flying over BTNR on 8 Oct. 1987 (Hails, 1988).

Range. – Breeds in C Siberia, Sakhalin, S to Mongolia, NE China, Korea and C Japan; discontinuously in NE Indian subcontinent, SE Tibet, Sichuan and N Yunnan; winters in Australia and N to S New Guinea.

Locality. – BTNR, Hume Heights.

Habitat. – Over forest edges and woodland.

Materials examined. – None.

81. Silver-backed Needletail

Hirundapus cochinchinensis cochinchinensis
U/WV PM

White-vented Needletail

Layang-Layang Rengkong Putih, Burung Layang-Layang Ekor Runcing Indocina

Status. – Uncommon winter visitor and passage migrant. Not listed for Singapore by Robinson (1927; 1928) and G-H (1949).

Range. – Breeds in the Himalayas, NE India, Indochina, Myanmar, winters in Thailand, the Malay Pen, Singapore, Sumatra and W Java.

Locality. – BTNR, KRP, MacRitchie Res, (Senoko), Sime Rd.

Habitat. – Over forests and scrub.

Migration. – See Fig. 15.

Early and late dates. – 8 Sep. – 25 Mar.

Materials examined. – None.

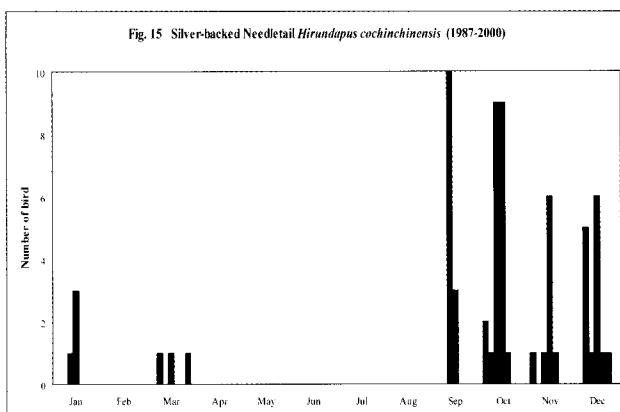


Fig. 15. Silver-backed Needletail, *Hirundapus cochinchinensis* (1987 – 2000).

82. Brown-backed Needletail

Hirundapus giganteus giganteus U/WV PM

Malaysian Spinetailed Swift

Layang-Layang Besar, *Burung Layang-Layang Ekor Runcing Biasa*

Status. – Uncommon passage migrant and winter visitor. Robinson (1927; 1928) recorded it to be widespread throughout Singapore and islands in its immediate vicinity, resident throughout the year but of very uncertain distribution. Listed as a resident in small numbers on the Is adjacent to Singapore (G-H, 1949a).

Records. – One specimen collected by A. R. Wallace in 1854 and a male collected by H. Whistler on 19 Jun. 1904 (BM).

Range. – S Tenasserim, Malay Pen, Singapore, Borneo, Sumatra, Java and Palawan. Another ssp. in SW India, Sri Lanka, the Andamans and Indochina.

Locality. – Bt Kallang, BTNR, KRP, MF, Sentosa, Sime Rd.

Habitat. – Seen usually on hill tops, occasionally over forests, forest edges and scrub.

Breeding. – Not recorded but a pair was prospecting a hole in a dead *Shorea curtisii* at BT Hill, Feb. 1983 but were not seen subsequently (Hails, 1988).

Migration. – It seems to show at least local movements and may be present in an area in considerable numbers and then disappear completely for several months (Robinson, 1927; 1928; G-H, 1949). See Fig. 16.

Early and late dates. – 3 Aug. – 19 Apr.

Materials examined. – BM 2 (1 MM, 1 AA).

83. Asian Palm Swift

Cypsiurus balasiensis infumatus C/RB

Palm Swift

Layang-Layang Palma, *Burung Layang-Layang Lontar*

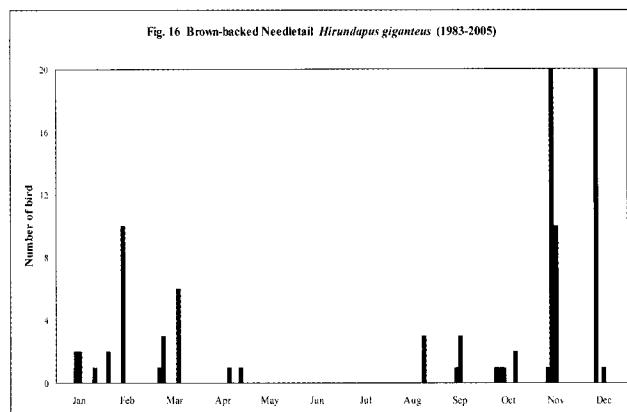


Fig. 16. Brown-backed Needletail, *Hirundapus giganteus* (1983 – 2005).

Status. – Common resident.

Range. – Assam hills to Indochina, Malay Pen, Singapore, Tambelan Is, Sumatra and Borneo. Other ssp. on the Indian subcontinent, Sri Lanka, the Philippines, Java and Bali.

Locality. – BT area, CC forest, KRP, LH, Lower Seletar Dam, Novena, PR, P Ubin, SBG, SBWR, Seaside Park, Sembawang Park, Sentosa, Sg Seletar.

Habitat. – Open country habitats, forest edges and coastal districts (G-H, 1949), in the vicinity of palms (*Livistonia*, *Borassus*, *Corypha*, *Areca*) which it uses for roosting and nesting.

Breeding. – Eggs found in May.

Materials examined. – BM 2 (1 FF, 1 MM).

84. Fork-tailed Swift

Apus pacificus pacificus U/WV PM

Pacific Swift

Layang-Layang Ekor Cabang, *Burung Layang-Layang Timur*

Status. – Uncommon passage migrant and rare winter visitor.

Records. – First recorded on 12 Nov. 1950 when a small flock flew over the Changi airfield; an adult taken by F. G. H. Allen from the flock was an example of the typical ssp., not *A. p. cooki* (G-H, 1950).

Range. – Breeds in Siberia, E to Kamchatka, N China, Japan and Taiwan. Winters in Malay Pen, Singapore, Sumatra, Java to New Guinea, Australia and New Zealand. Another ssp., *A. p. cooki* breeds in Myanmar and Thailand; winters S to N Pen Thailand. Other ssp. in the Himalayas and the Philippines.

Locality. – BTNR, CC forest, CCK, Changi, J Kedai, KRP, Lor Temechut, Loyang, Marina E, Marine Parade, MF, Pgl, Poyan, P Semakau, P Sudong, P Ubin, Sarimbun, Seaside Park, (Senoko), Sentosa, SJI, TBH.

Habitat. – Occurs over all habitats, preferring forests, scrub and open country.

Migration. – See Fig. 17.

Early and late dates. – 7 Sep. – 20 May.

Materials examined. – None. The specimen taken at Changi on 12 Nov. 1950 was not found.

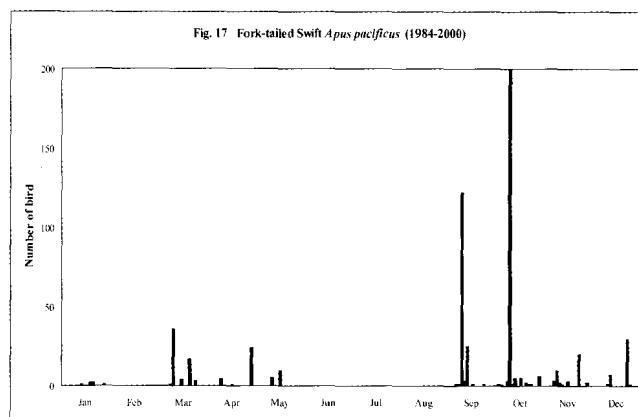


Fig. 17. Fork-tailed Swift, *Apus pacificus* (1984 – 2000).

85. House Swift

Apus affinis subfurcatus C/RB

Little Swift

Layang-Layang Rumah

Status. – Common resident. Singapore held big populations for well over a century (Kelham, 1881 – 1883 in Wells, 1999; Robinson, 1927; B & C, 1927; G-H, 1949).

Range. – Malay Pen, Singapore, Sumatra, Java and Borneo. Other ssp. in Nepal, Taiwan, S China and Thailand.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Feeds over open country, most wooded areas and forests.

Breeding. – Nest described by Spittle (1949). Clutch = 2. Nests found from Apr. – Jun. Brooding observed in Mar., Apr., Jul., Nov. Chicks recorded in May., Aug.

Materials examined. – AMNH 1 (1 FF), BM 1 (1 FF), RMBR 3 (3 FF), USNM 1 (1 MM).

FAMILY HEMIPROCNIDAE

86. Grey-rumped Treeswift

Hemiprocne longipennis harterti C/RB

Crested Tree Swift

Layang-Layang Berjambul Kelabu

Status. – Common resident. Formerly uncommon; Kelham (1881) only saw it once in Singapore. Numbers appear to have increased since the 19th century (Hails, 1988), but Wells (1999) noted a decline in population size in Singapore in the last 20 years. Flocks of 10 – 29 birds seen in 1986 and 1987.

Range. – S Tenasserim, SW Thailand, Malay Pen, Singapore, Borneo, Sumatra, Rhio Arch. Nominate ssp. in Java; *H. l. perlonga* in W Sumatran Is. Others in Bali and Wallacea.

Locality. – BBNP, BT area, Changi, KRP, P Ayer Merbau, P Tekong, P Ubin, Ridgewood Close, SBG, Sime Rd, Stevens Rd, Sunset Way, Swiss Club Link.

Habitat. – Found in small parties in open forest country, lightly-wooded areas, gardens, parks, rubber estates and other suburban areas.

Breeding. – Clutch = 1. Egg and chick found in May. Imm seen in Apr.

Materials examined. – BM 1 (1 FF), RMBR 7 (2 FF, 5 MM).

87. Whiskered Treeswift

Hemiprocne comata comata R/NBV

White-whiskered Tree Swift

Layang-Layang Berjambul Kechil

Status. – Rare non-breeding visitor. Formerly a fairly common resident recorded in small numbers, but seems rather less common than *H. longipennis* (B & C, 1927; Gregory, 1970).

Records. – No records since 1960s (Gregory, 1970). First recent record on 24 Mar. 1986, where one female was seen for several days at Balmoral Park, up to three sighted regularly in Balmoral Park during Aug. 1986 (SINAV 1-3); in view of the suburban habitat, these birds were strays from Johore (Lim, 1992). An unconfirmed record at the CC forest on 31 Oct. 1999 (G. Lim). Another bird, a female, claimed at the BKE pipeline, BT, on 4 Aug. 2001 (OBC Bull. 35). A bird reported on P Tekong, 22 Feb. 2002 (SR in OBC Bull. 36). No details were provided for the last three records and thus unable to be confirmed.

Range. – Malay Pen, Anamba Is, Singapore, Sumatra, Riau Arch, Borneo and N Natuna Is. Another ssp. in the Philippines.

Locality. – Balmoral Park, (Changi), P Tekong, [P Ubin (Chasen, 1924a)].

Habitat. – Formerly in or near forest country throughout the mainland, around coastal areas and on many of the off-lying islands (G-H, 1949a; Gregory, 1970).

Materials examined. – Specimens collected by Kelham (1881) in Changi and by Chasen (1924a) on P Ubin were not found.

FAMILY TYTONIDAE

88. Oriental Bay Owl

Phodilus badius badius E**Bay Owl***Burung Pungguk Api***Status.** – Extinct. Last recorded as a resident (Robinson, 1928) but listed as a rare vagrant (G-H, 1949a). CITES II.**Records.** – One formal record taken from Singapore (G-H, 1949a) with no details. No other evidence of its occurrence since, other than an unconfirmed call in BTNR in 1980 (Hails, 1988) and another unconfirmed call in BTNR on 17 Oct. 1996 (SR in OBC Bull. 25).**Range.** – Malay Pen, Sumatra, Borneo, Java and Bali. Other ssp. in the Indian subcontinent, Sri Lanka, Yunnan and Indochina.**Habitat.** – Formerly frequently found near water in dense forests (Robinson, 1928).**Breeding.** – Not recorded.**Materials examined.** – None.

89. Barn Owl

Tyto alba javanica U/RB*Jampuk Putih, Burung Pungguk Jelapang***Status.** – Uncommon resident. Formerly an occasional vagrant (G-H, 1949a). CITES II.**Records.** – Formerly known from two skins of doubtful provenance, from Singapore (Kelham, 1889 and Jan 1931, a purchased skin). On 18 Feb. 1970 a military aircraft struck a Barn Owl over Changi Airbase, Singapore (Gregory, 1970). A recent invader which spread S from the Malay Pen as a result of the expansion of oil palm plantations (*Elaeis guineensis*) in the late 1960s and early 1970s (Lim, 1992; Medway & Yong, 1970; Wells, 1972; 1974; 1975; 1982; 1983; 1984). Since 1999, two to five birds have been salvaged every year, showing a stable population in Singapore (WLK, pers. obs.).**Range.** – Almost worldwide distribution. Malay Pen, Singapore and Java E to Timor. Also on the Indian subcontinent, Sri Lanka, Andaman Is, Indochina and Thailand.**Locality.** – Mostly on the E and S side of Singapore: Benjamin Sheares Bridge, Changi, Chong Pang Rd, ECP, Jurong, Marina E, PR, Pgl, P Ubin (L & G, 1997), (Senoko), Sentosa, Tuas.**Habitat.** – Usually found near human habitations.**Breeding.** – Chicks found in May., Nov. Imm seen in Jul., Oct.**Materials examined.** – BM 1 (1 MM), RMBR 3 (2 MM, 1 AA), UWBM 8 (3 FF, 4 MM, 1 AA).

FAMILY STRIGIDAE

90. Oriental Scops Owl

Otus sunia malayanus R/WV PM**Common Scops Owl***Jampuk Kecil, Burung Hantu Kuang Kuik***Status.** – Rare winter visitor and passage migrant. Based on early collections erroneously listed as resident (G-H, 1949a). CITES II.**Records.** – An undated specimen was collected in Singapore in the late 19th century by W. Davison (Hume Coll., BM). A bird was collected on 22 Dec. 1916 at Fort Canning and another in Singapore, 16 Nov. 1938. One unconfirmed record in 1968 (Gregory, 1970). One photographed at MF on 13 Nov. 1994 (lora 1) and seen there on 19 Feb. 1995 (SINAV 9). One ringed at SBWR on Jan. 1996 and another in 2000. Probably more common than recorded as one to two dead or injured specimens were found each year since 1999 (WLK, pers. obs.). One found dead, 13 Nov. 2000, another two salvaged in 2001 and Feb. 2002. One bird was found dead in 2003. Another bird was found unable to fly at Lower KR on 14 Nov. 2003 (K. Lim, pers. comm.). One grey morph seen on 18 Dec. 2005, in MacRitchie Res (C. Moores, in litt.). A bird photographed at MacRitchie on 12 Nov. 2006 (K. C. Tsang, in litt.).**Range.** – Breeds in the Indian subcontinent, Sri Lanka, Pacific Russia, Japan, Korea, China, and Indochina; migrates through the Indian subcontinent, S China to Malay Pen, Singapore and N Sumatra.**Locality.** – Fort Canning Park, Lower KR, MacRitchie Res, MF, SBWR.**Habitat.** – Wooded areas, parks.**Migration.** – See Fig. 18.**Early and late dates.** – 12 Nov. – 26 Feb.**Materials examined.** – BM 1 (1 AA), RMBR 3 (3 FF), UWBM 4 (3 FF, 1 MM).

91. Collared Scops Owl

Otus lempiji lempiji C/RB**Sunda Scops Owl***Jampuk Kubur, Burung Hantu Reban***Status.** – Common resident. CITES II.**Range.** – Malay Pen, Singapore, Sumatra, Borneo, Java and Bali. Another ssp. in Thailand.

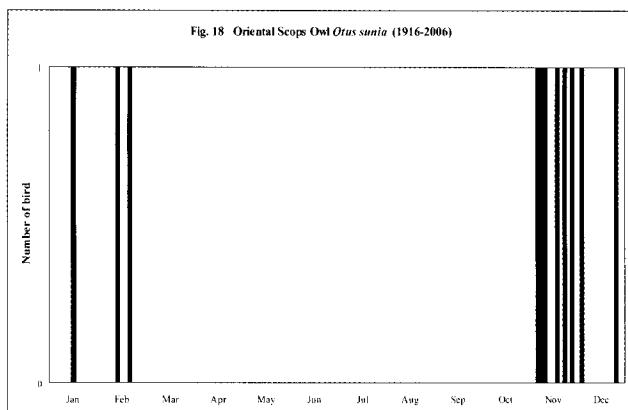


Fig. 18. Oriental Scops Owl, *Otus sunia* (1916 – 2006).

Locality. – Throughout Singapore, P Ubin, Sentosa.

Habitat. – Parks, gardens, rural areas, wooded areas and forests. Readily accepts urban habitats.

Breeding. – Eggs found in Apr., Jun. Chicks seen in Apr. Imm in Apr., May., Jul. through Oct.

Materials examined. – AMNH 2 (1 FF, 1 AA), FMNH 1 (1 AA), RMBR 14 (4 FF, 5 MM, 5 AA), USNM 1 (1 MM), UWBM 10 (4 FF, 6 MM).

92. Barred Eagle Owl

Bubo sumatranus sumatranus vR/NBV

Malaysian Eagle Owl

Burung Hantu Bubu

Status. – Very rare non-breeding visitor. Former resident, appeared to be not rare in Singapore in the 1920s but it was certainly not as numerous as *Ketupa ketupu* (B & C, 1927). CITES II.

Records. – One collected on 1 Jun. 1925 (RMBR). No further records until one was heard and seen at BTNR on Oct. 1996. It was probably a stray from Johore and stayed until at least 4 Jul. 1997 (OBC Bull. 25). One, possibly the same one from BTNR was seen in NS on 28 Jan. 1998 (OBC Bull. 27), 29 Jan. 1998 and 15 Mar. 1998 (SINAV 12-1) and again on 29 May. 2001 (OBC Bull. 34).

Range. – Extreme S Myanmar, Pen Thailand, Malay Pen, Singapore, Sumatra and Banka. Another ssp., *B. s. strepitans*, in Borneo, Java and Bali.

Locality. – BTNR, NS.

Habitat. – Occurs sparsely in heavy jungle (G-H, 1949). Also in secondary growth, old plantations and well-wooded gardens.

Materials examined. – BM 1 (1 MM), RMBR 1 (1 AA). Another specimen collected in Jul. 1893 (G-H, 1949) can no longer be found.

93. Buffy Fish Owl

Ketupa ketupu ketupu R/RB

Malaysian Fish Owl

Tumbuk Ketampi, Burung Hantu Kuning

Status. – Rare resident. CITES II.

Threats. – Nationally-endangered, threatened by illegal trapping, unviable population levels (estimate population of four), habitat loss and disturbance (Lim, 1992). Formerly quite common in the vicinity of Singapore (B & C, 1927) but by 1949 occurred only in small numbers (G-H, 1949a).

Records. – Three birds collected from P Ubin, 21 Jun. 1937. Continued presence confirmed by a photograph taken near Balmoral Rd, Jan. 1986 (J. B. Mitchell), the first record since 1950 (Wells, 1990b). Now regular on P Ubin (Lim, 1989; 1992). Also recorded occasionally in the CC forest, SBWR, and once in LCK; this was thought to be a stray or escapee (Lim, 1992).

Range. – Malay Pen, Singapore, Riau Arch, Sumatra, Billiton, Banka, Borneo, Java and Bali. Other ssp.: *K. k. pageli* in NE Borneo; *K. k. aagaardi* in S Assam to S Thailand and Vietnam; *K. k. minor* in Nias Is.

Locality. – Balmoral Rd, LCK, CC forests, P Ubin, Sentosa, Tuas.

Habitat. – Mangroves, rubber plantations, secondary forest and forest edges.

Breeding. – First recorded on 26 Nov. 1994. Nest found in Mar. Eggs and imm found in Nov.

Materials examined. – BM 2 (2 AA), RMBR 6 (3 FF, 2 MM, 1 AA).

94. Spotted Wood Owl

Strix seloputo seloputo R/RB

Seloputo Owl

Burung Hantu Berbintik, Burung Hantu Carik Kafan

Status. – Rare resident. CITES II.

Threats. – Nationally-threatened and endangered due to habitat loss and disturbance; unviable population of 6 to 10 (Lim, 1989; 1992; 1994).

Records. – Chasen (1939) included Singapore in the range of the Wood Owl, without supporting evidence and thus was regarded as erroneous (G-H, 1949a). Territorial calling on Singapore as of late-1985 (Wells, 1999). First confirmed record in Jun. 1986 (SINAV 1). First recorded on P Ubin on 25 Jan. 1992 (SINAV 6-1), SJI on 19 Mar. 1987 (SINAV 1-3) and Sentosa on 10 Oct. 1989 (SINAV 3-10).

Range. – S Indochina, NE Thailand, Malay Pen, Singapore, Sumatra and Java. Other ssp. in Bawean Is and Palawan.

Locality. – Bidadari Cemetery, CC forest, Chinese Garden, Dempsey Rd, Dover Rd, KB, Labrador Park, Malcolm Park, P Tekong, P Ubin, SBG, SCR, Sentosa, SJI, TBH, Tyersall Ave, Zehnder Rd.

Habitat. – Forests, mature gardens, wooded areas and plantations.

Breeding. – First recorded in Aug. 1986 (SINAV 1-8). First breeding record on P Ubin in Mar. 2001 (OBC Bull. 34). Brooding observed in Jan.. Chicks found in Feb., Mar., Oct. Imm seen in Mar., Apr., Aug., Sep.

Materials examined. – None.

95. Brown Hawk Owl

Ninox scutulata scutulata C/RB

Hawk-Owl, Brown Boobook

Pungguk, Burung Hantu Betemak

Ssp. – *Ninox s. scutulata*: wing length 184 – 200 mm. Migrant ssp. uncertain but in Malay Pen, both *N. s. burmanica* and *N. s. japonica* have been recorded; wing length 202 – 229 mm.

Status. – Common resident and uncommon winter visitor and passage migrant. CITES II.

Range. – Southwest Thailand, S Malay Pen, Singapore, Riau Arch, Sumatra; *N. s. borneensis* in Borneo; *N. s. javanensis* in W Java. Others in Palawan. Migrants breed on the Indian subcontinent, Sri Lanka, Pacific Russia, Japan, Korea, China, SE Asia, Greater Sundas, Bali and the Philippines; N population migrates through the range to the Moluccas and Lesser Sundas.

Ninox s. burmanica in E Assam to S China, S to N Malay Pen, Thailand and Indochina.

Ninox s. japonica in E China, C and S Korea, Japan and Taiwan.

Locality. – BTNR, CC forests, P Tekong, P Ubin, SBG, Seletar Is, Sentosa.

Habitat. – Restricted almost completely to forests, occasionally recorded from wooded gardens and plantations.

Breeding. – Chicks found in Apr., Jun.

Early and late dates. – 5 Sep. – 25 Jan.

Materials examined. – AMNH 1 (1 FF), RMBR 12 (5 FF, 5 MM, 2 AA), UWBM 6 (4 FF, 2 MM).

Note. – Non-forest records may represent new arrivals of the Palaearctic migrant ssp. (never before taken in Singapore) or

it may herald an expansion of habitat use (Hails, 1988). Wing lengths of salvaged birds from 2001 – 2002 ranged from 216 – 226 mm (WLK, pers. obs.) and most likely to represent the migrating ssp.

96. Short-eared Owl

Asio flammeus flammeus R/A

Burung Hantu Sayap Panjang, Burung Hantu Tuli

Status. – Rare vagrant. CITES II.

Records. – First recorded in Dec. 1900 in SBG, another two birds collected in Pgl, Jan. 1930 and Singapore, 30 Nov. 1940 (RMBR). Two birds seen at Changi S on 19 Jan. 1988 (M. Strange) is the first record in 48 years (SINAV 2-1). One seen at Marina E on 15 Jan. 1990 (SINAV 4). No records until 4 Mar. 2006 when three birds were photographed at Changi (D. Tan, in litt.); one bird seen on 12 Mar. 2006 (YDL, in litt.) and two birds still present on 20 Mar. 2006 (AN, in litt.).

Range. – Breeds in Iceland, the British Isles, Europe, Asia E to Kamchatka, S to Spain, Caucasus, NE Mongolia and NE China; also N America from W and N Alaska through Canada and S to C USA. Northern populations winter from British Isles, S Scandinavia and C Asia S to N Africa and parts of S Africa. East Asia to Japan, S China and SE Asia as far as the Philippines.

Locality. – Changi S, Marina E, (Pgl), (SBG).

Habitat. – Sites included a dirt track through newly-planted rubber, reed beds on open dredge-mine land and sparsely-vegetated to bare sandfill.

Materials examined. – RMBR 2 (1 FF, 1 AA). One other specimen was collected but cannot be found now: Dec. 1900 in the SBG and identified as *A. flammeus* (Ridley, 1901 in G-H, 1949a).

Note. – *Asio otus* in Robinson's list (1910) more probably refers to this species (in G-H, 1949a).

FAMILY EUROSTOPODIDAE

97. Malaysian Eared Nightjar

Eurostopodus temminckii R/R(B)

Malaysian Nightjar

Taptibau, Burung Tukang Taptibau

Status. – Rare resident.

Threats. – Nationally-vulnerable; threatened by unviable population levels (Lim, 1989; 1992). Formerly common in open country (Ridley, 1898; G-H, 1949a).

Records. – A few records in the 1960s from the C wooded area (Gregory, 1970). Now absent from primary forest at BTNR

and the population in the CC forest may not be self-sustaining in the long term (Lim, 1992); estimated population level of 20 (Lim, 1989). An unconfirmed report of two birds seen at BTNR on 7 Feb. 1998 by SR (OBC Bull. 28).

Range. – Extreme S Thailand, Malay Pen, Singapore, Sumatra, Borneo and Borneo.

Locality. – Confined to the CC forests.

Habitat. – Forests and forest edges.

Breeding. – Not recorded.

Materials examined. – RMBR 3 (2 FF, 1 MM), USMN 2 (2 FF).

FAMILY CAPRIMULGIDAE

98. Grey Nightjar

Caprimulgus indicus Jotaka R/WV PM

Migratory Nightjar, Jungle Nightjar

Tukang Kelabu

Status. – Rare passage migrant and winter visitor.

Records. – A specimen was found dead on 20 Jun. 1956 (RMBR). A solitary bird photographed on 17 Mar. 1987 at Sime Rd is the first confirmed record for Singapore in 31 years.

Range. – Breeds in Siberia, Manchuria, China, Japan and Korea; winters in S China, Indochina, Malay Pen, Singapore, Sumatra, Java, Borneo, the Philippines and New Guinea.

Locality. – BTNR, CC forest, Sentosa, Simpang grassland.

Habitat. – Winters in forests, forest edges and secondary growth.

Migration. – See Fig. 19.

Early and late dates. – 16 Sep. – 18 Apr.

Materials examined. – RMBR 1 (1 FF).

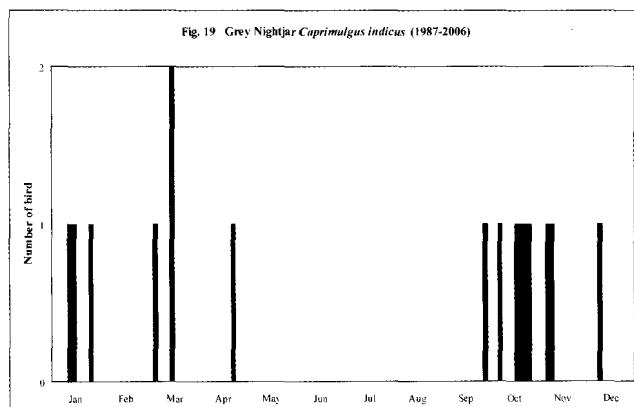


Fig. 19. Grey Nightjar, *Caprimulgus indicus* (1987 – 2006).

99. Large-tailed Nightjar

Caprimulgus macrurus bimaculatus C/RB

Long-tailed Nightjar

Tukang, Burung Segan, Burung Malas, Burung Kubor, Burung Tukang Kubur

Status. – Common resident.

Range. – NE India E to S China, S to Malay Pen (S of Penang), Singapore, Sumatra and Riau Arch. Other ssp. in Borneo, Java, Bali and Palawan. Also in the Himalayas, NE coast of the Indian subcontinent, the Andaman Is, S Yunnan, Hainan, New Guinea to New Britain and N Australia.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – All open country habitats, gardens, along trails in the forests, forest edges, plantations and orchards.

Breeding. – Clutch = 2. Egg to fledging = 5 days. Eggs in Jan. – Jul., Oct., Dec. Chicks seen in Mar., Apr., Jul., Dec.

Materials examined. – AMNH 2 (1 FF, 1 MM), BM 3 (1 FF, 2 MM), FMNH 1 (1 MM), RMBR 5 (2 FF, 1 MM, 2 AA), USNM 7 (2 FF, 4 MM, 1 AA), UWBM 4 (2 FF, 2 MM).

100. Savanna Nightjar

Caprimulgus affinis affinis U/RB

Allied Nightjar

Tukang Savana, Burung Tukang Padang

Status. – Uncommon resident.

Threats. – Considered nationally-vulnerable because of the threat of land clearance in many of the sites such as Marina E, although there is recent encouraging evidence that it is slowly gaining a foothold and spreading in Singapore (Lim, 1992).

Records. – First recorded at Tuas on 17 May. 1988 by J. B. Sigurdsson (SINAV 2). Recently colonised Singapore from the Riau Arch with coastal reclamation through the 1980s creating new ecological conditions favouring settlement (Wells, 1999).

Range. – S Malay Pen, Singapore, Sumatra, Borneo, Java, Bali and Karimon-Java Is. Other ssp. on the Indian subcontinent, S China including Taiwan, the Philippines, Sulawesi and the Lesser Sundas.

Locality. – Bedok Res, CCK, Changi, J Lengkok Sembawang, Mandai, Marina E, Old Jurong Rd, Pgl, Poyan, PR, P Semakau, Seletar Is, (Senoko), Sentosa, Ser, Tampines, Tuas, WCP, Woodlands, Yishun Ring Rd.

Habitat. – All open country habitats and grassland with open stony patches.

Breeding. – First recorded in 1988 at Tuas. Eggs found in Apr., May.

Materials examined. – None.

FAMILY COLUMBIDAE

101. Rock Pigeon

Columba livia C/I RB

Feral Pigeon, Rock Dove
Merpati, Pergam Batu

Status. – Common resident. Introduced. A comparatively recent addition to the Singapore's avifauna (Lee & Kang, 1990).

Records. – Not listed by Chasen (1935), Delacour (1947) and G-H (1949). It probably originated from the escape of birds intended to be sold for food (Hails & Jarvis, 1987). Formerly kept as part of the menagerie in the SBG in 1880 (Ridley, 1906). In 1968, 100 were recorded in the vicinity of Victoria Threatre (Ward, 1968). Today, their numbers have increased by many times. The ancestor of the Rock Pigeon originally nested on the ledges of sea cliffs. Thus, the birds took to the ledges of city buildings with ease. Food was abundant in grain warehouses and feed mills and they thrived.

Range. – Native in the W Palaearctic, Africa and the Indian subcontinent, but cosmopolitan by domestication and introduction.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Found in all urban habitats. Lives everywhere in the vicinity of human presence.

Breeding. – Clutch = 2. Breeds throughout the year.

Materials examined. – UWBM 16 (10 MM, 6 FF).

102. Spotted Dove

Streptopelia chinensis tigrina C/RB

Spotted-necked Dove
Tekukor, Tekukur Biasa

Status. – Common resident. Large numbers are imported into Singapore as this is another favourite cage bird with the locals (B & C, 1927).

Range. – Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, Java, Bali and the Lesser Sundas. Also on the Indian subcontinent, Sri Lanka and China.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – All open habitats, rural areas, roadsides, gardens, as well as wide trails in the forest and in forest edges.

Breeding. – Nest described by Spittle (1950). Clutch = 2, occasionally 3. Mating in Jun. Nest building in Jan., Dec. Eggs found in Jan. through Aug. Brooding observed in Mar., Apr., Sep. Imm seen in Feb., Mar., Apr., May., Aug., Oct.

Materials examined. – AMNH 1 (1 AA), BM 3 (1 FF, 1 MM, 1 AA), RMBR 7 (2 FF, 3 MM, 2 AA), UWBM 2 (2 MM). Specimens collected by W. L. Abbott in Oct. 1899 (Riley, 1938) and May. 1951 on P Pawai (G-H, 1952) were not found.

103. Red Collared Dove

Streptopelia tranquebarica humilis C/I RB

Tekukur Merah

Status. – Common. Introduced ca. 1940.

Records. – Two males were first recorded and collected together (RMBR) in Dec. 1940 at Changi (G-H, 1949), but they must have been birds that had escaped from captivity, due to the absence of additional records from the intervening territory (G-H, 1949a; 1952). A small population appeared again at Changi, Sep. 1980, grew and has spread (Hails, 1988). Seen at Bedok, Oct. 1985 (LKK). By mid-1986, about 100 in Changi-Ser area (Wells, 1990b). One at P Ubin on 23 Aug. 1986, with later evidence of commuting between there and the main colony (RFO in Wells, 1990b). In 1987, 15 at Bedok on 29 Mar. and by Nov. about 600 between Changi and Ulu Seletar including 150 at Pgl on 25 Oct. Further spread seems imminent. Uncommon on the W part of P Ubin and absent from other islands (L & G, 1997). Once recorded on an offshore oil installation off Terengganu, Malaysia (Wells, 1990), suggesting its occurrence in Singapore may be the result of a natural influx, although it is known from very few localities outside the natural range (Hails, 1988). There are records from the Perak coast, Malacca and Singapore. This rather patchy distribution suggests introduction by escaped cage birds rather than natural expansion of indigenous range (J & P, 1999).

Range. – The Indian subcontinent, the Andaman Is, China, SE Asia to Malay Pen and C Philippines.

Locality. – BBW, Bedok, Changi, J Gemala, KB, LH, Lor Liew Lian, Lor Mayang, Marine Parade, Marine Vista, Mountbatten Rd, Pgl, PR, P Ubin, SBWR, Seletar, Senoko, Ser, Sg China, Sg Simpang, Tampines, Yishun.

Habitat. – Open country, parks, scrub and rural habitats.

Breeding. – Clutch = 2 (incubation period 14 days). Mating observed in Mar. Nest building in Jun., Sep. Eggs found in Mar., Apr., Jul.

Materials examined. – RMBR 1 (1 AA).

104. Emerald Dove

Chalcophaps indica indica U/RB

Green-winged Pigeon

*Punai Tanah, Punai Dekut***Status.** – Uncommon resident.**Range.** – Malay Pen, Singapore, Sumatra, Borneo, Java, Bali and the Philippines. Also on the Indian subcontinent, Indochina and S China. Other ssp. on Christmas Is, New Guinea and Australia.**Locality.** – BTNR, CC forest, Poyan, P Tekong, P Ubin, SBG, SBWR, Sentosa, Tuas.**Habitat.** – Edges and ground storey of forests, mangroves, plantations and secondary forests.**Breeding.** – First recorded on 9 Aug. 2005 (Ng Bee Choo, in litt.): a bird with an egg and a chick at SBWR.**Materials examined.** – AMNH 1 (1 AA), RMBR 3 (2 FF, 1 MM), UWBM 1 (1 FF).

105. Peaceful Dove

Geopelia striata striata C/RB

Barred Ground Dove, Zebra Dove

*Merbuk Balam***Status.** – Common resident.**Records.** – Being a popular cage bird, large numbers of these doves are imported into Singapore. A bird ringed in Singapore on 20 Jun. 1965 was netted at night on 11 May. 1967, about 500 km N of Singapore, at the summit of Gunung Brinchang, Cameron Highlands (Wells, 1999). Although this species has never been known to migrate, recoveries of comparable distances of ringed birds have occurred in the Philippines (M & W, 1976). The fact that the bird was netted at night on the summit of Gunung Brinchang probably indicated that it was on the move, perhaps further N.**Range.** – Pen Thailand, Malay Pen, Singapore, Anamba Is, Sumatra, Borneo, Java, Bali, Sulawesi and the Philippines, to SE New Guinea and Australia.**Locality.** – Throughout Singapore, N Is, S Is.**Habitat.** – All open habitats, especially in rural areas and gardens.**Breeding.** – Nest described by Spittle (1949). Clutch = 2. Mating observed in Sep. Nest building in Feb., May., Jul. Brooding in Mar. Eggs found in May., Jun., Jul. Chicks in Feb., Mar., Jul., Aug.**Materials examined.** – BM 9 (4 FF, 4 MM, 1 AA), RMBR 2 (1 FF, 1 MM), UWBM 2 (1 MM, 1 FF).

106. Cinnamon-headed Green Pigeon

Treron fulvicollis fulvicollis R/NBV*Punai Bakau***Status.** – Rare non-breeding visitor. Formerly uncommon resident.**Threats.** – Globally near-threatened/low-risk (Collar et al., 1994).**Records.** – First collected at Seletar, 18 May. 1899 by Abbott (Riley, 1938) and another collected in 1925 (Chasen, 1925). Boden-Kloss was said to have observed this species in fair numbers in Singapore roosting in the mangroves in the evening (B & C, 1927). Seen near MacRitchie Res (Tweedy, 1970). No further records until 24 Jan. 1988, when a male was sighted at SBWR (SINAV 2-1). An unconfirmed male seen at Sime Rd, 10 Jun. 1989 (SINAV 3). Another male seen at Poyan, 25 Nov. 1990 (SINAV 4). A female, also at Poyan, 5 Feb. 1992 and a pair sighted at P Ubin on 17 Apr. 1992, the first report from the island (SINAV 6). Two males and two females seen at P Ubin, 23 Oct. 1994 (SINAV 8). A male at Bt Kallang, 19 Oct. 1997, a first confirmed report from the C forest. One Imm male ringed in SBWR in 2000. A male reported from P Tekong, 13 Jun. 2002 (SR in OBC Bull. 38).**Range.** – Tenasserim, Malay Pen, Singapore, Sumatra, Riau Arch, Borneo (except N). Another ssp., *T. f. baramensis* in N Sarawak, Sabah and N Bornean Is.**Locality.** – Bt Kallang, MacRitchie Res, Poyan, P Tekong, P Ubin, SBWR, Sime Rd.**Habitat.** – Mangroves, coastal scrub, plantations and orchards.**Materials examined.** – None. One formal record by Abbott at Seletar, 18 May. 1899 (Riley, 1938) and one undated specimen (Chasen, 1925) were not found.

107. Little Green Pigeon

Treron olax olax R/R(B) NBV*Punai Siul, Punai Daun***Status.** – Rare resident and non-breeding visitor. Occurring sparingly (Robinson, 1927; 1928; G-H, 1949a), common during the winter months in P Ubin (B & C, 1927) and P Tekong (Chasen, 1924; Wells, 1990b); said to be fairly common in the 1960s (RAFOS, 1968; 1970; Tweedy, 1970).**Threats.** – Nationally-endangered, threatened by unviable population levels, estimates of its current population have never exceeded 10 (Lim, 1989; 1992).**Records.** – Residents are confined to CC forest. Occasional records from forests and coastal regions were probably as a result of irruptive movements from Malaysia as they are known to make nocturnal flights (Robinson, 1927; 1928; M

& W, 1976). A bird at Seletar, 24 Jul. 1986, another bird seen at P Tekong, 8 Nov. 1986 (SINAV 1). Two males sighted at Upper Peirce, 9 May. 1987, a male at Bedok, 26 May. 1987 and two females seen at NS, 2 Nov. 1987 (SINAV 1). A male seen at Mandai, 23 Apr. 1988 (SINAV 2). A male seen flying by at NS, 1 Apr. 1989 (SINAV 3). Four males and three females seen near Lorong Temechut, 21 Nov. 1989 and another male seen at NS, 31 Dec. 1989 (SINAV 3). Two males and a female seen at NS, 18 Aug. 1990 and a female at MacRitchie Res, 21 Oct. 1990 (SINAV 4). An unconfirmed sighting at Sg Besar, P Ubin, 24 Oct. 1998 (OBC Bull. 29). A female was seen and photographed on 17 – 19 Oct. 2004 in Sime Forest (various observers; SINAV 18-4). A bird seen in Nov. 2005 in CC forests (LKS, in litt.).

Range. – Pen Malaysia, Singapore, Borneo, Sumatra, Riau Arch and Java.

Locality. – Confined to CC forest, regular in NS. Occasionally in Bedok, (Jurong), Lor Temechut, P Tekong, (Senoko), Ser, (Ulu Sembawang).

Habitat. – Forests, occasionally in plantations and orchards.

Breeding. – Not recorded.

Materials examined. – RMBR 2 (1 FF, 1 MM).

108. Pink-necked Green Pigeon

Treron vernans griseicapilla C/RB

Pink-necked Pigeon

Punai Gading, Punai Kericau

Status. – Common resident.

Range. – S Vietnam, S Tenasserim, Thailand, Malay Pen, Singapore, Sumatra, Riau Arch and Borneo (except SE). Another ssp. in Java, Bali and SE Borneo.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Secondary forests, orchards, parks, gardens, coastal districts and occasionally mangroves. Flocks to fruiting trees.

Breeding. – The breeding season is largely dependent on the fruiting of certain species of figs (Robinson, 1927). Clutch = 2. Nest building in Mar. through May., Aug. Eggs found in Jan., Feb., Apr. through Aug. Chicks in Feb., Apr., May., Jul. Imm found in Mar., Jul., Sep.

Materials examined. – AMNH 1 (1 MM), BM 5 (1 FF, 4 MM), RMBR 2 (1 FF, 1 Imm AA), UWBM 7 (3 FF, 4 MM). A male collected by W. L. Abbott on 20 May. 1899 (Riley, 1938) was not found.

109. Thick-billed Green Pigeon

Treron curvirostra curvirostra U/RB

Thick-billed Pigeon

Punai Daun, Punai Lengguak

Status. – Uncommon resident. Formerly a common resident in Singapore (Chasen, 1924; B & C, 1927), present in small numbers in Singapore (G-H, 1949a).

Threats. – Nationally-threatened and endangered, due to unviable population levels of 30 – 70 (Lim, 1989; 1992; 1994).

Records. – Known to disperse long distances at night, usually after breeding, the majority being adults. An invasion of Singapore and its S Is during Jul. – Aug. 1986 (Wells, 1990b) implies these movements also occur in mid-summer (Wells, 1999).

Range. – Pen Thailand, Malay Pen, Singapore, Sumatra, Riau Arch and Borneo. Other ssp. in the Himalayan foothills, Yunnan, Indochina, the Philippines and N Bornean Is.

Locality. – Mainly in Bt Brown, BTNR, CC forest, Poyan, P Tekong, P Ubin, SBWR, (Senoko), Sentosa, SJI. Strays have been recorded in various part of Singapore, including Buona Vista, Chinese Garden, NS Camp, Sims Place, Tg Katong.

Habitat. – Forests, heavily-wooded areas, scrub, orchards, gardens. Never found far from old forests (R & C, 1936) but frequently wanders away from forests to feed on fruiting trees (L & G, 1997).

Breeding. – Birds with fully-developed eggs collected on P Ubin in Feb. (Chasen, 1924a; B & C, 1927). First recent breeding record: a bird collecting twigs to a tree in NS in May. 1992 (SINAV 6-2).

Materials examined. – BM 1 (1 FF), RMBR 9 (4 FF, 5 MM), UWBM 3 (2 FF, 1 MM).

110. Jambu Fruit Dove

Ptilinopus jambu U/NBV

Jambu Fruit Pigeon

Punai Jambu

Status. – Uncommon non-breeding visitor. G-H (1949a) recorded it as a scarce winter visitor.

Range. – Malay Pen, Singapore, Sumatra, Borneo, Banka, Billiton and W Java.

Locality. – BBNP, Bt Kalang, BTNR, CC forest, Chinese Garden, Commonwealth Ave, Gilman Park, Hume Heights, KRP, Medway Park, MF, Pgl, P Hantu, P Ubin, Rifle Range Rd, SBWR, Sentosa, Youngberg Hospital, Tuas, Ulu Pandan.

Habitat. – Usually in dense forests, sometimes in scrub and orchards. At times, not uncommon in mangroves (B & C, 1927; Robinson, 1928; G-H, 1949a).

Migration. – Appears to perform local migrations and has been captured at night in Singapore (G-H, 1949). An irruptive species recorded every month.

Materials examined. – BM 1 (1 FF), RMBR 5 (1 FF, 4 MM), UWBM 3 (2 FF, 1 MM).

111. Green Imperial Pigeon

Ducula aenea polia R/NBV

Pergam, Pergam Besar

Status. – Rare non-breeding visitor. Former resident, found in small numbers.

Records. – Birds are suspected to be visitors attracted to Singapore from Johore or from the Riau Arch where it is numerous. Being entirely a fruit-eater, it is attracted by the fruiting of certain trees (B & C, 1927). A few records near mangroves and coastal areas of Changi (Gregory, 1970; Tweedy, 1970). A recent record of an injured bird caught at KRP in 1984, which may have been an escapee (Hails, 1988). First confirmed record since 1949: one bird flying over secondary forest on P Ubin on 29 Jan. 1989 (SINAV 3-1). An unconfirmed report of three birds flying over Sime Forest on 16 Oct. 1990 (SINAV 4-4). Another unconfirmed record of a bird at Fort Canning Park on 23 Sep. 1997 (SINAV 11-3). Two birds seen at P Tekong Besar on 18 Jan. 2002 (SR in OBC Bull. 35) and nine seen on 31 Jan., 12 on 21 Feb. 2002 (OBC Bull. 36). One was photographed there on 4 Apr. 2003 (I. Lee & J. Lynn, in litt.; BirdingASIA 1). Two birds reported on P Ubin, 29 Aug. 2004 (SINAV 18-4); this record is still pending acceptance from the Records Committee of the Nature Society, Singapore.

Range. – W Thailand, Malay Pen, Sumatra, Riau Arch, Borneo and Natuna Is E to Flores. Other ssp. on the Indian subcontinent, Sri Lanka, S China, Indochina, the Philippines, Wallacea and the Lesser Sundas.

Locality. – (Changi), P Tekong, P Ubin.

Habitat. – Mangroves and coastal districts (Chasen, 1924; G-H, 1949a; B & C, 1927).

Materials examined. – None.

112. Pied Imperial Pigeon

Ducula bicolor bicolor R/NBV

Rawa, Pergam Rawa

Status. – Rare non-breeding visitor.

Records. – On the mainland it seldom wanders more than two or three miles (ca. 3.2 – 4.8 km) in from the coast (G-H,

1949). Occasional visitor to the W end of Singapore and adjacent islets, but its occurrence in numbers depends on the fruiting of certain trees (B & C, 1927; G-H, 1949a). Birds probably come from the Merbau group, P Pisang or the Riau Is (G-H, 1952). First recent record of six birds at KRP on 7 – 9 Jan. 1988 and one at Pasir Panjang on 9 Jan. 1988 (SINAV 2-1). Fifty birds were seen on Jurong Hill, 4 Dec. 2004 (A. Owyong, in litt.). Regularly seen since in various parts of Singapore. Birds seen inland are most likely free-flyers from JBP.

Range. – Indochina, Pen Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, S Philippine Is, Christmas Is and W New Guinea. Also in the Mergui Arch, the Andaman and Nicobar Is.

Locality. – BBW, Changi, Chinese Garden, Corporation Drive, Hougang Ave, KRP, MF, Pasir Panjang, Pgl, P Semakau, Raffles Country Club, SBWR, Sentosa, SJI, Tuas, Xilin.

Habitat. – Found only on small islands, wandering in big flocks across narrow sea straits in search of fruits and berries in mangroves and seashore forests (Delacour, 1947).

Materials examined. – RMBR 1 (1 FF).

FAMILY HELIORNITHIDAE

113. Masked Finfoot

Heliopais personata vR/NBV

Asian Finfoot

Pedendang, Itik Ayer

Status. – Very rare non-breeding visitor.

Threats. – Globally-vulnerable, threatened by destruction of lowland forests and mangroves, increased traffic and development along river courses and fouling of forest waterways from logging (Collar et al., 1994).

Records. – One unconfirmed sighting of a male at Seletar Res in Feb 1995 (SR, pers. comm.). Two different birds reported from SBWR, a juvenile male on 28 Apr. 1998 and a female on 7 Jul. 1998 (SR in OBC Bull. 30) but no details were given and thus these sightings could not be confirmed. First confirmed record of a male at SBWR on 12 – 13 Jan. 1999 (SINAV 13-1). One seen and photographed at Upper Seletar Res on 12 Apr. 2002 (SINAV 16-2).

Range. – Bangladesh, NE India through Myanmar, Thailand, Cambodia, Vietnam, Malay Pen, Singapore and Sumatra.

Locality. – SBWR, Seletar Res.

Habitat. – Reservoirs, streams, slow-flowing rivers, mangroves and coastal districts.

Materials examined. – None.

FAMILY RALLIDAE

114. Red-legged Crake

Rallina fasciata U/RB WV

Malaysian Banded Crake, Malay Banded Crake
Sintar Api

Status. – Uncommon resident and winter visitor.

Threats. – Nationally-threatened, due to habitat loss and disturbance; estimated number of 20 (Lim, 1989; 1992). Very secretive and may be overlooked (L & G, 1997).

Records. – First recorded on 3 Jun. 1898 in the SBG (RMBR).

Range. – NE India, Myanmar, S Vietnam W Thailand, Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, S Natuna Is, Java, Bali, the Philippines and the Lesser Sundas.

Locality. – BBNP, BTNR, CC forest, HNP, Hume Heights, KB, LCK, P Ubin, SBG, Sembawang, Serangoon Garden, Tyersall Ave.

Habitat. – Ditches, streams, wet areas in the understorey of forests and dense scrub. Not dependent on the presence of water and is found only in well-wooded habitats.

Breeding. – First recorded on 16 Jan. 1985 at Hume Heights (Wells, 1990a) although suspected breeding in the Sime Rd internment camp in 1944 (G-H, 1949). Chicks seen in Mar., May., Aug.

Migration. – In the months from Oct. to Apr., its numbers are very largely augmented by migrants (Robinson, 1927). More frequent sightings coinciding with the N winter suggest an influx of winter visitors, and are in accordance with birds netted on migration in Malaysia (M & W, 1976). Wing length of migrants 118 – 135 mm, tail 47 – 57 mm, tarsus 40 – 50 mm (n = 57). Populations in Singapore have not been separated into residents and migrants.

Materials examined. – AMNH 1 (1 MM), BM 1 (1 AA), RMBR 2 (1 FF, 1 MM), UWBM 2 (2 MM).

115. Slaty-legged Crake

Rallina eurizonoides telmatophila R/WV PM

Philippine Banded Crake
Sintar Merah

Status. – Rare winter visitor and passage migrant.

Records. – An old specimen labelled “Singapore”, collected between 1875 and 1890 (Gould coll., BM) is of doubtful provenance (G-H, 1949a), although the species was recorded by B & C (1927). First recent record in 16 Apr. 1989 at Clementi (SINAV 3-2). Also recorded from Pgl, 24 Mar. 1990 (SINAV 4-1). One found dead at Hume Ave, 21 Nov. 2000 (SINAV 14-4).

Range. – SE China, C Vietnam, Myanmar, Thailand; winters in S Thailand, Malay Pen, Singapore, Sumatra and W Java. Other ssp. in Ryukyu Is, Taiwan, the Philippines, Sulawesi and the Sula Is.

Locality. – Clementi, Hume Ave, Pgl.

Habitat. – Frequents banks of streams through forests and secondary growth.

Materials examined. – RMBR 2 (1 MM, 1 AA).

116. Slaty-breasted Rail

Gallirallus striatus gularis C/RB

Sintar, Burung Sintar Biasa

Status. – Common resident. During Oct. to Mar. the resident population is augmented by migrants certainly from the N and possibly from the S (Robinson, 1927).

Range. – Vietnam, Cambodia through Malay Pen, Singapore, Sumatra, Java and S Borneo. Nominate ssp. in N Borneo, the Philippines, Sulawesi and the Lesser Sundas. Other ssp. in India, Sri Lanka, SE Yunnan, Thailand, Andaman and Nicobar Is, SE China, Hainan, Taiwan and Samar Is.

Locality. – BBW, Bidadari Cemetery, Hougang, J Somapah Timor, LCK, LH, Lornie Rd, Loyang, Marina S, Nanyang Drive, N Is, NT Lane, SBWR, (Senoko), Sentosa, Ser, Wing Lor Rd, TM.

Habitat. – Edges of mangroves and in long grass near water, reed beds and marshes.

Breeding. – Flightless young seen in Apr., Sep. (British Armed Forces), Jun. (Spittle, 1949). Recent breeding records: mating observed in Apr. Chicks found in Aug., Oct., Dec. Imm seen in Feb., Jun., Sep.

Materials examined. – AMNH 1 (1 MM), BM 7 (1 FF, 4 MM, 2 AA), FMNH 1 (1 FF), RMBR 5 (3 FF, 1 MM, 1 Imm), USMN 1 (1 MM).

117. White-breasted Waterhen

Amaurornis phoenicurus javanicus, chinensis, phoenicurus C/RB, U/WV PM

Ruak-Ruak, Uwak-Uwak

Ssp. – *Amaurornis p. javanicus*: wing length 134 – 152 mm; *A. p. chinensis* and *A. p. phoenicurus*: wing length 149 – 178 mm (M & W, 1976). Possible *A. p. javanicus* and *A. p. chinensis* included within nominate ssp. due to overlapping measurements but may well be valid (del Hoyo et al., 1996). Wells (1999) claimed that nominate *A. p. phoenicurus* of continental Asia may be the only ssp. occurring (Ripley, 1977 in Wells, 1999). Wing lengths of summer-dated birds (May – Sep) from Singapore are not above 149 mm (BM, UMBRP an

ZRC in Wells, 1999) and Malay Pen could be in a zone of intergradation with small, southern *A. p. javanicus*.

Status. – Common resident and uncommon winter visitor and passage migrant.

Range. – Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, S Natuna Is, Java, Bali and its neighbouring Is. Also on the Indian subcontinent, Sri Lanka, Indochina and S China, the Philippines and Wallacea to the Lesser Sundas.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Frequents damp swampy vegetation in rural areas, orchards, marshes, mangrove, grassland, gardens and parks, canals. Not in interior of forests.

Breeding. – Clutch = 2 – 5. Nest found in Feb., Aug. Eggs found in Jan., May., Jul. Chicks and Imm recorded all months except Apr.

Materials examined. – BM 1 (1 MM), RMBR 16 (4 FF, 8 MM, 1 Imm, 3 AA), UWBM 8 (5 FF, 1 MM, 2 AA).

118. Baillon's Crake

Porzana pusilla pusilla U/WV PM

Dwarf Crake

Sintar Kecil

Status. – Uncommon winter visitor and passage migrant.

Records. – First confirmed record when a bird was trapped at Seletar in Nov. 1964 (Medway & Nisbet, 1965). Robinson (1907) mentioned a record from Singapore, but there is no further reference to this record; possibly it was one of Dr. Hanitsch's erroneous identifications (G-H, 1949). R & C refer to about six birds obtained in this neighbourhood between the end of Feb. and the beginning of Apr. (Seimund in G-H, 1949) but the specimens were not found.

Range. – Breeds in most of the Palaearctic, including E Siberia, China, Japan; winters through Africa, the Indian subcontinent, Sri Lanka, the Andaman Is, S China to Pen Thailand, Malay Pen, Singapore, Sumatra, Java and the Philippines. Another ssp., *P. p. mira*, is resident in Borneo. Other ssp. in Europe, Africa, New Guinea, Australia, Tasmania and New Zealand.

Locality. – Bt Batok Ave 6, Kranji, Marina E, Marina S, NT Lane, Pgl, Seletar, (Senoko), Ser, Tampines, TM, Tuas, (Ulu Sembawang).

Habitat. – Open marshes, wet grassland, ponds, densely-vegetated ditches and wet sedgeland.

Migration. – See Fig. 20.

Early and late dates. – 7 Sep. – 19 Apr.

Materials examined. – None.

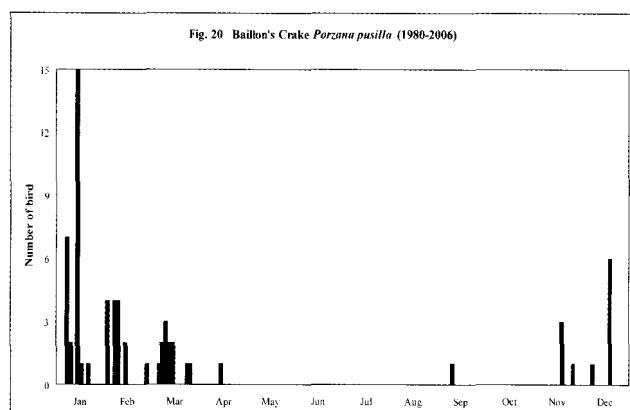


Fig. 20. Baillon's Crake, *Porzana pusilla* (1980 – 2006).

119. Ruddy-breasted Crake

Porzana fusca fusca U/RB

Ruddy Crake

Sintar Belacan

Status. – Uncommon resident.

Range. – Pakistan, N India to Yunnan, Vietnam, Malay Pen, Singapore, Sumatra, Borneo, Java and the Philippines. Other ssp. in W India, Sri Lanka, Japan, E and S China, Indochina and Ryukyu.

Locality. – BBW, Bedok, Bt Brown, Changi, (CS), (Geylang), LH, Loyang, Marina E, Marina S, NT Lane, Pgl, PR, Sarimbun, SBG, SBWR, (Senoko), Ser, Sg Seletar Dam, Tampines, TM, Tuas.

Habitat. – Open country, on the landward edges of mangroves, in rank grassland, marshes and ponds.

Breeding. – Eggs found in Sep., Oct. Chicks found in May.

Materials examined. – BM 1 (1 Imm AA), UWBM 1 (1 MM).

120. White-browed Crake

Porzana cinerea U/RB

Grey-bellied Crake, White-browed Rail

Sintar Kening Putih, Burung Sintar Dahi Putih

Status. – Uncommon resident. Formerly very plentiful (Kelham, 1883) but owing to drainage and urban development, the species is now far less common.

Range. – C Thailand, Cambodia, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines, the Lesser Sundas to New Guinea and N Australia, E to the Pacific Is.

Locality. – (CS), Kranji, LH, Marina S, NT Lane, Pgl, SBWR, (Senoko), Ser.

Habitat. – Swampy areas, overgrown ditches and marshy edges of freshwater ponds.

Breeding. – Eggs in Jun. and Jul. (G-H, 1950); chicks seen in Jul., Aug.

Materials examined. – FMNH 1 (1 AA), BM 5 (1 FF, 4 MM), RMBR 5 (2 FF, 3 MM). A specimen collected by R & C (1936) was not found.

121. Watercock

Gallicrex cinerea U/WV PM

Ayam-Ayam

Status. – Uncommon passage migrant and winter visitor. Formerly very common and widespread (Kelham, 1883; Baker, 1907; B & C, 1937), but drainage of many areas has now reduced suitable habitats and consequently numbers (Hails, 1988).

Range. – Breeds in Pakistan, India, Maldives, Sri Lanka E to C and E China, Korea, Ryukyu Is and S through Andaman Is, Nicobars, SE Asia to Sumatra, Riau Arch, Borneo, W Java and the Philippines; winters S to Greater and Lesser Sundas and Sulawesi.

Locality. – Bedok, Clemenceau, (CS), (Jurong River), KB, Kranji, LH, Loyang, MacRitchie Res, Marina S, NT Lane, Pgl, Poyan, PR, P Tekong (RFO et al., 1999 in Wells, in press), SBG, SBWR, (Senoko), Ser, Sg Seletar, TM, Ulu Pandan.

Habitat. – Frequents wet grassland, ponds, canals, marshes, reed beds.

Migration. – See Fig. 21.

Early and late dates. – 26 Sep. – 8 Jul.

Materials examined. – AMNH 1 (1 MM), BM 1 (1 FF), RMBR 4 (3 FF, 1 MM), UWBM 5 (2 FF, 3 MM).

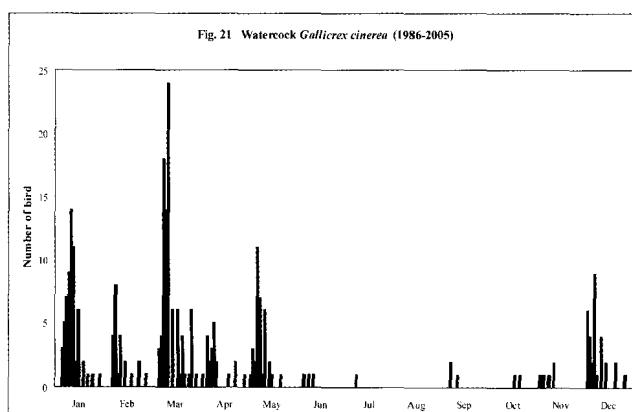


Fig. 21. Watercock, *Gallicrex cinerea* (1986 – 2005).

122. Purple Swamphen

Porphyrio porphyrio viridis R/RB

Purple Coot, Purple Gallinule
Burung Pangling

Status. – Rare resident.

Records. – First recorded as a rare vagrant: an Imm shot at Paya Lebar in 1940 (Molesworth in G-H, 1949a). Second record of a bird near Jurong River on 27 Sep. 1969 (Tweedy in Wells, 1972). In recent years it has become common in the freshwater marshes at Kranji Dam and Poyan Res (Hails, 1988). Unrecorded in neighbouring Johore and it is unclear where the recent Singapore colonists might have come from (Wells, 1999). Re-introduction and free-flyers from JBP may have resulted in some sightings in the W part of Singapore (WLK, pers. obs.). Since the 1990s, numbers have declined again due to loss of freshwater habitats.

Range. – S China, Indochina, S Myanmar, S Thailand, Malay Pen and Singapore. Other ssp. in Europe, Africa, India, Sri Lanka, Yunnan, Thailand, Bali, Sulawesi, the Philippines, to New Guinea, Australia, Pacific Is and New Zealand.

Locality. – (CS), Kranji, NT Lane, Poyan, Raffles Country Club, SBWR, (Senoko), Tampines, Tuas, WCP.

Habitat. – Freshwater habitats including marshes, reservoirs, flooded grassland and reed beds.

Breeding. – Chicks recorded in Jan. Juveniles recorded in Mar. – Apr. 1986 (Hails, 1988). No records since 1989.

Materials examined. – None.

123. Common Moorhen

Gallinula chloropus orientalis C/RB

Tiong Air

Status. – Common resident. Formerly recorded as a rare vagrant, occasionally seen in Singapore (B & C, 1927).

Records. – First collected by Swarder on 16 Oct. 1922 (R & C, 1936; G-H, 1949a; RMBR).

Range. – Seychelles, Andaman Is, S Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines and Lesser Sundas. Other ssp. throughout N, S Americas, Africa and Europe.

Locality. – CCK, Changi, (Jurong), Kranji, LH, Marina S, NT Lane, Pgl, Poyan, SBWR, (Senoko), Ser, Sg Seletar, TM, WCP.

Habitat. – Ponds, marshes and flooded grasslands, mostly in freshwater habitats.

Breeding. – First recorded Nov. 1973 (Wells, 1975). Incubation period 19 – 22 days. Chicks and Imm reported every month of the year.

Materials examined. – AMNH 1 (1 AA), RMBR 2 (2 AA).

124. Common Coot*Fulica atra atra* vR/A

Coot, Eurasian Coot

*Pangling Hitam***Status.** – Very rare vagrant.**Records.** – One old formal record: a mounted specimen in the house of a sportsman living in Singapore, said to be obtained locally (Chasen, 1924). First confirmed record was that of a specimen collected on 13 Jan. 1940 (RMBR). Only two other records, both at Poyan Res: an individual sighted on 9 Dec. 1983 (BR 1982-83) and two birds seen on 1 – 17 Jan. 1988 (SINAV 2). No further records.**Range.** – Europe, N Africa E through C Asia to Japan, S to India, Sri Lanka, winters to W and NE Africa, SE Asia and the Philippines; straggling to Malay Pen, Singapore, Sabah, C Philippines and W Micronesia. Other ssp. in E Java, New Guinea, Australia, Tasmania and New Zealand.**Locality.** – Poyan Res.**Habitat.** – Open ponds and reservoirs.**Migration.** – Presumed to have overshot its normal wintering terminus of C Thailand, although separate populations exist in the S hemisphere (BR 1982-83).**Materials examined.** – RMBR 1 (1 FF).

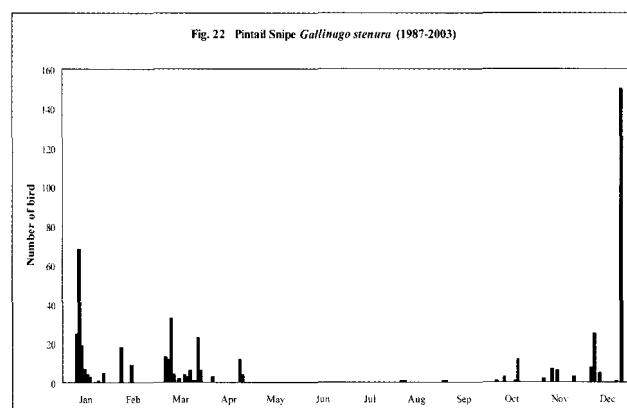
FAMILY SCOLOPACIDAE

125. Eurasian Woodcock*Scolopax rusticola* vR/A

Woodcock

*Berkek Besar, Burung Berkek Malam***Status.** – Very rare vagrant.**Records.** – First recorded at Changi on 27 Mar. 1965 (Medway & Nisbet, 1967) and one unconfirmed sighting in MacRitchie Res in Feb. 1970 (Tweedy, 1970). Second confirmed record of one at Ser on 4 Nov. 1979 (Wells, 1984). No further records.**Range.** – Breeds in Europe and across N Asia, at high levels in the Himalayas; winters S in N Africa, India, Sri Lanka, Indochina, Thailand, Malay Pen, NW Borneo and Luzon.**Locality.** – Changi, Ser.**Habitat.** – From coastal strand-scrub and rough, damp grassland to woodland, forests and forest-edges stream-beds.**Migration.** – There are no records earlier than Nov. and occurrence in our area could be an outcome of seasonal (monsoon) weather changes in the main Indochinese

wintering area (BR 1978-79). Normally winters no further S than Thailand (Hayman et al., 1986).

Materials examined. – None.**126. Pintail Snipe***Gallinago stenura* C/WV PM*Berkek Berbintik, Tetirok, Burung Berkek***Status.** – Common winter visitor and passage migrant.**Range.** – Breeds in C Asia, Arctic Russia; winters in E Africa, the Indian subcontinent, Sri Lanka, S China, Vietnam, Pen Thailand, Malay Pen, Singapore, Sumatra, Java, Bali, Borneo, the Philippines and Wallacea.**Locality.** – Changi, KB, Kranji, MacRitchie Res, Marina S, Pgl, P Ubin, SBG, SBWR, (Senoko), Ser, Tampines, TM, Tuas, WCP.**Habitat.** – Frequents marshes, short grass, wet fields, golf courses and mudflats.**Migration.** – See Fig. 22.**Early and late dates.** – 15 Aug. – 24 Apr.**Materials examined.** – BM 2 (1 FF, 1 MM), RMBR 6 (2 FF, 4 MM), USMN 5 (5 AA).Fig. 22. Pintail Snipe, *Gallinago stenura* (1987 – 2003).**127. Swinhoe's Snipe***Gallinago megala* R/WV PM*Berkek Tiruk, Tetirok, Burung Berkek***Status.** – Rare winter visitor and passage migrant. Possibly under-recorded as the species cannot be identified positively from the other two *Gallinago* in the field.**Records.** – Specimens collected on Apr. 1941, 5 Nov. 1955 and from Tampines on 15 Feb. 1971 (RMBR). Another bird taken on 14 Jan. 1950 (G-H, 1950) but the specimen was not found. A bird claimed at Tuas, 27 Nov. 1994 (Iora 1). Sightings and

close up photographs were taken from NT Lane 2, 28 Jan. and Punggol, 18–21 Mar. 2005 (LKS, in litt.).

Range. – Breeds in Siberia, Mongolia; winters in E Indian subcontinent, Sri Lanka, S China, Malay Pen, Borneo, Java, Bali, the Philippines, Wallacea, W Micronesia, New Guinea and N Australia.

Locality. – Marina E, NT Lane 2, Pgl, Sentosa, Sime Forest, Tampines, Tuas.

Habitat. – Marshy areas and grasslands.

Migration. – Occurs in small numbers wherever *G. stenura* are found, in the proportion of about 1 to 200–250 (G-H, 1949a). Presumably the birds are reaching the Malay Pen by the S route round the S China Sea, coming along the W coast of Borneo and across by way of the Tambelan Is (G-H, 1950).

Early and late dates. – 5 Nov. – 15 Apr.

Materials examined. – RMBR 3 (1 FF, 2 MM). *Gallinago nemoricola*, Wood Snipe, reported in error by G-H (1956) as collected in Singapore on 5 Nov. 1955, but now verified as a rufous-brown variety of *G. megala* (PR Colston, BM in Hails, 1988). One bird taken on 14 Jan. 1950 (G-H, 1950) was not found.

128. Common Snipe

Gallinago gallinago gallinago C/WV PM

Fantail Snipe

Berkek Ekor Kapas, Tetirok, Burung Berkek

Status. – Common passage migrant and winter visitor. Listed by Chasen (1923) but no formal records can be traced and thus not listed in the Singapore checklist of 1949 (G-H, 1949a).

Range. – Breeds in Europe, NW Africa and N Asia E to Kamchatka. Migrates S to Africa, the India subcontinent, Sri Lanka, Japan, Korea, China, Indochina, Thailand, Malay Pen, Singapore and E to the Philippines.

Locality. – Changi, Chinese Garden, KAP, KB, Pgl, P Tekong, SBWR, (Senoko), Ser, Sg Belukar, Sg Seletar, TM, Tuas.

Habitat. – Wet grasslands and mudflats.

Migration. – Normally winters N of Singapore, at the Isthmus of Kra (G-H, 1949). A few occur each year (Hails, 1988). See Fig. 23.

Early and late dates. – 27 Sep. – 6 Apr.

Materials examined. – None.

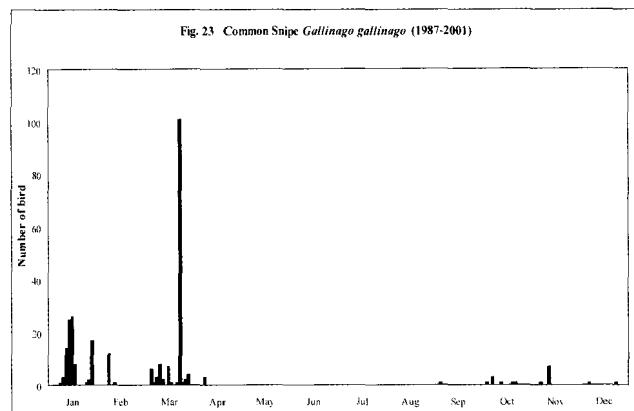


Fig. 23. Common Snipe, *Gallinago gallinago* (1987–2001).

129. Black-tailed Godwit

Limosa limosa melanurooides C/WV PM

Kedidi Ekor Hitam

Status. – Common winter visitor and passage migrant.

Range. – Breeds in NE Asia; winters on the Indian subcontinent, Sri Lanka, S Myanmar, Thailand, Malay Pen, Singapore, SE Sumatra and N Java; discontinuously in S New Guinea, N and W Australia. The nominate ssp. breeds in Iceland and low Arctic Eurasia; winters in Mediterranean, N Africa and SW Asia.

Locality. – Changi N, (Jurong River), KB, Loyang, Pgl, SBWR, (Senoko), Ser, Sg Belukar, Sg Seletar, TM, Tuas.

Habitat. – Usually on mudflats, muddy coasts and prawn ponds in small flocks.

Migration. – Peak counts in Malay Pen have not exceeded 50, mostly far fewer and all during autumn (Parish & Wells, 1984) but peak counts in SBWR alone have reached 60–68 in the 1994/1995 winter (WLK, pers. obs.). Numbers have declined over the last 20 years and it is suspected that most birds do not stop in Singapore due to the lack of suitable undisturbed habitat (Briffett, 1993). See Fig. 24.

Early and late dates. – 1 Jul. – 15 Apr.

Materials examined. – RMBR 1 (1 AA).

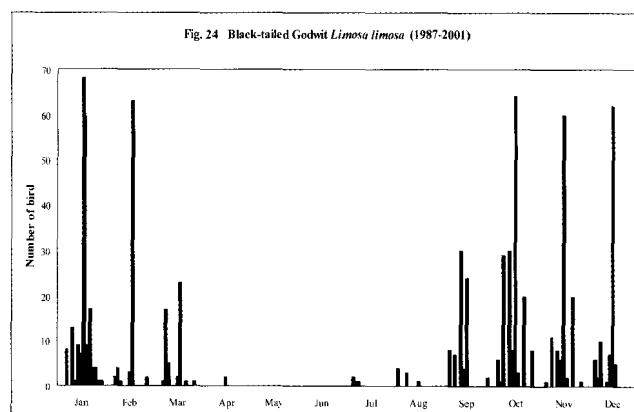
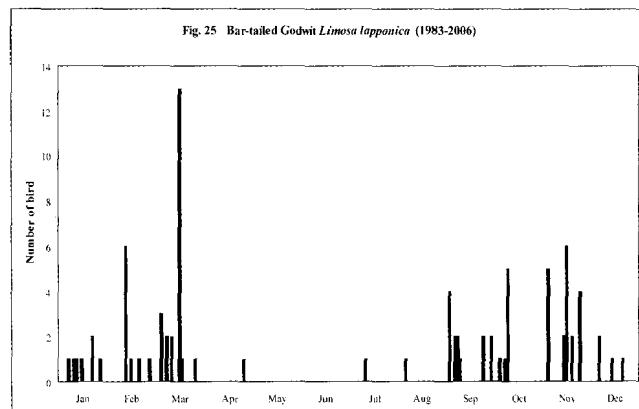


Fig. 24. Black-tailed Godwit, *Limosa limosa* (1987–2001).

130. Bar-tailed Godwit

Limosa lapponica baueri U/WV PM*Kedidi Ekor Berjalur, Burung Kedidi Berjalur-jalur***Status.** – Uncommon winter visitor and passage migrant.**Range.** – Breeds in E Siberia and Alaska; winters on the Indian subcontinent, Sri Lanka, S China, Malay Pen, Sumatra, Borneo, N Natuna Is, Java, Bali, the Philippines, Wallacea, New Guinea and Australia to New Zealand.**Locality.** – Changi, (Jurong River), Mandai, Pgl, P Ubin (RFO et al., 1999 in Wells, in press), SBWR, Ser, Sg Seletar.**Habitat.** – Mudflats, coasts and prawn ponds.**Migration.** – A trickle of passage continues in Singapore to about end of the year (BR 1986-87; Parish, 1985 in Wells, 1999). See Fig. 25.**Early and late dates.** – 9 Jul. – 17 Apr.**Materials examined.** – BM 1 (1 MM).Fig. 25. Bar-tailed Godwit, *Limosa lapponica* (1983 – 2006).

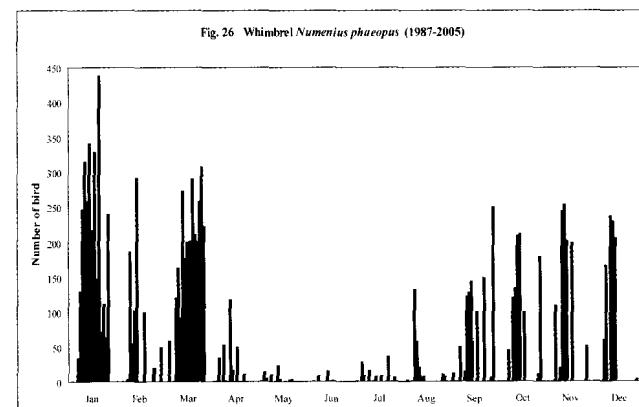
131. Little Curlew

Numenius minutus vR/A

Pygmy Curlew, Little Whimbrel

*Kendi Kerdil***Status.** – Very rare vagrant.**Records.** – First record of an individual in a golf course at Tuas (Raffles Country Club) from 25 Oct. to 2 Nov. 1997 (OBC Bull. 27). One unsupported claim at SBWR from 19 – 24 Apr. 1998 (RFO et al., 1999 in Wells, in press). No further records.**Range.** – Breeds in E Siberia and Mongolia, winters in China and Japan to the Philippines, the Moluccas, Australia and New Zealand.**Locality.** – Tuas.**Habitat.** – Dry grassy land with scattered low scrub.**Materials examined.** – None.

132. Whimbrel

Numenius phaeopus variegatus, phaeopus C/WV PM*Kendi Pisau Raut, Burung Gajah***Ssp.** – *Numenius p. variegatus* differs from *N. p. phaeopus* in having the lower back, rump, axillaries and underwing coverts more heavily streaked or barred with brown (M & W, 1976).**Status.** – Common winter visitor and passage migrant.**Range.** – Breeds in the Subarctic and Arctic, from Iceland E across Eurasia and Siberia; winters in Myanmar, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, N Natuna Is, Java, Bali, Kangean Is, Christmas Is, E to New Guinea, Australia and New Zealand. Nominate ssp. breeds in N Europe and W Asia, migrates down S into Africa and India.**Locality.** – Changi, KB, LH, Mandai, Marina E, N Is, Pgl, PR, P Ubin, SBWR, Ser, Sg Seletar, S Is, TM.**Habitat.** – Muddy shores, mangroves, prawn ponds, mudflats and estuaries.**Migration.** – Migratory movements continue through May., Jun., Jul., when small numbers are seen intermittently (M & W, 1976). A few over-summer. See Fig. 26.**Early and late dates.** – 4 Jul. – 24 Jun.**Materials examined.** – RMBR 5 (3 FF, 1 MM, 1 AA).Fig. 26. Whimbrel, *Numenius phaeopus* (1987 – 2005).

133. Eurasian Curlew

Numenius arquata orientalis U/WV PM

Common Curlew

*Kendi Besar, Burung Kedidi Kendi***Status.** – Uncommon winter visitor and passage migrant. Formerly plentiful along the coasts during the NE Monsoon

(Kelham, 1883) although sight records may have been confused with *N. phaeopus* (Hails, 1988).

Range. – Breeds in N Mongolia, NE China; winters in Africa, the Indian subcontinent, Sri Lanka, S Japan, S China, through Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, Java, Bali and the Philippines. Another ssp. breeds in Europe and W Asia; winters in Africa and the Indian subcontinent (not E).

Locality. – Changi, (Jurong River), KB, P Busing, Pgl, P Hantu, PR, P Sakeng, P Sudong, P Ubin, SBWR, Seletar, Ser, SJI, TM.

Habitat. – Small numbers in open, muddy shores, beaches, mudflats and prawn ponds.

Migration. – First waves of presumed post-breeders arrive in Singapore at the end of Aug. (Wells, 1999). See Fig. 27.

Early and late dates. – 25 Aug. – 22 Mar.

Materials examined. – BM 1 (1 AA).

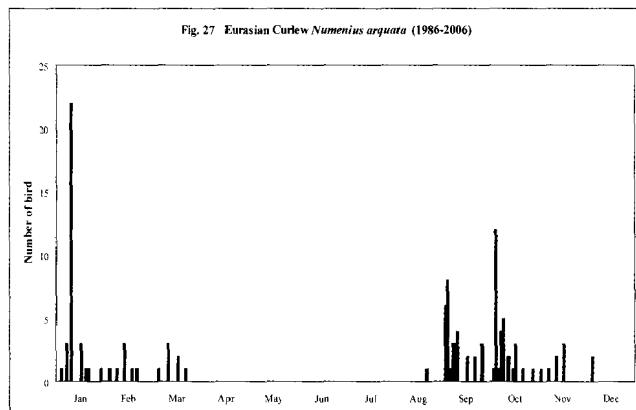


Fig. 27. Eurasian Curlew, *Numenius arquata* (1986 – 2006).

134. Eastern Curlew

Numenius madagascariensis R/PM

Long-billed Curlew, Far Eastern Curlew
Kendi Timur, *Burung Kedidi Kendi Timur*

Status. – Rare passage migrant.

Threats. – Globally near-threatened/low-risk (Collar et al., 1994).

Records. – First recorded on the E end of Singapore, of three birds seen on five occasions in Oct. and Nov. 1948 (G-H, 1949). Second record of one bird on P Sudong on 25 Nov. 1984 (Wells, 1990a). A single bird was seen on 2 – 27 Jan. 1989 at Pgl (SINAV 3). One bird seen at P Sudong, 27 Jan. 1991 (J. See, pers. comm.).

Range. – Breeds in Siberia; winters mainly in SE Australia; passing through Japan, Malay Pen, Singapore, Sumatra, Riau Arch, Borneo and Java.

Locality. – Changi, Pgl, P Sudong.

Habitat. – On mudflats, sandy shores and prawn ponds. It prefers sandier, less muddy habitats compared to other shorebirds (Briffett, 1993).

Migration. – Its normal line of migration is E of Borneo, through Celebes and the Moluccas, but vagrants have been taken in Sumatra, the Riau Arch and Java (Chasen, 1935) and it would seem that stray individuals must occasionally reach at least the Singapore Strait (G-H, 1949). Usually occurs singly or in groups of three to five birds. See Fig. 28.

Early and late dates. – 25 Nov. – May.

Materials examined. – None.

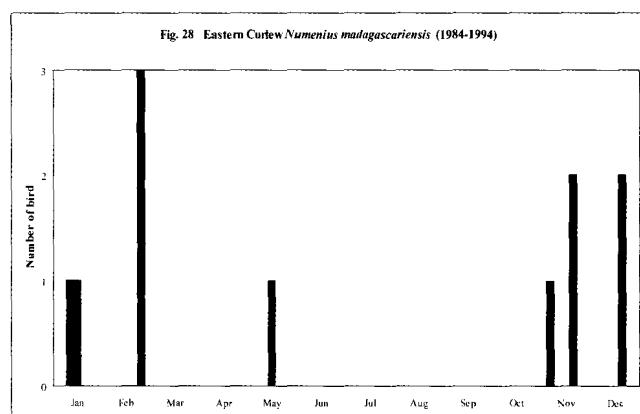


Fig. 28. Eastern Curlew, *Numenius madagascariensis* (1984 – 1994).

135. Spotted Redshank

Tringa erythropus R/WV

Kedidi Berbintik

Status. – Rare winter visitor.

Records. – First recorded on 22 Dec. 1963 at Jurong River (Medway & Wells, 1964) and regularly seen in Jurong in Sep. and Oct. 1967 (Tweedy, 1970). At Ser, one seen on 24 Feb. 1979 and another in nearly full summer plumage on 8 and 14 Apr. 1979 (SBBSSG in BR 1978-79). No further records until one observed at Pgl on 19 Jan. 1989 (SINAV 3). Four birds seen at Seletar Estuary, 24 Sep. 1994 and one seen at SBWR on 23 Oct., 30 Oct. and 30 Dec. 1994 (SINAV 8-4; Iora 1).

Range. – Breeds in the Arctic; winters in Atlantic Europe, the Mediterranean, tropical Africa, SW Asia, the Indian subcontinent, Sri Lanka, S Japan, S China, Malay Pen, Singapore, SE Sumatra and Borneo. Main wintering ground is S Vietnam and Gulf of Thailand (Wells, 1999).

Locality. – (Jurong River), Pgl, SBWR, Seletar Estuary, (Senoko), Ser.

Habitat. – Mudflats, estuaries and tidal prawn ponds.

Migration. – See Fig. 29.

Early and late dates. – 13 Sep. – 14 Apr.

Materials examined. – None.

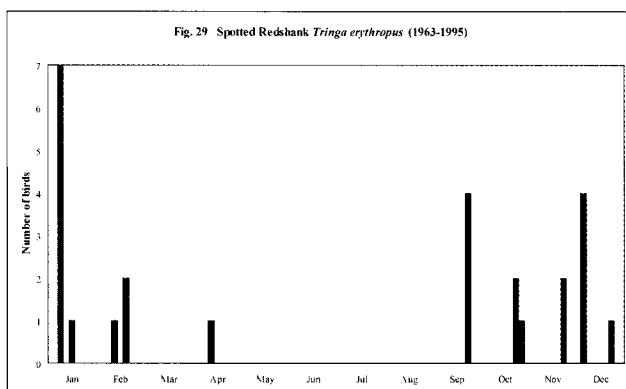


Fig. 29. Spotted Redshank, *Tringa erythropus* (1963 – 1995).

136. Common Redshank

Tringa totanus eurhinus C/WV PM

Redshank

Kedidi Kaki Merah

Ssp.. – Past claims of nominate *T. t. totanus* refer to *T. t. eurhinus*, which differs from the dark morph of *T. t. totanus* only by its larger size (Wells, 1999).

Status. – Common winter visitor and passage migrant.

Range. – Breeds in the Himalayas and Tibet, winters in Malay Pen, Singapore, Sumatra, N Natuna Is, Java and Bawean Is. The species breeds extensively across Europe to E Siberia. Winters in tropical Africa, the Indian subcontinent, Sri Lanka, S China, Myanmar, the Greater Sundas and Bali.

Locality. – Changi, (Jurong River), KB, Kranji, LCK, LH, Mandai, N Is, Pgl, PR, SBWR, (Senoko), Ser, Sg Seletar, S Is.

Habitat. – Mudflats, sandy shores, estuaries, prawn ponds and mangroves.

Migration. – Small flocks over-summer each year, seen as late as 24 Jul. See Fig. 30.

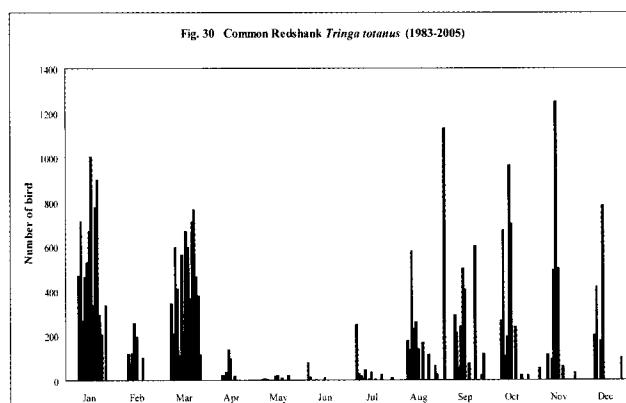


Fig. 30. Common Redshank, *Tringa totanus* (1983 – 2005).

Early and late dates. – 14 Jul. – 11 Jun.

Materials examined. – AMNH 5 (5 AA), BM 3 (1 MM, 2 Imm), RMBR 6 (4 FF, 2 AA), UWBM 1 (1 AA).

137. Marsh Sandpiper

Tringa stagnatilis C/WV PM

Kedidi Paya

Status. – Common winter visitor and passage migrant. Formerly a scarce passage migrant (G-H, 1949a).

Range. – Breeds in Eurasia: winters in Africa, the Indian subcontinent, Sri Lanka, S China, Myanmar, Pen Thailand, Malay Pen, Singapore, the Greater Sundas, Bali, the Philippines to New Guinea and Australia.

Locality. – Changi, KB, Kranji, Mandai, N Is, Pgl, SBWR, (Senoko), Ser, Sg Seletar, S Is, TM, Tuas, Yishun.

Habitat. – Muddy and sandy shores, freshwater and prawn ponds. Rare inland (L & G, 1997).

Migration. – See Fig. 31.

Early and late dates. – 15 Jul. – 11 Jun.

Materials examined. – RMBR 1 (1 MM). Two formal records in Oct. 1910 and Apr. 1911 (G-H, 1949a) were not found.

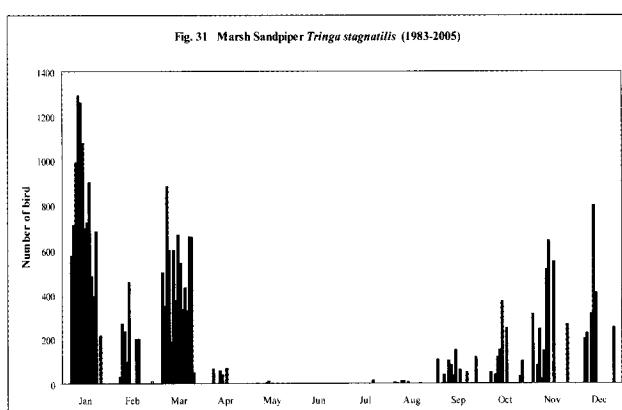


Fig. 31. Marsh Sandpiper, *Tringa stagnatilis* (1983 – 2005).

138. Common Greenshank

Tringa nebularia glottoides C/WV PM

Greenshank

Kedidi Kaki Hijau

Status. – Common winter visitor and passage migrant. It is by no means plentiful in our area, and is usually found solitary or small parties (G-H, 1949). Peak counts of up to 500 birds in SBWR have been recorded in the 1990s.

Range. – Breeds in N Europe and Asia; winters S to Africa, the Indian subcontinent, Sri Lanka, S China, Malay Pen,

Singapore, Sumatra, Borneo, N Natuna Is, Java, Bali, the Philippines, Wallacea, New Guinea and Australia.

Locality. – Changi, (CS), KB, Kranji, LH, Loyang, Mandai, N Is, Pgl, PR, SBWR, (Senoko), Ser, Sg Seletar, S Is, TM, Tuas.

Habitat. – Mudflats, estuaries, sandy shores, prawn ponds, inland reservoirs, canals.

Migration. – Some over-summer: small flocks seen intermittently throughout May., Jun. and Jul. See Fig. 32.

Early and late dates. – 6 Jul. – 28 Jun.

Materials examined. – RMBR 1 (1 FF).

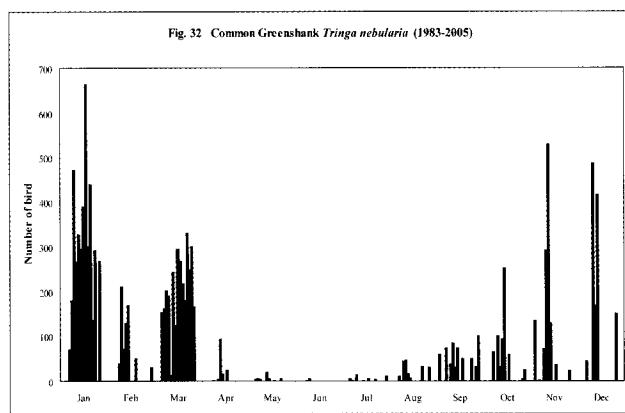


Fig. 32. Common Greenshank, *Tringa nebularia* (1983 – 2005).

139. Nordmann's Greenshank
Tringa guttifer vR/WV PM

Armstrong's Sandpiper, Spotted Greenshank
Kedidi Kaki Hijau Berbintik, Burung Kedidi Nordmann

Status. – Very rare winter visitor and passage migrant.

Threats. – Globally-endangered due to habitat loss, crow predation and human disturbance (Collar et al., 1994).

Records. – First recorded at Jurong River, where a total of five birds were seen in 26 Oct. 1963. In 1964: four in Jan., one in Feb., three in Mar., four in Apr. and Aug., two in Sep., one in Oct. through Dec. (J. C. Darnell & M. A. Webster, in M & W, 1964; Medway & Nisbet, 1965). One unconfirmed sighting by Tweedy (1970). One bird seen on the coast of Changi between 9 Nov. to 5 Dec. 1981 (Wells, 1986). An unconfirmed sighting at LH, 14 Dec. 1992 by I. Richardson (SINAV 6-4).

Range. – Breeds in NE Asia, Sakhalin Is; winters in China, Japan, Korea, Taiwan, Hainan, the Indian subcontinent, Vietnam, Pen Thailand, Malay Pen, SE Sumatra and Borneo.

Locality. – Changi, (Jurong River).

Habitat. – Mudflats, prawn ponds and sandy shores.

Early and late dates. – 2 Aug. – Apr.

Materials examined. – None.

140. Green Sandpiper

Tringa ochropus R/WV

Kedidi Pasir Hijau

Status. – Rare winter visitor.

Records. – First recorded on 26 Sep. 1963 and 1 Jan. 1964 at Jurong (Medway & Wells, 1964). A bird seen at Jurong on 17 Nov. 1964 (Medway & Nisbet, 1965). A few birds irregularly seen in 1968 – 1969 (Tweedy, 1970) but no details were given. A bird seen at Jurong River, 24 Feb. 1979 (Wells, 1984). One seen near CCK on 25 Nov. 1990 (SINAV 4). One seen in a drain along NT Rd, 19 – 31 Jan. 2002 (SINAV 16-1).

Range. – Breeds throughout the Palaearctic to far E Russia; winters S to Africa, the Indian subcontinent, Sri Lanka, the Andamans, S Japan, S China, SE Asia to Borneo and the Philippines.

Locality. – CCK, (Jurong), NT Rd, Ser, Sg Tengah (L & G, 1997).

Habitat. – Prawn ponds, freshwater ponds and canals.

Migration. – See Fig. 33.

Early and late dates. – 26 Sep. – 5 Mar.

Materials examined. – None.

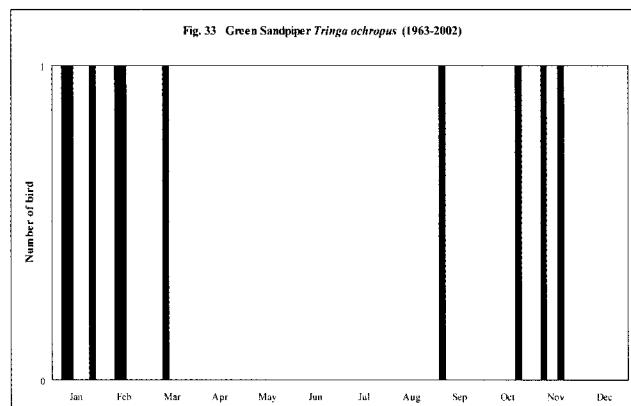


Fig. 33. Green Sandpiper, *Tringa ochropus* (1963 – 2002).

141. Wood Sandpiper

Tringa glareola C/WV PM

Kedidi Kayu, Burung Kedidi Sawah

Status. – Common winter visitor and passage migrant.

Range. – Breeds throughout the Palaearctic, winters S to Africa, the Indian subcontinent, Sri Lanka, S China, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines, Wallacea, New Guinea, Australia and W Pacific.

Locality. – (Alexandra Rd), Changi, (Jurong), KB, Kranji, LH, Mandai, NT Rd, Pgl, P Ubin, SBWR, (Senoko), Ser, TM.

Habitat. – Estuaries, mudflats, ponds, canals, reservoirs, wet grassland, reclaimed land. Prefers freshwater.

Migration. – First significant-sized groups reach Singapore by the end of Jul., with waves of passage through Aug. – Sep., a general influx in mid/late Nov. and peak numbers everywhere during Dec. – Jan. Departure begins in Feb. and five-fold variation of daily counts in Singapore during late Mar. reflects waves of spring passage, which continue into Apr. (Wells, 1999). See Fig. 34.

Early and late dates. – 18 Jul. – 26 Apr.

Materials examined. – RMBR 6 (2 FF, 2 MM, 2 AA).

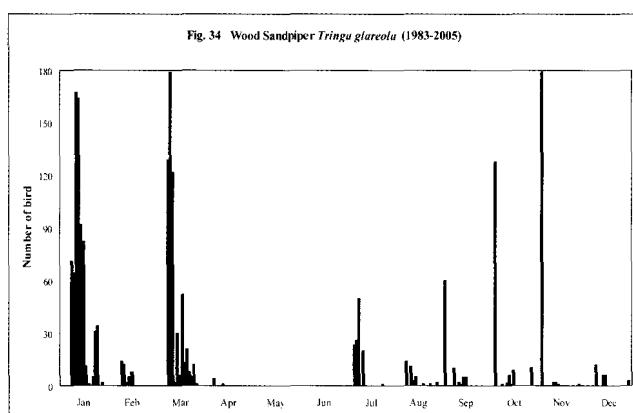


Fig. 34. Wood Sandpiper, *Tringa glareola* (1983 – 2005).

142. Terek Sandpiper *Xenus cinereus* C/WV PM

Avocet Sandpiper
Kedidi Sereng

Status. – Common winter visitor and passage migrant.

Range. – Breeds in NE Europe, N Asia; winters in S Africa, the Indian subcontinent, Sri Lanka, the Andamans, Malay Pen, Singapore, Sumatra, Borneo, N Natuna Is, Java, Bali, the Philippines, Wallacea, Australia and New Zealand.

Locality. – Changi, E Coast, (Jurong), KB, P Busing, Pgl, PR, P Ubin, SBWR, Ser, Sg Pandan, Sg Seletar, Yishun.

Habitat. – Sandy shores, mudflats, ponds; occasionally on freshwater marshes; does not normally occur inland (G-H, 1949).

Migration. – See Fig. 35.

Early and late dates. – 27 Jul. – 13 Jun.

Materials examined. – RMBR 1 (1 MM).

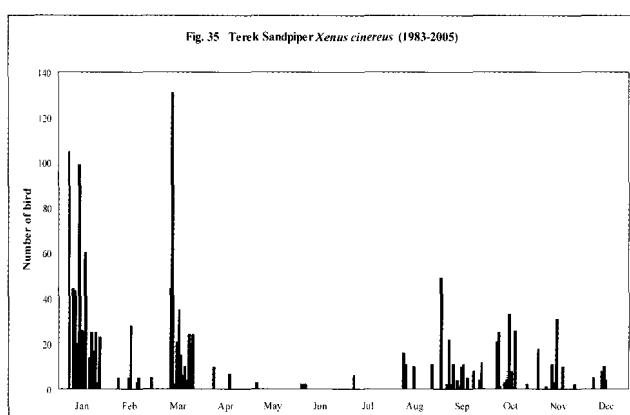


Fig. 35. Terek Sandpiper, *Xenus cinereus* (1983 – 2005).

143. Common Sandpiper *Actitis hypoleucos* C/WV PM

Kedidi Pasir, Kedidi Biasa

Status. – Common winter visitor and passage migrant.

Range. – Breeds across N Eurasia; the Himalayas, China and C Japan; winters in Africa, the Indian subcontinent, Sri Lanka, S Japan, S China, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, Wallacea, New Guinea and Australia.

Locality. – Changi, (CS, Jurong River), KB, Kranji Dam, Loyang, Mandai, Marina S, N Is, Pgl, Poyan, PR, SBWR, (Senoko), Ser, Sg Seletar, S Is, Turut Track, Upper Peirce Res, WCP.

Habitat. – Occur singly or in very small parties on coasts, estuaries, rivers, prawn ponds, canals, reservoirs, edges of streams; seen almost everywhere on the edges of water (G-H, 1949a).

Migration. – The first comers normally reach Singapore at the end of Aug., and the main body arrives in Sep. The majority leave in Mar., and a smaller number in Apr. (G-H, 1949); some birds may over-summer. See Fig. 36.

Early and late dates. – 8 Jul. – 18 May.

Materials examined. – AMNH 1 (1 AA), BM 2 (1 FF, 1 MM), RMBR 18 (7 FF, 10 MM, 1 AA), (UWBM 1 (1 AA).

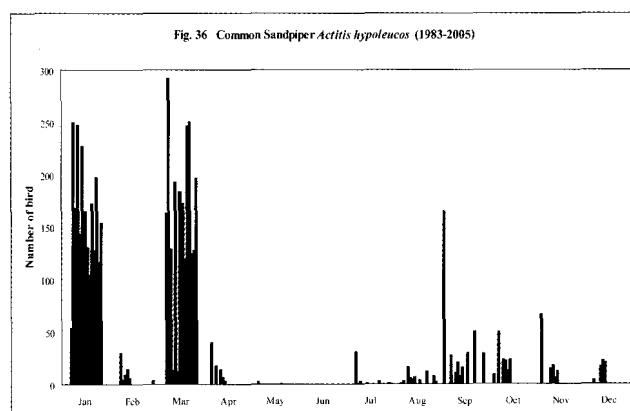


Fig. 36. Common Sandpiper, *Actitis hypoleucos* (1983 – 2005).

144. Grey-tailed Tattler

Heteroscelus brevipes U/WV PM

Grey-rumped Tattler
Kedidi Ekor Kelabu

Status. – Uncommon winter visitor and passage migrant.

Records. – Only two formal records (1 male, 1 female), taken from the Sultan Shoal in 11 Sep. 1923 (G-H, 1949a). Not recorded again until one bird seen at Changi on 8 Nov. 1967 (Wells, 1972). Not recorded annually.

Range. – Breeds in NE Siberia; winters in S China, Malay Pen, Singapore, Borneo, Java, Bali, Sulawesi, the Philippines, Wallacea, New Guinea, Australia and New Zealand.

Locality. – Changi, Pgl, SBWR.

Habitat. – Muddy and sandy coasts, estuaries and prawn ponds.

Migration. – The main migration passes further E through the Philippines (G-H 1956). See Fig. 37.

Early and late dates. – 31 Aug. – 21 Apr.

Materials examined. – RMBR 2 (1 FF, 1 MM).

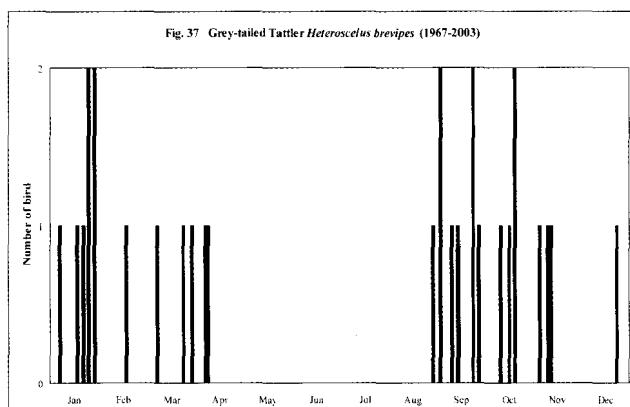


Fig. 37. Grey-tailed Tattler, *Heteroscelus brevipes* (1967 – 2003).

145. Ruddy Turnstone

Arenaria interpres U/WV PM

Turnstone
Kedidi Batu, Burung Kedidi Kerikil

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in Greenland, across N Europe to W Alaska; winters in Africa, the Indian subcontinent, Sri Lanka, S China, Indochina, Japan, Malay Pen, Singapore, Sumatra, Java, Bali, Borneo, the Philippines, Wallacea, Australia and Pacific America.

Locality. – Changi, (Jurong), LH, Marina E, Pgl, PR, SBWR, Ser, Sg Seletar, S Is, Tuas.

Habitat. – Found in small numbers on rocky coasts, breakwaters and sometimes mudflats.

Migration. – See Fig. 38.

Early and late dates. – 29 Jul. – 5 May.

Materials examined. – RMBR 4 (2 FF, 2 AA).

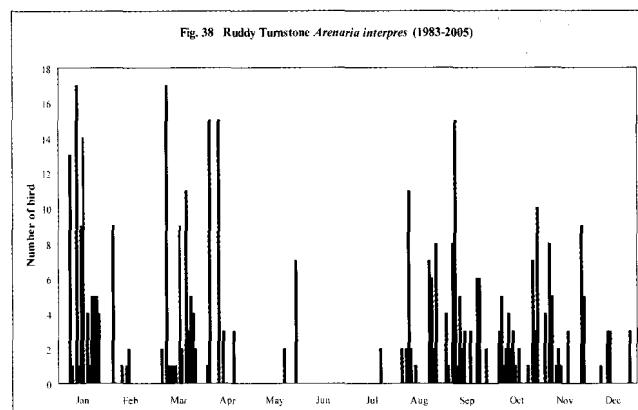


Fig. 38. Ruddy Turnstone, *Arenaria interpres* (1983 – 2005).

146. Asian Dowitcher

Limnodromus semipalmatus U/WV PM

Red-breasted Snipe, Red-breasted Dowitcher, Asiatic Dowitcher

Kedidi Paruh Tegak, Burung Kedidi Dada Merah Asia

Status. – Uncommon winter visitor and passage migrant.

Threats. – Globally near-threatened/low-risk (Collar et al., 1994).

Records. – First recorded in Singapore on 17 Aug. 1963 (Medway & Wells, 1964). There have been no records since 1997 until a bird was seen and photographed by various observers at SBWR, 6 – 9 Sep. 2006.

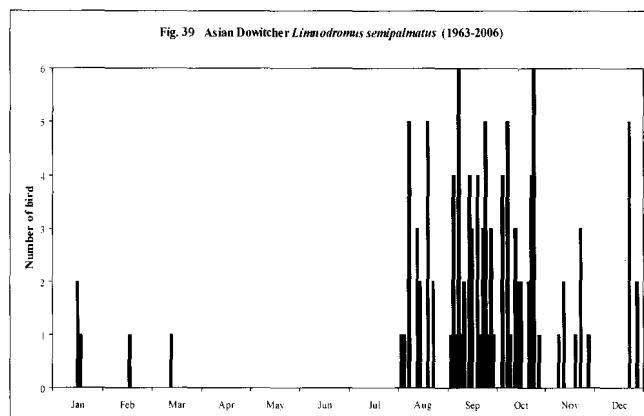
Range. – Breeds across Siberia, Mongolia, N China; winters on E Indian subcontinent, the Andamans, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines, S New Guinea and Australia.

Locality. – Changi, (Jurong), KB, LH, Marina E, Pgl, SBWR, (Senoko), Ser, Sg Seletar Dam, Tuas, (W Coast Rd).

Habitat. – Coastal mudflats, prawn ponds and lagoons within the mangrove zone.

Migration. – The general arrival period is Aug., with highest autumn counts in late Sep. – Oct. and a lower presence to late Nov. and even late Dec. Very small numbers and few records in Jan. – Mar. imply only a very small number overwinters. See Fig. 39.

Early and late dates. – 17 Aug. – 30 Mar.

Materials examined. – RMBR 1 (1 AA).Fig. 39. Asian Dowitcher, *Limnodromus semipalmatus* (1963 – 2006).**147. Great Knot***Calidris tenuirostris* U/PM**Asiatic Knot***Kedidi Dian Besar*

Status. – Uncommon passage migrant. Not recorded in Singapore by G-H (1949) but listed by Tweedy (1970) as a vagrant, with records of single birds in Sep. and Nov.

Range. – Breeds in NE Siberia, winters on the Indian subcontinent and in the Andamans, S China, Myanmar, Malay Pen, Singapore, Borneo, N Natuna Is, Java, Bali, the Philippines, Wallacea, New Guinea and Australia.

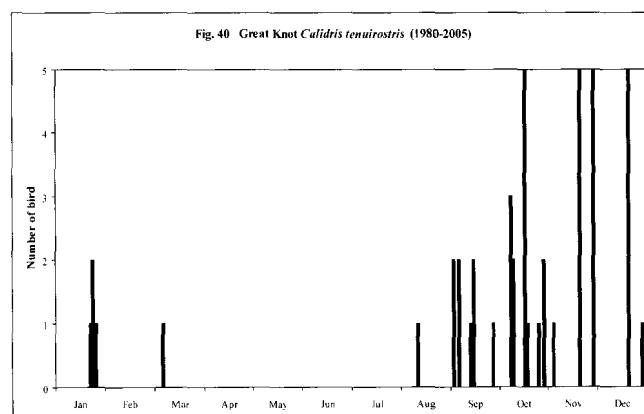
Locality. – Changi, KB, Kranji, LH, Pgl, SBWR, Sg Seletar.

Habitat. – Prefers more sandy shorelines although it can be found on mudflats.

Migration. – Not recorded every year. Small numbers arriving in Sep., highest peak recorded in Oct. Does not over-summer. See Fig. 40.

Early and late dates. – 31 Jul. – 14 Mar.

Materials examined. – None.

Fig. 40. Great Knot, *Calidris tenuirostris* (1980 – 2005).**148. Red Knot***Calidris canutus canutus* vR/WV**European Knot, Common Knot***Kedidi Dian Kecil*

Ssp. – G-H (1949) identified a 1st Nov. winterer as nominate *C. c. canutus*. However, Wells (1999) measured all non-juvenile bills and found that they all fall within the range of *C. c. rogersi*, which is from E Siberia.

Status. – Very rare winter visitor.

Records. – First recorded from a single specimen collected: an adult female in full winter plumage taken in Singapore, 23 Nov. 1940 (Molesworth in G-H, 1949; 1949a). One bird at Senoko from 6 – 7 Sep. 1980 (Wells, 1986). One seen with Great Knots at SBWR, 23 Nov. 1997 and still present on 7 Dec. 1997 (SINAV 11-4).

Range. – Breeds in the Arctic, Siberia, Alaska, Canada and Greenland; winters in America, Europe, Africa, Sri Lanka, Banka Is, N Natuna Is, Java, Australia and New Zealand.

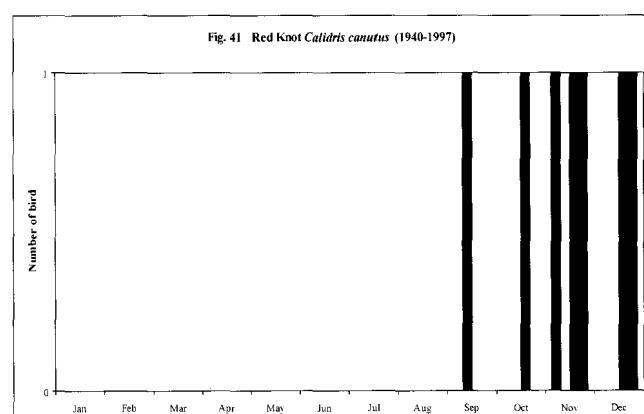
Locality. – SBWR, (Senoko).

Habitat. – Mudflats and prawn ponds.

Migration. – See Fig. 41.

Early and late dates. – 6 Sep. – 7 Dec.

Materials examined. – None.

Fig. 41. Red Knot, *Calidris canutus* (1940 – 1997).**149. Sanderling***Calidris alba* U/WV

Status. – Uncommon winter visitor.

Records. – First recorded on 10 Nov. 1962 at Jurong (Medway & Wells, 1964).

Range. – Breeds in Siberia, Alaska, Canada and N Greenland; winters on the Indian subcontinent, Sri Lanka, S Japan, S

China, Malay Pen, Singapore, Borneo, Java, Bali, the Philippines, Wallacea and Australia.

Locality. – Mainly in Changi, occasionally in (Jurong), Pgl, P Hantu, SBWR, TM, Tuas, W Coast.

Habitat. – Mainly on sandy beaches, sometimes on mudflats and prawn ponds.

Migration. – The only recognised regular wintering site is the sandy, in-filled coast of Changi promontory, E end of Singapore, adopted in the late 1970s and recently supporting a mid-winter peak of over 70 birds (SINAV 6; Wells, 1984), but unlikely to remain attractive for much longer (Wells, 1999); no evidence of over-summering. Counts into double figures before end Jul., rising irregularly to a peak in Singapore during Jan. – Mar. (Wells, 1999). Not likely to over-summer although two birds were once recorded at Changi, 25 Jun. 1988 (SINAV 2). See Fig. 42.

Early and late dates. – 22 Jul. – 27 Apr.

Materials examined. – None.

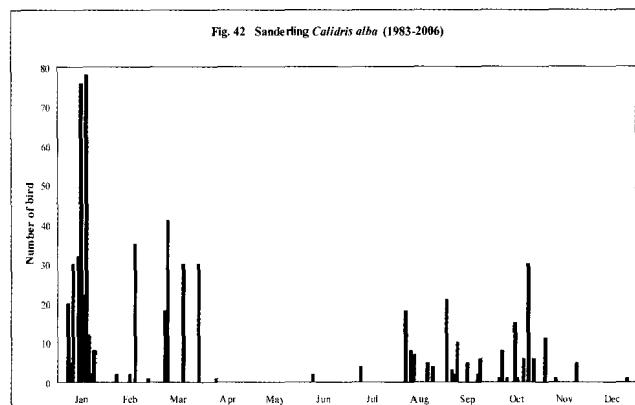


Fig. 42. Sanderling, *Calidris alba* (1983 – 2006).

150. Spoon-billed Sandpiper

Calidris pygmeus R/WV

Kedidi Paruh Sudu

Status. – Rare winter visitor.

Threats. – Globally-vulnerable (Collar et al., 1994).

Records. – First recorded in Singapore on 26 Oct. 1963, at Jurong by J. C. Darnell & M. A. Webster (Medway & Wells, 1964). Second record of one bird present on the W coast between 4 Nov. and 30 Dec. 1978 by SBSG (Wells, 1984), remained to at least 3 Mar. 1979 (H. A. Buck); an overwintering first (Wells, 1990). An unconfirmed record of a bird at Serangoon, 7 Oct. 1988 by LKS and LKC (SINAV 2). Recent record of one seen on 25–28 Dec. 1999 till 4 Feb. 2000 at TM (SINAV 14-1).

Range. – Breeds in far E Siberia and Russia, winters mainly in NE India, S China and SE Asia to Malay Pen.

Locality. – (Jurong), TM, (W Coast).

Habitat. – Mudflats, sandy shores and prawn ponds.

Migration. – See Fig. 43.

Early and late dates. – 26 Oct. – 3 Mar.

Materials examined. – None.

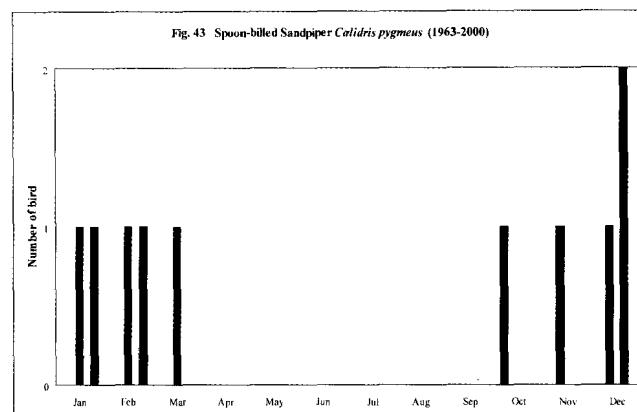


Fig. 43. Spoon-billed Sandpiper, *Calidris pygmeus* (1963 – 2000).

151. Red-necked Stint

Calidris ruficollis C/WV PM

Little Stint, Rufous-necked Stint

Kedidi Luris Leher, Burung Kedidi Leher Merah

Status. – Common winter visitor and passage migrant.

Range. – Breeds in NE Siberia; winters through S China, S Japan, S India. Andamans, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Riau Arch, Java, the Philippines, Australia and New Zealand.

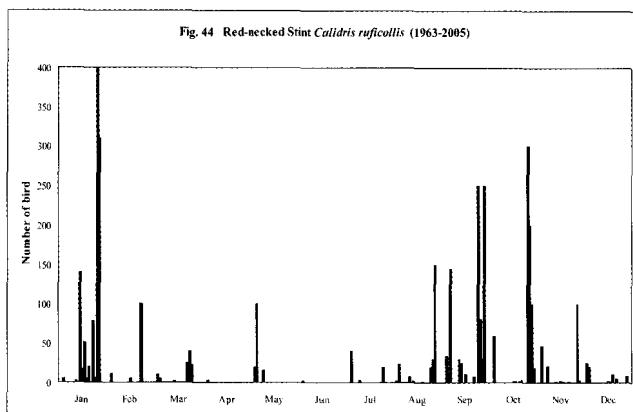
Locality. – Changi, (Jurong), KB, Mandai, Pgl, P Ubin (Wells, 1999), SBWR, (Senoko), Ser, Sg Seletar, TM, Tuas.

Habitat. – Flooded grassland, muddy and sandy coasts, estuaries and prawn ponds.

Migration. – May over-summer. Few winter in the far S, but some high passage season counts (up to 800 in autumn) have been made in Singapore (RFO, 1992 in Wells, 1999). First-winterers appear in Aug. Autumn passage in Singapore runs from Aug. through Oct. Sizeable waves of migrants stop on the E coast of Singapore till late Apr. or early May. (Wells, 1983; Howes et al., 1986 in Wells, 1999). See Fig. 44.

Early and late dates. – 3 Jul. – 7 Jun.

Materials examined. – BM 1 (1 FF), RMBR 2 (2 MM).

Fig. 44. Red-necked Stint, *Calidris ruficollis* (1963 – 2005).152. **Temminck's Stint***Calidris temminckii* R/PM*Kedidi Temminck***Status.** – Rare passage migrant.

Records. – First recorded in Jurong prawn ponds on 26 Oct., 21 Nov. and 28 Nov. 1963 by J. C. Darnell & M. A. Webster (Medway & Wells, 1964). One to 3 birds seen in early Nov. to early Dec. 1964 at Jurong by J. C. Darnell (Medway & Nisbet, 1965). Two to three birds seen between Oct. to Apr. 1968 – 1969 (Tweedy, 1970). One seen on the W coast on 18 Nov. 1978 by SBSG (Wells, 1984). One on mudflats at Senoko, 7 Oct. 1984 (Wells, 1990a). No confirmed records since.

Range. – Breeds in N Europe and Asia; winters in Africa, Sri Lanka, the Indian subcontinent, S China and S Japan; Indochina; Malay Pen, Borneo and the Philippines.

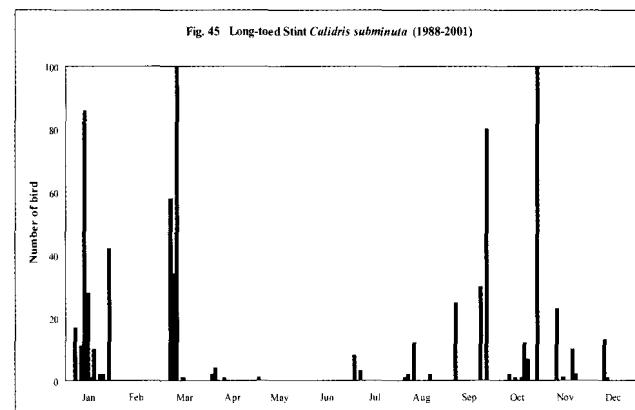
Locality. – (Jurong, Senoko), Sg Poyan, W Coast.**Habitat.** – Mudflats, prawn ponds and freshwater or slightly brackish sites.**Early and late dates.** – 7 Oct. – early Dec.**Materials examined.** – None.153. **Long-toed Stint***Calidris subminuta* U/WV PM*Kedidi Jari Panjang***Status.** – Uncommon winter visitor and passage migrant.

Range. – Breeds in E Siberia, Kamchatka; winters through China, Japan, E Indian subcontinent, Sri Lanka, Indochina, S China, to the Malay Pen, Singapore, Banka Is, Borneo, Java, Bali, the Philippines, Sulawesi, W Micronesia and W Australia.

Locality. – Changi, (Jurong, Kallang), KB, LH, SBWR, (Senoko), Ser, TM, Tuas.

Habitat. – Mudflats, sandy shores and shallow freshwater ponds. Prefers inland marshy districts to exposed coasts (G-H, 1949).

Migration. – Small numbers reported over mid-summer period in Singapore during 1960s (BR 1964) but no summer records anywhere since (Wells, 1999). See Fig. 45.

Early and late dates. – 21 Jul. – 17 May.**Materials examined.** – RMBR 7 (4 FF, 3 MM).Fig. 45. Long-toed Stint, *Calidris subminuta* (1988 – 2001).154. **Pectoral Sandpiper***Calidris melanotos* vR/A*Burung Kedidi Pektoral***Status.** – Very rare vagrant.

Records. – A buff-toned, Curlew Sandpiper-shaped bird with stint-like flight pattern, probing in freshly-exposed, tidal mud at KB, 15 Sep. 1991 has been proposed as a possible juvenile Cox's Sandpiper, the stable hybrid of Pectoral and Curlew Sandpiper (RFO, 1992 in Wells, 1999). An adult claimed at Changi from 28 Oct. (OBC Bull. 31), confirmed on 26 Nov. 1999 and seen again on 1 – 3 Jan. 2000, TM (SINAV 14-1) is the first record. Not seen since.

Range. – Breeds in Arctic tundra, winters mainly in S hemisphere S America, reached via N America, and in small numbers in New Zealand and Australia.

Locality. – Changi.**Habitat.** – Sandy shores, reclaimed land.**Materials examined.** – None.155. **Sharp-tailed Sandpiper***Calidris acuminata* R/PM*Kedidi Ekor Tajam, Burung Kedidi Ekor Tirus***Status.** – Rare passage migrant.

Records. – First recorded on 25 Oct. 1973 at Pandan Res by D. G. Robertson (Wells, 1975). One was seen at Changi on 14 Sep. 1980 (Wells, 1986). The third record was of a bird at Pgl on 12 Jan. 1989 (SINAV 3). Most recent record of one bird at TM marshes, 4 Nov. 2001 (SINAV 14-4).

Range. – Breeds in N Siberia; winters in S Australia and New Zealand, straggling to Java, Myanmar and India.

Locality. – Changi, (Pandan Res), Pgl, TM.

Habitat. – Coastal mudflats.

Migration. – Hails (1988) and Lim (1999) listed it as accidental; normally migrates further E through the Philippines. See Fig. 46.

Early and late dates. – 14 Sep. – 12 Jan.

Materials examined. – None.

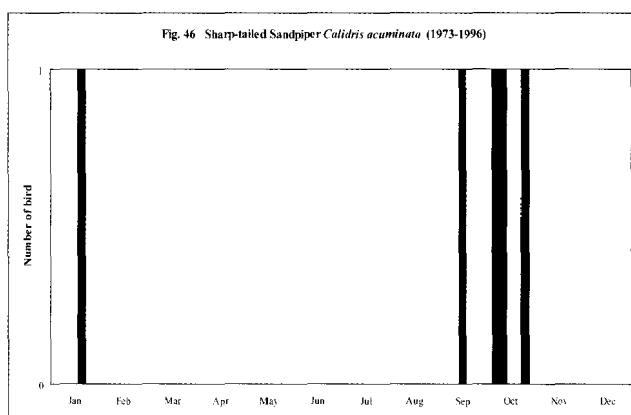


Fig. 46. Sharp-tailed Sandpiper, *Calidris acuminata* (1973–1996).

156. Dunlin

Calidris alpina sakhalina R/PM

Kedidi Dunlin

Status. – Rare passage migrant.

Records. – First recorded on 30 Nov. 1968 and four on 31 Dec. at Jurong (Tweedy, 1970). One on 24 Aug. to 14 Oct. 1980 in Senoko (Wells, 1986), one at Changi, 2 Nov. 1985 (Hails, 1988). No records since.

Range. – Breeds in the tundra of the Holarctic region; winters in the N tropics of the world; the Indian subcontinent, S Japan, S China, straggling to Malay Pen, Singapore, Java, Borneo and Sulawesi.

Locality. – Changi, (Jurong, Senoko).

Habitat. – Mudflats, prawn ponds and sandy shores.

Migration. – See Fig. 47.

Early and late dates. – 24 Aug. – 31 Dec.

Materials examined. – None.

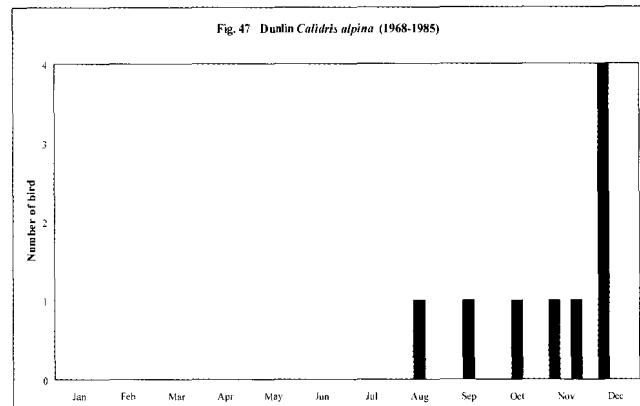


Fig. 47. Dunlin, *Calidris alpina* (1968–1985).

157. Curlew Sandpiper

Calidris ferruginea C/WV PM

Curlew Stint

Kedidi Pasir Kendi, Burung Kedidi Merah

Status. – Common winter visitor and passage migrant. Numbers have declined over the last 20 years.

Range. – Breeds in N Siberia; winters throughout the N tropics, Africa, the Indian subcontinent, Sri Lanka, S China, Malay Pen, Singapore, Bali, the Philippines, Wallacea, W Micronesia to Australia and New Zealand.

Locality. – Changi, (Jurong), LH, Mandai, N Is, Pgl, PR, SBWR, (Senoko), Ser, Sg Seletar, TM.

Habitat. – Large numbers found on coastal mudflats, estuaries, sandy shores and prawn ponds.

Migration. – Most common during passage Aug. – Dec. Singapore shows a northern-type pattern of higher abundance in autumn declining to much lower numbers by Jan. and Feb. See Fig. 48.

Early and late dates. – 20 Jul. – 13 Apr.

Materials examined. – RMBR 4 (4 MM).

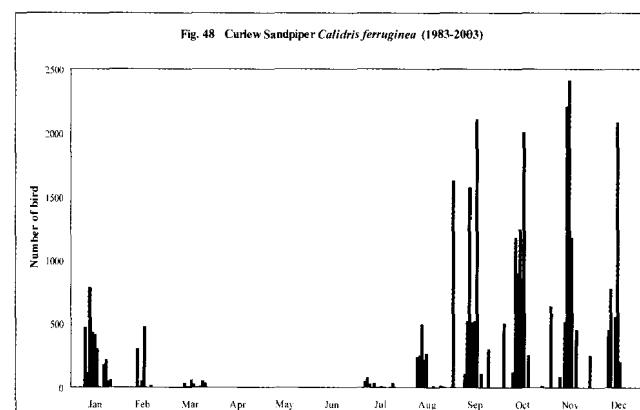
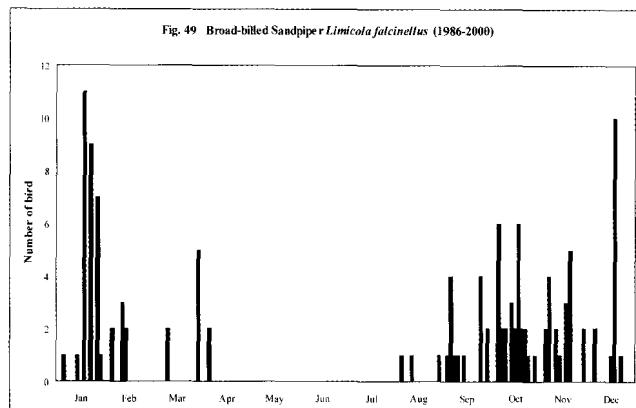
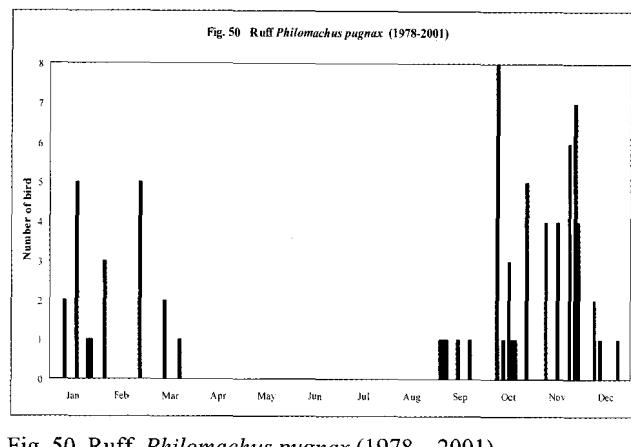


Fig. 48. Curlew Sandpiper, *Calidris ferruginea* (1983–2003).

158. Broad-billed Sandpiper

Limicola falcinellus sibirica U/WV PM*Kedidi Paruh Lebar, Burung Kedidi Paruh Tebal***Status.** – Uncommon winter visitor and passage migrant.**Range.** – Breeds in E Siberia, migrates S through China and Japan to Bengal, Indochina through Malay Pen, Singapore, Sumatra, Java, Bali, the Philippines, E to Wallacea, New Guinea and N Australia.**Locality.** – Changi, (Jurong), KB, Mandai, PR, P Ubin, SBWR, (Senoko), Ser, Sg Seletar, TM.**Habitat.** – Mudflats, sandy shores, prawn ponds, estuaries.**Migration.** – See Fig. 49.**Early and late dates.** – 22 Jul. (Lim, 1999) – 22 Apr.**Materials examined.** – RMBR 2 (2 MM).

159. Ruff *Philomachus pugnax* U/WV
Kedidi Ropol
Status. – Uncommon winter visitor.
Records. – First recorded on 22 Dec. 1963 at Jurong prawn ponds by J. C. Darnell & M. A. Webster (Medway & Wells, 1964).
Range. – Breeds in the tundra across the Palaearctic region; winters from S Europe through Africa, the Indian subcontinent, Sri Lanka, some to S Japan, S China, SE Asia to Malay Pen, Singapore, Borneo, Bali, the Philippines, vagrants to Wallacea, New Guinea and Australia.
Locality. – (Jurong), Kranji, Pgl, SBWR, (Senoko), Ser, Sg Seletar, TM, Tuas, W Coast.
Habitat. – Mudflats, prawn ponds and estuaries.
Migration. – Not recorded every year. Most records and highest counts in Oct. and Nov. See Fig. 50.

Early and late dates. – 15 Sep. – 22 Mar.**Materials examined.** – None.

subcontinent, Sri Lanka, S Japan, S China, Bali, the Philippines and the Lesser Sundas. Another ssp. in Australia.

Locality. – Changi, LH, Loyang, Marina E, Marina S, Pgl, SBWR, (Senoko), Ser, TM, Tuas.

Habitat. – Flooded grassland, weed-covered ditches, marshes, muddy pools, open freshwater swamps.

Breeding. – First recorded in 1986. Chicks in Jun., Jul., Oct. Imm seen in Nov.

Materials examined. – None. A male collected in Singapore on 22 Nov. 1927, and a female from the same place taken on 20 Nov. 1928 (R & C, 1936) were not found.

FAMILY JACANIDAE

162. Pheasant-tailed Jacana

Hydrophasianus chirurgus R/WV

Water Pheasant

Burung Teratai Ekor Panjang, Burung Teratai Sayap Putih

Status. – Rare winter visitor.

Records. – First recorded in Singapore on 16 May. 1899 [an Imm male collected by W. L. Abbott (Riley, 1938; USNM)]. Not recorded every year. One seen from 2 – 18 Dec., four birds on 22 Dec. and one on 25 Dec. 1953 at Jurong prawn ponds (Medway & Wells, 1964). Two birds seen in Jurong in Mar. 1968 (Medway & Wells, 1970). A bird at LH, 15 – 21 Nov. 1986 and one at Kranji, 18 Jan. 1987 (SINAV 1). One was present at Senoko, 14 – 29 Mar. 1987 and 1 – 26 Apr. 1987 (SINAV 1). Up to seven birds seen at Poyan, 1 – 24 Jan. 1988 and five birds at CCK, 21 Apr. 1988 (SINAV 2). At Sg Poyan, up to two birds seen, 7 – 8 Nov., one on 11 Nov. 1988, one on 2 Jan. 1989, four on 26 Feb. 1989, one on 4 Mar. 1989, up to six birds on 25 Dec. 1990, seven counted on 16 Jan. 1992 and three on 5 Feb. 1992 (SINAV 2; 3; 4; 6). At MacRitchie Res, one seen on 8 May. 1992 and another on 10 Dec. 1992 (SINAV 6). A bird at Tuas, 19 Nov. 1994 (Iora 1). A bird at Kranji, 22 Dec. 2001 (SINAV 14-4).

Range. – Breeds in the Himalayas, through the Indian subcontinent and Sri Lanka, S Japan, SE China, Indochina, Malay Pen, S Borneo, Java, and the Philippines, N populations winter sparsely S to Sumatra and Java.

Locality. – CCK, Japanese Garden, (Jurong), Kranji, LH, MacRitchie, Poyan, (Senoko).

Habitat. – Ponds and rivers with emergent vegetation, marshes, waterlogged grassland and edges of reservoirs.

Migration. – See Fig. 51.

Early and late dates. – 7 Nov. – 16 May.

Materials examined. – RMBR 1 (1 MM), USMN 1 (1 MM).

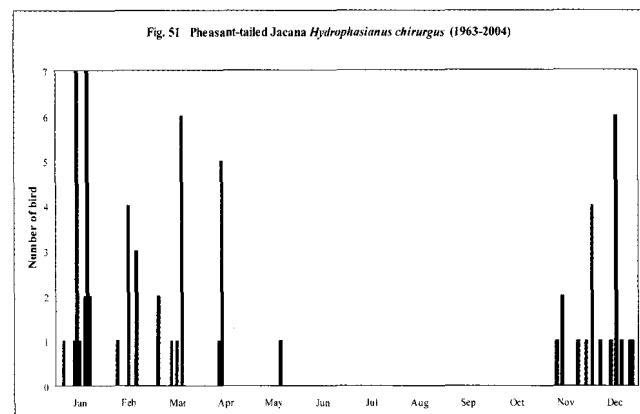


Fig. 51. Pheasant-tailed Jacana, *Hydrophasianus chirurgus* (1963 – 2004).

FAMILY BURHINIDAE

163. Beach Thick-knee

Esacus magnirostris vR/R(B)

Reef Thick-knee, Great Stone Curlew

Kedidi Malam, Burung Pasir Terumbu

Status. – Very rare resident.

Threats. – Nationally-endangered (Lim, 1989). Despite regular surveys in the last 10 years, only one bird has ever been seen on the S Is on any one occasion when a cruise was made around the islands (Lim, 1992). Threatened by lack of breeding birds and habitat loss.

Records. – First recorded at P Busing, off P Bukom on 26 Mar. 1978 (Wells, 1984).

Range. – Andaman Is, discontinuous through Pen Thailand, Tambelan Is, Malay Pen, Singapore, Sumatra, Rhio Arch, Borneo, Java, Bali, the Philippines to Wallacea, New Guinea, Australia and the Solomon Is.

Locality. – Confined to the S Is, mainly on P Bukom, P Hantu, P Salu, P Sudong.

Habitat. – Exclusively coastal; on sandy beaches, reef flats exposed at low tides and islets.

Breeding. – Not recorded.

Materials examined. – None.

FAMILY CHARADRIIDAE

164. Black-winged Stilt

Himantopus himantopus U/WV PM

Kedidi Kaki Panjang, Burung Stilt

Status. – Uncommon winter visitor and passage migrant. Formerly recorded as a rare vagrant.

Records. – 1 Imm male collected in Pgl, 17 Nov. 1918 (R & C, 1936) was the first record in Singapore. No further records until two birds were seen at Jurong on 22 Aug. 1968 (Gregory, 1970; Wells, 1974). From 1986 onwards, one to two birds were recorded occasionally. Not recorded annually.

Range. – SW Europe, sub-Saharan Africa, Madagascar, E to C Asia, NC China, the Indian subcontinent, Indochina, Taiwan to SE Asia. Other ssp. in Java, the Philippines, Sulawesi, the Lesser Sundas, New Guinea, Australia, New Zealand, Hawaii, S USA, C and S America. Many populations migrate or disperse, reaching S China and SE Asia.

Locality. – Changi, (Jurong), Pgl, SBWR, (Senoko), Ser, Sg Seletar, Tuas, W Coast.

Habitat. – Shallow prawn ponds, marshes, waterlogged grassland, reed beds.

Breeding. – At least two Imm and three juveniles recorded in Tuas grassland in 8 – 15 Nov. 1992 (SINAV 6-4). Another juvenile seen at Pgl on 6 Nov. 1994 (SINAV 8-4). Highly-probable that the juveniles represent real breeding records for Singapore as the species is now breeding in Malaysia (Wells, pers. comm.).

Migration. – Small groups (up to seven: RFO 1992 in Wells, 1999), mainly in autumn and during Feb. – Mar. Records in Singapore imply occasional overwintering but timing of arrival and departure, as well as individual stays, show much variation from year to year (Wells, 1999). See Fig. 52.

Early and late dates. – 22 Aug. – 3 Apr.

Materials examined. – None.

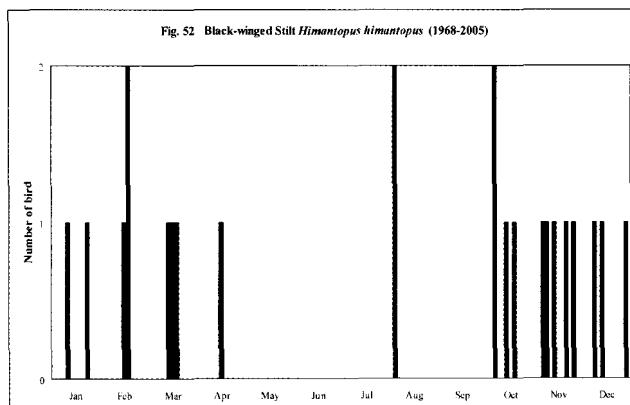


Fig. 52. Black-winged Stilt, *Himantopus himantopus* (1968 – 2005).

165. Pacific Golden Plover *Pluvialis fulva* C/WV PM

Asiatic Golden Plover
Rapang Kerinyut

Status. – Common winter visitor and passage migrant.

Range. – Breeds in the N Palaearctic; winters in E Africa, the Indian subcontinent, Sri Lanka, S China, Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, N Natuna Is, Java, to Wallacea, New Guinea, Australia and New Zealand.

Singapore, Sumatra, Borneo, Java, Bali, New Guinea, Australia, Pacific Is and S America.

Locality. – Changi, (Cluny, Geylang, Jurong River), KB, Kranji, LCK, LH, Mandai, Marina E, N Is, Pgl, PR, Raffles Marina, SBWR, (Senoko), Ser, Sg Seletar, S Is, (Tanglin), TM, [Trafalgar (Robinson, 1927)], Tuas.

Habitat. – Mudflats, prawn ponds, rivers, marshes. Also occurs inland on golf courses, playing fields, wet and short grassland.

Migration. – Recorded every month. Over-summerers. No triple-digit counts made before end-Aug. and none regularly before mid-/late-Sep. In general, numbers increase through Oct. – Nov. in Singapore then fall again quite sharply, with few counts above 10 by mid-Dec. Recovery begins in mid/late Jan., with high counts everywhere through Feb. – Mar. Pre-migratory fattening starts by early Mar., migrants leave the far S by Apr. (Wells, 1999). See Fig. 53.

Early and late dates. – 3 Jul. – 25 Jun.

Materials examined. – AMNH 3 (3 AA), BM 8 (2 FF, 2 MM, 4 AA), RMBR 10 (5 FF, 3 MM, 2 AA), UWBM 1 (1 AA).

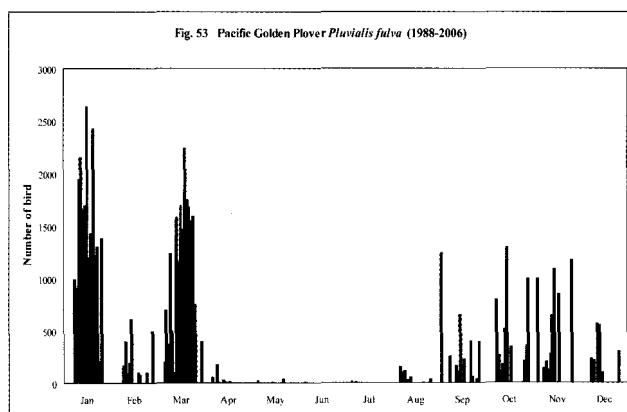


Fig. 53. Pacific Golden Plover, *Pluvialis fulva* (1988 – 2006).

166. Grey Plover *Pluvialis squatarola* U/WV PM

Black-bellied Plover
Rapang Kelabu

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in the circumpolar regions, migrates to the S hemisphere in S America, Africa, Asia, the Indian subcontinent, Sri Lanka, the Andamans, S Japan, S China, Malay Pen, Singapore, Sumatra, Riau Arch, Borneo, N Natuna Is, Java, to Wallacea, New Guinea, Australia and New Zealand.

Locality. – Changi, (Jurong), Marina E, N Is, Pgl, PR, SBWR, S Is.

Habitat. – Found mostly on sandy shores. Rare or absent inland (L & G, 1997).

Migration. – It does not appear to arrive in Singapore regularly or in appreciable numbers (G-H, 1949). Fairly common in Changi but less so elsewhere (Gregory, 1970). No counts above 60 reported at any time of year from Singapore. In Singapore, noticeable dips in Nov. and Feb. suggest waves of onward movement, and spring passage reaches a peak in mid-Apr. (Wells, 1999). A small number may over-summer (Wells, 1999). See Fig. 54.

Early and late dates. – 3 Aug. – 22 Apr.

Materials examined. – None. Specimens taken on P Ubin (Kelham, 1883) and Singapore (G-H, 1949) were not found.

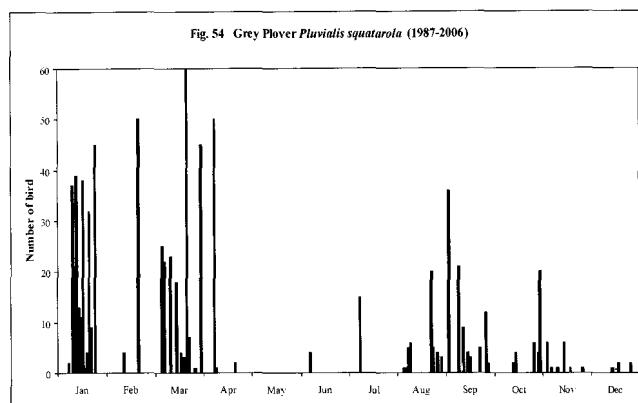


Fig. 54. Grey Plover, *Pluvialis squatarola* (1987 – 2006).

167. Common Ringed Plover

Charadrius hiaticula tundrae U/WV PM

Ringed Plover

Rapang Gelang Besar, Burung Rapang Kerikil

Status. – Uncommon winter visitor and passage migrant.

Records. – First recorded at Jurong prawn ponds on 21 Nov. 1963 by J. C. Darnell (Medway & Nisbet, 1965).

Range. – Breeds in the N Holarctic; winters in Africa, SW Asia; W Indian subcontinent, Sri Lanka, Japan, Korea, China, Malay Pen, Singapore, N Borneo, Palawan; sparsely to New Guinea, Australia and New Zealand. Nominate ssp. found in Canada, Greenland, Iceland, Scandinavia, S to France, to British Isles and Africa.

Locality. – Changi, (Jurong), Pgl, SBWR, Ser, Sg Pandan.

Habitat. – Estuaries, mudflats, sandy beaches and prawn ponds.

Migration. – Found in all months from Sep. to Mar., with a small peak in Oct. suggestive of some through-passage. See Fig. 55.

Early and late dates. – 11 Sep. – 25 Mar.

Materials examined. – None.

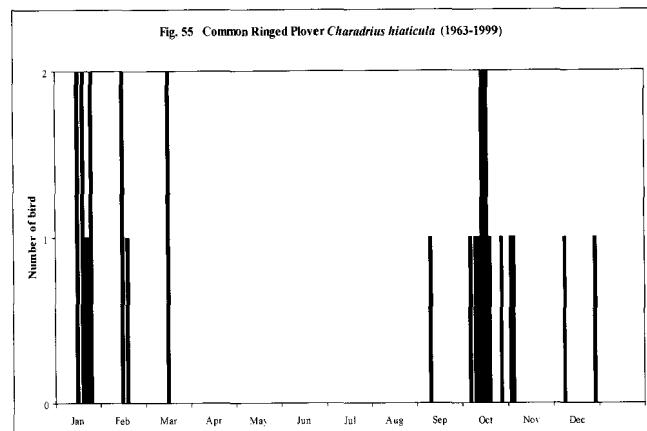


Fig. 55. Common Ringed Plover, *Charadrius hiaticula* (1963 – 1999).

168. Little Ringed Plover

Charadrius dubius curonicus C/WV PM

Rapang Gelang Kecil, Burung Rapang Biji Nangka

Status. – Common winter visitor and passage migrant.

Range. – Breeds in Europe, NW Africa, N C Asia, E Siberia and Japan; winters in Africa, the Indian subcontinent; Malay Pen, Singapore, Sumatra, Borneo, Java and Kangean Is. The species winters within and beyond the breeding range as far as N tropical Africa, Sri Lanka and the Andaman Is; China S from Fujian including Taiwan and Hainan; SE Asia; Wallacea, W Micronesia and in small numbers in New Guinea and Australia.

Locality. – Changi, (Jurong), KB, Mandai, Old LCK Rd, N Is, Pgl, PR, SBWR, (Senoko), Ser, Sg Seletar, TM, Tuas.

Habitat. – Found on mudflats, prawn ponds, sandy shores, edges of reservoirs and short grassland. Also occurs inland, more rarely on sheltered shores (G-H, 1949a).

Migration. – No counts over 50 anywhere before the last week of Aug. Does not over-summer, although there was a bird in Singapore, 31 May. (Medway & Nisbet, 1965), seven weeks on from the next latest spring record (Wells, 1999). See Fig. 56.

Early and late dates. – 15 Jul. – 31 Mar

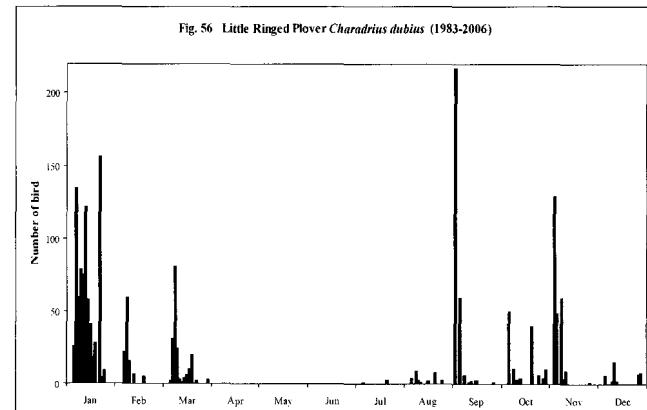


Fig. 56. Little Ringed Plover, *Charadrius dubius* (1983 – 2006).

Materials examined. – RMBR 7 (3 FF, 4 MM).

169. Kentish Plover

Charadrius alexandrinus alexandrinus U/WV PM

Rapang Pantai

Status. – Uncommon winter visitor and passage migrant.

Range. – *C. a. alexandrinus* in Malay Pen, Singapore, Borneo, N Natuna Is; *C. a. dealbatus* in Malay Pen, Singapore, Sumatra, mainly in N Borneo and the Philippines. Breeds in Eurasia, Japan, N Africa, SW Asia; N Indian subcontinent, China to Vietnam. Northern populations migrate through the Indian subcontinent, Sri Lanka, China, SE Asia to the Greater Sundas, Bali, the Philippines and Sulawesi.

Locality. – Changi, (Jurong), LH, Marina E, Pgl, SBWR, TM, Tuas.

Habitat. – Prefers sandy shores, sometimes mudflats and prawn ponds.

Migration. – The pattern everywhere is one of low-level presence through autumn, double-digit counts occur only as of Oct. and no further build-up before mid/late Jan. Numbers drop abruptly to less than 10 in Apr. Does not over-summer. See Fig. 57.

Early and late dates. – 10 Aug. – 22 Apr.

Materials examined. – RMBR 2 (2 FF).

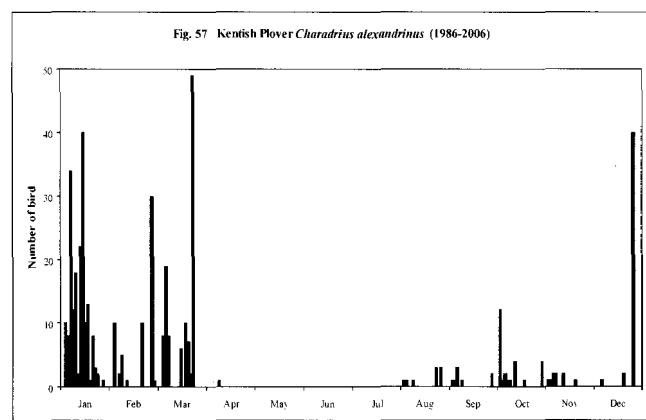


Fig. 57. Kentish Plover, *Charadrius alexandrinus* (1986 – 2006).

170. Malaysian Plover

Charadrius peronii R/RB

Malay Sand Plover

Rapang Pasir; Burung Rapang Malaysia

Status. – Rare resident.

Records. – Not recorded in Singapore by G-H (1949) but by 1963 it was found at Jurong prawn ponds: up to two birds seen, 8 – 12 Dec. 1963 (Medway & Wells, 1964). Seen regularly at Changi from 1987 onwards.

Threats. – Globally near-threatened/low risk (Collar et al., 1994). Status indeterminate in Singapore (Lim, 1989). Estimated population of 15 – 20 (Lim, 1989; 1992). Its immediate future is severely threatened due to plans to reclaim the entire Changi coastline for the construction of a new terminal and runway for the Changi Airport (Lim, 1992).

Range. – S Vietnam, S Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali and the Lesser Sundas to Timor.

Locality. – Changi, (Jurong), P Semakau, TM.

Habitat. – Sandy beaches and reclaimed coasts around Changi, where up to 15 birds have been recorded (Lim, 1992; SINAV 13-1).

Breeding. – First nest with eggs recorded on 9 Apr. 1994 (Iora 1) although chicks have been recorded there in Aug. 1988, also in Feb., Mar. Imm seen in Jan., Feb., Aug., Oct. One chick (not more than five-days old) ringed by P. Kennerley on 8 May. 1994 (Iora 1).

Materials examined. – UWBM 1 (1 Imm).

171. Lesser Sand Plover

Charadrius mongolus atrifrons C/WV PM

Mongolian Plover

Rapang Mongolia

Status. – Common winter visitor and passage migrant.

Range. – Breeds in Himalayas and S Tibet, winters India, Sri Lanka, S China, through Malay Pen, Singapore, Sumatra, Borneo, Java. Nominate ssp. breeds E of *C. m. atrifrons* and winters in Taiwan, N Bornean Is, Java to Australia and New Zealand.

Locality. – Changi, (Jurong), KB, Mandai, Marina E, N Is., Pgl, PR, P Sakeng [Wells, 1999], P Sudong, SBWR, Ser, Sg Seletar, TM, Tuas.

Habitat. – Mudflats, estuaries, sandy beaches, mangroves and prawn ponds.

Migration. – A few may over-summer. See Fig. 58.

Early and late dates. – 7 Jul. – 25 Jun.

Materials examined. – AMNH 2 (2 AA), RMBR 12 (5 FF, 6 MM, 1 AA), USNM 1 (1 AA).

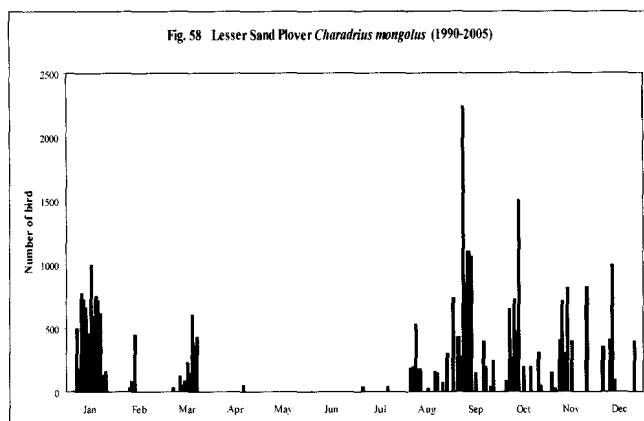
172. Greater Sand Plover

Charadrius leschenaultii leschenaultii U/WV PM

Large Sand Plover

Rapang Besar; Burung Rapang Pasir

Status. – Uncommon winter visitor and passage migrant.

Fig. 58. Lesser Sand Plover, *Charadrius mongolus* (1990 – 2005).

Range. – Breeds in S Mongolia, S Siberia, W and C Asia, migrates to E and S Africa, the Indian subcontinent, Sri Lanka, S China, through Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, New Guinea and Australia.

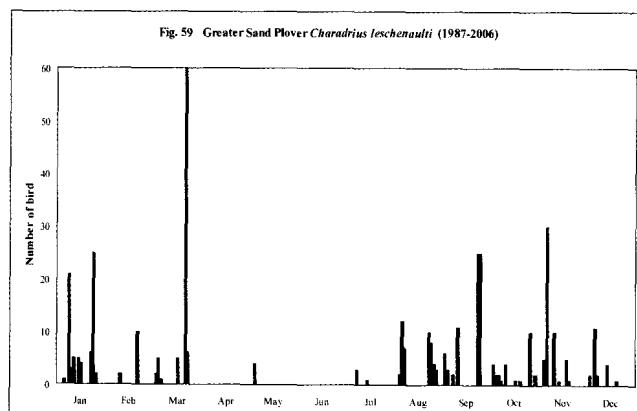
Locality. – Changi, (Jurong), KB, Marina E, N Is, Pgl, PR, P Sakeng, P Semakau, SBWR, (Senoko), Sentosa Ser, Sg Seletar, TM, Tuas.

Habitat. – Mostly on sandy shores; also on mudflats, prawn ponds, waterlogged grassland and estuaries.

Migration. – Over-summers as late as 25 Jun. (Medway & Nisbet, 1965). Formerly found in flocks of over 100 (Gregory, 1970) but now flocks are usually less than 30 (Hails, 1988). It is less plentiful than *C. mongolus*. Old records from Singapore (Medway & Wells, 1964) showed a first, sharp wave of arrivals on 29 Jul., but since 1987 the first birds only arrived in early Aug. Summer-plumaged, presumed to be adults have been seen as of 9 Aug. (SINAV 4). Lower counts throughout imply Singapore may no longer be important either as a wintering or a staging area (Wells, 1999). See Fig. 59.

Early and late dates. – 24 Jul. – 27 May.

Materials examined. – AMNH 1 (1 AA), RMBR 2 (1 FF, 1 MM).

Fig. 59. Greater Sand Plover, *Charadrius leschenaultii* (1987 – 2006).

173. Oriental Plover

Charadrius veredus R/P/M

Oriental Dotterel
Rapang Timor

Status. – Rare passage migrant.

Records. – First record of two birds at the Singapore Race Course, 13 May. 1891 (Davison, 1891). Two more skins were collected on 18 Apr. 1898 by native collectors (R & C, 1936). No subsequent Singapore records until one was seen regularly at Changi, 17 Nov. – 1 Dec. 1985 (Wells, 1990a) and again 16 – 22 Feb. 1986 (Hails, 1988). An unconfirmed record of 2 – 4 birds claimed on a bare landfill at Tuas, Singapore, during 29 Oct. – 9 Nov. 1993 (RFO, 1993 in Wells, 1999). Another unconfirmed record of a bird at Sg Seletar Dam on 28 Feb. 1998 (OBC Bull. 30). One bird in winter plumage was seen at Seletar Estuary on 1 – 2 Mar. 1999 (SINAV 13-1). One at Changi on 21 Oct. 2006 (various observers, in litt.).

Range. – Breeds in S Siberia, Mongolia to NE China; migrates to E China, E SE Asia, Wallacea, W Micronesia to winter mainly in N Australia. On passage to Thailand, Malay Pen, Singapore, Sumatra, the Andaman Is and Sri Lanka.

Locality. – Changi, Seletar.

Habitat. – Sandy shores, fields, dry grasslands and sparsely-vegetated open country.

Materials examined. – None.

174. Red-wattled Lapwing

Vanellus indicus atronuchalis R/RB

Red-wattled Plover
Rapang Minta Duit, Cheriwit, Burung Cheketing, Burung Rapang Duit

Status. – Rare resident. It appears to be getting commoner, with more sightings and quite a few breeding records since 2003.

Records. – One of two birds was shot in a swampy valley behind the Tanglin barracks, on 21 Nov. 1879 (Kelham, 1883). Visual records in the winter of 1940 – 1941 (Molesworth in G-H, 1949a). Sporadic records since. One at Senoko, 23 Mar. 1985 (Hails, 1988). Several birds claimed to be sighted in Poyan through the breeding season in 1993 (RFO, 1993 in Wells, 1999). Three birds seen at Poyan on 13 Jul. 1997 (SINAV 11-3). Two seen in an open field at Poyan, 29 Jan. 1998 (SINAV 12-1). Two at Tuas grassland by Hagen on 9 – 30 Jul. 1999. Two birds at Kranji Marsh on 15 Aug. 2001 (OBC Bull. 35). Up to four birds seen at Poyan and three seen in Kranji and Sarimbun in May. 2003 (various observers). A pair regularly seen at Poyan since 2003 (K. Chen, pers. comm.). First reported on P Tekong on 5 Mar. 2003 (OBC Bull. 38). First sighted on P Ubin on 4 May. 2005 (B. Lee, in litt.). A total of 24 birds counted on P Ubin, Nov. 2005 (LKS, in litt.).

Range. – Breeds in NE India, Myanmar, Vietnam, Malay Pen, Singapore, the Langkawi group and N Sumatra. Other ssp. in Turkmenistan, Afghanistan, Pakistan, the Indian subcontinent, Sri Lanka, W Yunnan.

Locality. – BBW, CCK, Changi, Kranji, NT Lane, Pgl, Poyan, P Ubin, Sarimbun, (Senoko), Tuas.

Habitat. – Cultivated land, marshes and wet grassland.

Breeding. – Chicks first recorded in Feb. 2003, another three chicks in Apr., May. 2003 at Poyan (several observers); two chicks seen with adults.

Materials examined. – None.

FAMILY GLAREOLIDAE

175. Oriental Pratincole

Glareola maldivarum U/WV PM

Collared Pratincole, Eastern Pratincole

Kedidi Padang, Burung Lelayang Padang

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in E Siberia, NE Mongolia, S Manchuria, China, India, Sri Lanka, S Myanmar and Thailand; migrates to India, through Malay Pen, Singapore, Sumatra, Java, Borneo, New Guinea and winters mainly in N Australia.

Locality. – Changi, (Jurong), Kadut Swamp, KB, KRP, Loyang, MacRitchie Res, MF, NS, Pgl, Poyan, SBWR, Seletar Res, (Senoko), Ser, Tampines, Tengah Air Base, W Coast, Woodlands, TM, Tuas.

Habitat. – Open country, grassland, airfields, occasionally on mudflats.

Migration. – In autumn, movement across Singapore regularly continues from Oct. through Nov., mostly numbering < 60, occasionally much larger, > 100. Overwintering records in Singapore, single-digit counts through Jan. (SINAV 3). Peak in Mar. suggests spring passage. It is very variable in numbers and location. In some years it is very common, while in others it is so scarce as to pass unnoticed; sometimes fairly plentiful in Singapore from Sep. to Nov. (G-H, 1949a, 1950). See Fig. 60.

Early and late dates. – 15 Sep. – 8 Apr.

Materials examined. – AMNH 2 (2 AA), BM 9 (5 FF, 3 MM, 1 AA), FMNH 1 (1 AA), RMBR 3 (1 FF, 1 MM, 1 AA).

176. Small Pratincole

Glareola lactea R/PM

Little Pratincole

Kedidi Padang Kecil, Burung Lelayang Kecil

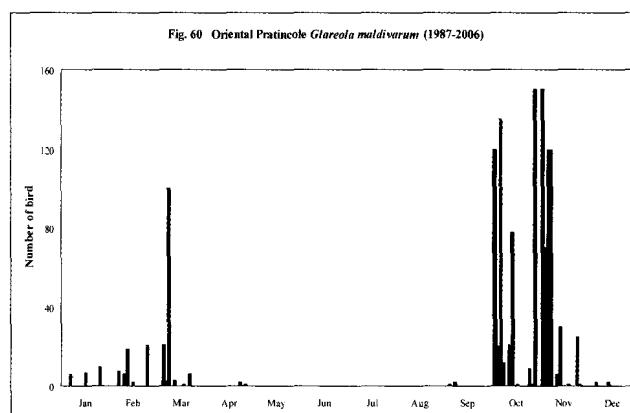


Fig. 60. Oriental Pratincole, *Glareola maldivarum* (1987 – 2006).

Status. – Rare passage migrant.

Records. – First recorded at Jurong on 16 – 23 Nov. 1964 and 1 Jan. 1965 by J. C. Darnell (Medway & Nisbet, 1965). Second record of a bird in Changi S on 8 Dec. 1987 through 24 Jan. 1988 (Wells, 1990b). Another seen on the gravel bank of a pond at Ser on 7 Jan. 1989 (SINAV 3-1). A bird at Changi C on 23 Dec. 1999 (SINAV 13).

Range. – Breeds in Afghanistan, Pakistan, India, Sri Lanka, Bangladesh, S Yunnan, Indochina to Thailand and Singapore.

Locality. – Changi, (Jurong), Ser.

Habitat. – Rivers, prawn ponds and coasts.

Early and late dates. – 16 Nov. – 24 Jan.

Materials examined. – None.

FAMILY LARIDAE

177. Brown-headed Gull

Larus brunnicephalus R/A

Camar Topeng Coklat, Burung Camar Kepala Coklat

Status. – Rare vagrant.

Records. – Recorded on 11 and 19 Nov. 1967 at the Johor Strait (Medway & Wells, 1970) and at Kranji, 22 Mar. 1986 (Hails, 1988), once on 25 Dec. 1999 (SINAV 14-1).

Range. – Breeds in C Asia; winters in the India subcontinent, Sri Lanka, S China; Indochina, Thailand, straggling to Malay Pen and Singapore.

Locality. – Kranji.

Habitat. – Open seas and coasts.

Materials examined. – None.

178. Black-headed Gull

Larus ridibundus ridibundus R/WV*Camar Topeng Hitam, Burung Camar Kepala Hitam***Status.** – Rare winter visitor.

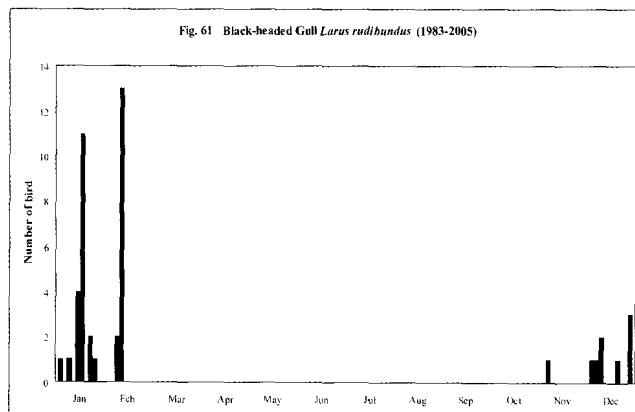
Records. – Only two specimens have been collected within the area, an Imm in winter plumage, E coast of Singapore, 16 Dec. 1925, and an Imm female, Singapore Strait, 2 Feb. 1948 by F. G. H. Allen (Boden-Kloss, 1926). The latter was shot from a party of five juveniles and two adults (G-H, 1949). A visual record was also given by H. G. Alexander of an adult seen near Singapore on 17 Jan. 1928 (in R & C, 1936). Two birds seen at Ser, 6 – 8 Dec. 1987 and one on 9 Dec. 1987 (SINAV 1). Thirteen birds, including two adults, seen off P Ubin, 15 Feb. 1992 (SINAV 5). Ten birds seen at Kranji Res on 21 Jan. 1995 and 11 birds on 29 Jan. 1995 (SINAV 9-1). One bird at Sg Mandai on 25 Dec. 1997 (SINAV 11-4), two at Kranji, 11 Jan. 1998 (SINAV 12-1) and an Imm at Mandai on 1 Jan. 1999 (SINAV 13-1). Three birds were recently seen and photographed at Kranji, 6 Dec. 2005 (T. L. Weng, in litt.); at least two were still there on 11 Dec. 2005.

Range. – Breeds throughout Palaearctic region; winters in N Africa, the Indian subcontinent, S China, N Vietnam, through SE Asia to Malay Pen, Singapore, N Borneo, a few reaching Wallacea, W Micronesia, New Guinea, Australia and the Solomon Is. Another ssp., *L. r. sibiricus*, breeds in E Siberia and winters in China, Japan and possibly the Philippines.

Locality. – Kranji, Mandai, P Ubin, Ser, Sg Seletar.

Habitat. – Mudflats, seas and coastal reservoirs, often perches on *kelongs* and buoys (L & G, 1997).

Migration. – Winters in very small numbers in the Singapore Strait (G-H, 1949). See Fig. 61.

Early and late dates. – 13 Nov. – 15 Feb.**Materials examined.** – RMBR 2 (1 Imm FF, 1 AA).Fig. 61. Black-headed Gull, *Larus ridibundus* (1983 – 2005).

179. Gull-billed Tern

Gelochelidon nilotica affinis R/WV PM*Camar Tiram, Burung Camar Ketam***Status.** – Rare winter visitor and passage migrant.

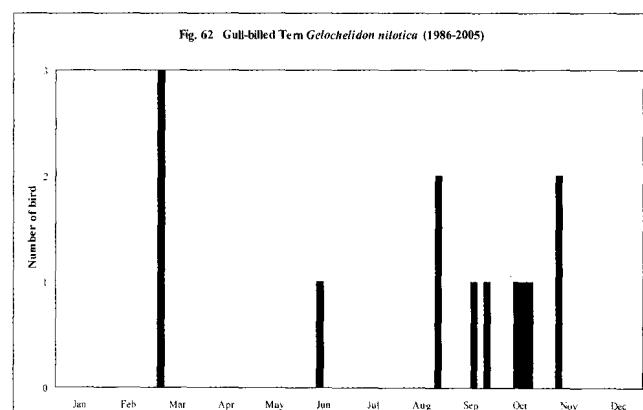
Records. – Three birds at Ser, 30 Mar. 1986 (SINAV 1). Two birds seen flying over Sg Tengah, 19 Nov. 1987 (SINAV 2). A bird in summer plumage seen off P Ubin, 12 Jun. 1988 (SINAV 3). A bird seen at Ser on 22 Oct. 1988 (SINAV 3). An adult seen at SBWR, 9 Oct. 1994 (SINAV 8-4; Iora 1). A bird seen at LH, 12 Oct. 1997 (SINAV 11-4). Two birds seen on 14 Aug. 2005 and one photographed on 17 Sep. 2005 at Changi (AN, in litt.).

Range. – Almost worldwide. Breeds in temperate regions in America, Europe, E to SW Asia; migrates to the Indian subcontinent, Sri Lanka, the Andaman Is, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines and Wallacea to N Australia.

Locality. – Changi, Johore Strait off P Ubin, LH, (Race Course Rd), SBWR, Ser, Sg Tengah.

Habitat. – Seas, coasts, ponds, rivers, mudflats.

Migration. – Recorded mostly from Sep. – Nov., except for a loner in summer plumage near P Ubin on 12 Jun. 1988 (SINAV 2) and three on 30 Mar. 1986 (SINAV 1) at Ser estuary. Small numbers fly past Singapore, perhaps out of the Malacca Strait, during mid-Aug. to mid-Sep., with a few records up to mid-Nov. (Medway & Nisbet, 1965; SINAV 1). See Fig. 62.

Early and late dates. – 14 Aug. – 12 Jun.**Materials examined.** – RMBR 1 (1 FF).Fig. 62. Gull-billed Tern, *Gelochelidon nilotica* (1986 – 2005).

180. Caspian Tern

Sterna caspia R/WV*Camar Caspian***Status.** – Rare winter visitor.

Records. – First recorded at Changi on 4 Sep. to 4 Oct. 1980 by SBBG (Wells, 1986; 1999). One bird recorded in Changi on 18 – 19 Jul. 1981 (Wells, 1990; 1990a). Individuals at Ser and PR on 5 Jan., 18 and 22 Feb., 3 Apr., 7 Sep. 1987 (Wells,

1990b). No further records until one was sighted at Mandai, 21 Oct. 2006 (Lau Jia Sheng, in litt.).

Range. – Almost worldwide distribution. Breeds from the S temperate zone to the Arctic Circle; migrates to the Caribbean, Africa, coasts of Indian Ocean, S China, SE Asia to Malay Pen and SE Sumatra.

Locality. – Changi, Mandai, PR, Ser.

Habitat. – Muddy coasts and seas.

Early and late dates. – 19 Jul. – 3 Apr.

Materials examined. – None.

181. Lesser Crested Tern

Sterna bengalensis bengalensis C/WV

Camar Berjambul Kecil

Status. – Common winter visitor.

Range. – Breeds in the Old World tropics and subtropics; from the S Mediterranean, Red Sea, Persian Gulf to N Australia, the Solomon Is and E New Guinea; migrates to NW Africa, the Indian Ocean, S Africa, the Indian subcontinent, Sri Lanka, S China, SE Asia through the Malay Pen, Singapore, Sumatra, Java and Sulawesi.

Locality. – Bedok Jetty, Changi N, Kranji, Mandai, Pgl, P Ubin, SBWR, Ser, Sg Seletar.

Habitat. – Small numbers found in coasts, estuaries and open seas.

Migration. – G-H (1948) estimated one *S. b. bengalensis* to every four *S. b. bergii*, throughout the Singapore Strait but *S. b. bengalensis* is even less common now (Hails, 1988). Specimens have been collected in Apr., May., Jul. in Singapore but there is no evidence of breeding (G-H, 1949). A party of eight at Seletar Dam on 17 Nov. 1988 included a juvenile that repeatedly begged and was fed by an adult (SINAV 2). It seems unlikely that this still-dependent bird would have made the journey from any of the known N breeding stations (Wells, 1999). See Fig. 63.

Early and late dates. – 11 Aug. – 10 Apr.

Materials examined. – RMBR 5 (4 FF, 1 MM).

182. Great Crested Tern

Sterna bergii cristata C/WV

Greater Crested Tern

Camar Berjambul Besar

Status. – Common winter visitor.

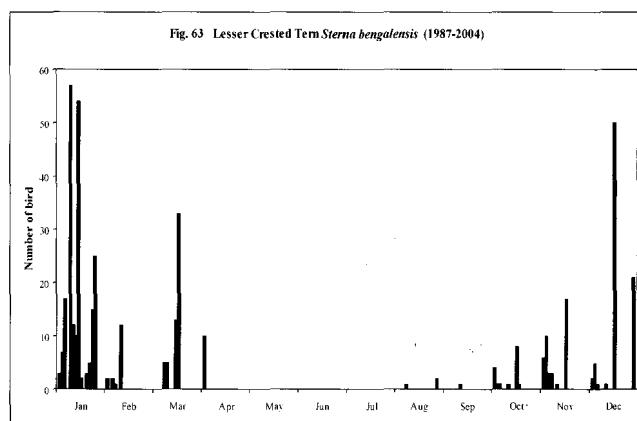


Fig. 63. Lesser Crested Tern, *Sterna bengalensis* (1987 – 2004).

Range. – Breeds in S Africa, islands and coasts of Indian Ocean, SW Asia, the Indian subcontinent and Sri Lanka, S China; SE Asia through Malay Pen, Singapore, Sumatra, Riau Arch, Borneo to Wallacea, New Guinea and Australia.

Locality. – Bedok Jetty, Changi, Kg Kitin, Mandai, Marina E, P Brani, Pgl, PR, P Tekong, P Ubin, SBWR, Ser, Sg Seletar, SJI, Johore Strait, Tuas.

Habitat. – Coasts, estuaries and seas.

Migration. – Fairly plentiful during the winter months in the Singapore Strait (G-H, 1949). Recorded in most months, but most common from Aug. to Apr. A tended, flying juvenile of presumed S China Sea origin near P Tekong, 24 Jul. 1986 (Wells, 1990b). Nearest known breeding stations are the Mergui Arch (S Myanmar) in the Andaman Sea and Terumbu Layang-Layang in the S China Sea (J & P, 1999). See Fig. 64.

Early and late dates. – 5 Jul. – 18 Jun.

Materials examined. – BM 1 (1 AA), RMBR 9 (5 FF, 2 MM, 2 AA).

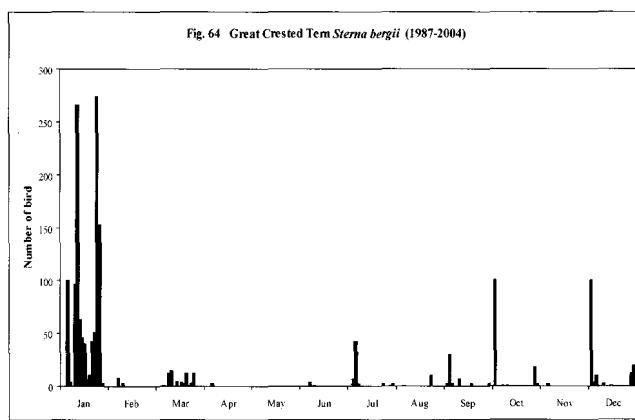


Fig. 64. Great Crested Tern, *Sterna bergii* (1987 – 2004).

183. Roseate Tern

Sterna dougallii bangsi, korustes vR/A

Camar Jambu

Status. – Very rare vagrant.

Records. – The only records are three male specimens collected from Horsburgh Lighthouse by P. de Fontaine, E end of Singapore Strait on 13 Oct. 1921 (RMBR).

Range. – *Sterna d. bangsi* breeds in Malay Pen, Sumatra, Borneo and Java. This species breeds in Africa, the Indian subcontinent, Sri Lanka, the Andaman Is, S China, to SE Asia, through Pen Thailand, Malay Pen, the Philippines, the Moluccas, New Guinea and Australia. Northern population (*S. d. korustes*) migrates and winters in the tropics.

Locality. – Horsburgh Lighthouse.

Habitat. – Predominantly found in open seas, coming to small, remote islands (Wells, 1999).

Migration. – Not known in the Singapore Strait (G-H, 1949). Small breeding colonies exist in the E coast of Malaysia and larger numbers breed on the Aroa Is, Sumatra (G-H, 1949) and birds presumably could stray into Singapore waters (Hails, 1988) although there are no recent records.

Materials examined. – RMBR 3 (3 MM).

184. Black-naped Tern

Sterna sumatrana sumatrana U/RB

Camar Tengkuk Hitam, Burung Camar Sumatera

Status. – Uncommon resident. Said to be augmented by winter visitors (G-H, 1949a); generally more common in Oct. – Apr. (Hails, 1988).

Threats. – Nationally-vulnerable, harassed by errant fisherman and photographers; estimated number 100 (Lim, 1989; 1992; Lim et al., 1994).

Range. – Malay Pen, Singapore, Sumatra, Java, Bali and Borneo. Also in the Indian Ocean, E to the Philippines, Wallacea, New Guinea, Australia and C Pacific.

Locality. – Changi, Horsburgh Lighthouse, Kusu Is, Loyang, (P Merlimau group), PR, P Tekong, P Ubin, SBWR, Sentosa, Ser, SJI, Johore Strait.

Habitat. – Coasts, rocky islets and buoys in seas, seldom near Singapore (Hails, 1988).

Breeding. – First reported by F. G. H. Allen: three pairs breeding on Squance Rock off Loyang – two of two eggs and one of three present on 12 Jul. 1949 (G-H, 1950). First confirmation of breeding since 1950s was obtained at the same locality on 28 May 1988 (SINAV 2-5), the only nesting site in Singapore. Up to 20 pairs during breeding season (Lim, 1992). Mating observed in Mar.; eggs from Mar. – Jul.; chicks in May., Jun.

Materials examined. – RMBR 11 (6 FF, 4 MM, 1 AA).

185. Common Tern

Sterna hirundo U/WV PM

Camar Siput

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in the N temperate zone; winters in C and S America, Africa, the Indian subcontinent, Sri Lanka, Pen Thailand through Malay Pen, Singapore, Sumatra, Java, Borneo, Bali, SW Philippines to Wallacea, New Guinea, N, E Australia and the Solomon Is.

Locality. – Changi, KB, Kg Kitin, P Bukom, P Salu, P Semakau, P Ubin, SBWR, Ser, Sg Seletar, Sentosa, Singapore Strait.

Habitat. – Found well out to sea while on passage (G-H, 1950) but winters inshore, including muddy coasts, estuaries and rivers.

Migration. – Numbers in Singapore are consistently low, with no winter counts > 30 (SINAV 6). See Fig. 65.

Early and late dates. – 23 Aug. – 21 Jun.

Materials examined. – None.

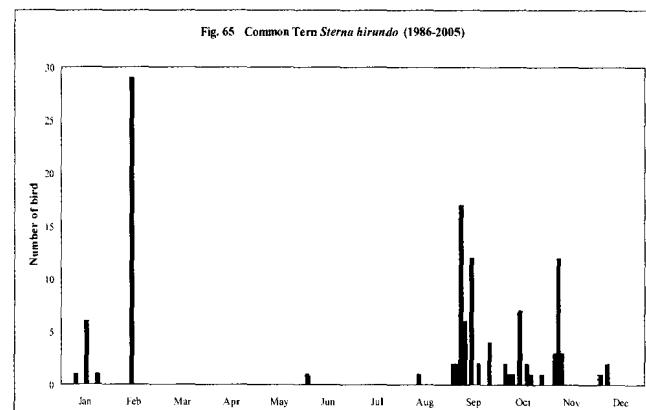


Fig. 65. Common Tern, *Sterna hirundo* (1986 – 2005).

186. Little Tern

Sterna albifrons sinensis C/RB NBV, C/WV

Camar Kecil

Status. – Common resident and non-breeding visitor. Common winter visitor, also showing evidence of through-passage.

Threats. – Nationally-vulnerable, threatened by nest site harassment and destruction (Lim, 1989) as well as reclamation (Lim, 1992). Estimated number 150 – 200 (Lim, 1989; 1992).

Records. – Not listed in Singapore by Robinson (1927), G-H (1949) and M & W (1976). Noted by B & C (1927) but omitted by G-H without explanation (Hails, 1988). First recent record as a winter visitor on 29 Oct. 1975 (Hails, 1987; Wells, 1983).

Range. – Malacca Strait, Singapore. Breeds in Africa, Eurasia, the Indian subcontinent, Sri Lanka, Japan, China, S to Borneo, Java and Bali.

Locality. – Changi, Hougang, Johore Strait, Kg Ayer Gemuroh, Kranji, Poyan, PR, P Tekong, P Ubin, SBWR, (Senoko), Sentosa, Ser, Sg Seletar, SJI, TM.

Habitat. – Winters on the coast, generally near the shore. Often found inland, also on coasts, seas, estuaries, rivers, reservoirs and sandy areas in recently-reclaimed land.

Breeding. – First recorded on 3 Jul. 1987 in Changi. Only two nesting colonies exist, in the Changi area (Lim, 1989). Eggs found in May., Jul. Chicks seen in Apr., Jun. through Sep. Imm seen in Jul. through Oct. What becomes of local breeders during winter is not clear and the status of the occasional yellow-billed (breeding-colours) bird as late as Nov., Dec. (BM; RFO) is unknown (Wells, 1999).

Migration. – Winter numbers around Singapore fairly low, with only occasional triple-digit counts [200 + off Changi, 13 Dec. (RFO, 1993 in Wells, 1999)]. Counts at Singapore and W coast sites in Malaysia suggest post-breeding passage runs from Aug. to at least early Dec. Spring passage runs from late Feb. to early May.

Early and late dates. – 4 Jul. – 19 Jun.

Materials examined. – None.

187. Aleutian Tern

Sterna aleutica R/A

Camar Aleutian

Status. – Rare vagrant. Listed as passage migrant in fair numbers (J & P, 1999); birds seen in non-breeding plumage but no details were given.

Records. – Kennerley & Ollington (1998) stated that an adult moulting into winter plumage was seen at Marina S on 15 Sep. 1994, and small numbers remained around the E coast of Labrador Point and Seletar until 6 Oct. 1994. As no descriptions were given, the record could not be considered by the Records Committee of Nature Society, Singapore (Lim, 1998b). The first accepted record was 11 birds (15 according to Kennerley & Ollington, 1998), observed between SW Singapore and Horsburgh Lighthouse, off SE Johore, 13 Oct. 1996 (SR in OBC Bull. 25; Lim, 1998b); details were submitted to LKS (Lim, 1998b) but have not been published. Five off TM, close to international waters on 4 Dec. 1997 (SR in OBC Bull. 27), without details and thus the record was unable to be confirmed.

Range. – Breeds along coasts of Sakhalin, Kamchatka, Kuril Is, NW N America; wintering grounds include Riau Arch (off E Sumatra), Hong Kong, the Philippines, SE Malaysia and Singapore.

Locality. – Near Horsburgh Lighthouse.

Habitat. – Oceans and sea coasts.

Materials examined. – None.

188. Bridled Tern

Sterna anaethetus anaethetus U/PM

Brown-winged Tern

Camar Batu

Status. – Uncommon passage migrant.

Range. – Breeds in the Caribbean, tropical Indian Ocean, SW Asia, W Indian subcontinent, S China; the Andaman Is, Vietnam, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines; Wallacea, New Guinea, Australia and the Solomon Is.

Locality. – Changi, N Is, Singapore Strait, S Is, Tuas.

Habitat. – At sea, seldom seen close to coasts except during late Apr. and early May., when the birds move N to return to their breeding grounds (G-H, 1952b). Occasional individuals, presumably strays, have been reported close to Singapore.

Migration. – Widely-distributed and at times, locally-plentiful at both ends of the Singapore Strait (G-H, 1949a; 1952b). In late Sep. likely to have been on passage (Wells, 1975) and above 90 % of terns moving E to SE through the Singapore Strait during late Jun. – late Oct. are Bridled Terns (Wells, 1999). Daily totals past Singapore remain above 300 through Sep., with close to 1,300 counted in < 2 hours, 8 Sep. Up to 80 per hour pass Sultan Shoal on 18 – 20 Sep. (Medway & Nisbet, 1965; RFO 1992; 1993 in Wells, 1999); these data are not available to the authors and hence are not represented in the histogram. Records are probably overlooked due to lack of observations out at sea. See Fig. 66.

Early and late dates. – 24 Jul. – 8 Jan.

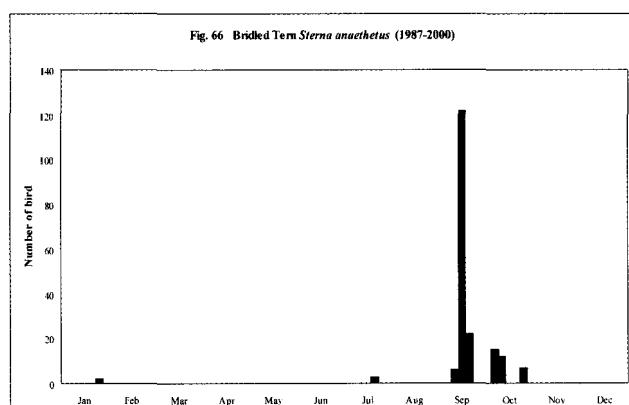


Fig. 66. Bridled Tern, *Sterna anaethetus* (1987 – 2000).

Materials examined. – RMBR 7 (3 FF, 3 MM, 1 AA). A formal record of an adult bird found dead on the beach ca. 1.6 km W of Telok Paku, at the E end of Singapore on 29 Apr. 1951 and

2 adults (1 male, 1 female) taken off the Sultan Shoal Reef on 3 May 1923 (G-H, 1952b) were not found.

189. Whiskered Tern

Chlidonias hybridus hybridus R/WV PM

Camar Bermisai, Burung Camar Tasik

Status. – Rare winter visitor and passage migrant.

Records. – First confirmed record of two adults in partial summer plumage, seen at Sg Seletar Dam on 19 Sep. 1989 (SINAV 3-9; Lim 1990). A bird seen on 15 Sep. 1990 and up to 10 birds seen at Sg Seletar Dam (SINAV 4). One bird seen off W P Ubin, 15 Feb. 1992 (SINAV 6-1). Another bird seen at Ser on 27 Sep. 1992 and 25 Oct. 1992 (SINAV 6). Two birds seen flying at LH, 6 Nov. 1994 (SINAV 8-4). An Imm seen at LH on 23 Oct. 1994, 25 Oct. 1994 and 6 Nov. 1994 (Iora 1). A bird claimed at LH in 13 Oct. 2003 (A. Low, in litt.) but no details were available.

Range. – Breeds in S Africa, across Eurasia, NE China, N Indian subcontinent, winters in the Indian subcontinent, Sri Lanka, S Japan, Taiwan, SE Asia to the Greater Sundas, Bali, the Philippines, Sulawesi and New Guinea.

Locality. – Kranji, LH, P Ubin, Ser, Sg Seletar.

Habitat. – Mudflats, marshes, coasts and at sea.

Migration. – Passage movements are largely coastal, moving as little as 2 – 3 km inland (BR 1986-87). Signs of passage migration along the Malacca Strait until at least mid-Oct. Spring return begins in the first week of Mar. (Wells, 1999). See Fig. 67.

Early and late dates. – 15 Sep. – 15 Feb.

Materials examined. – None.

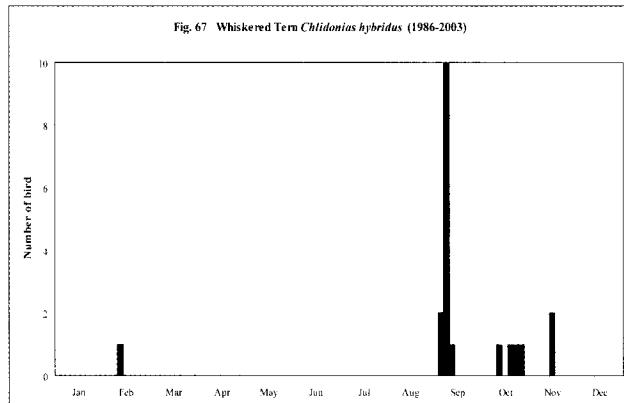


Fig. 67. Whiskered Tern, *Chlidonias hybridus* (1983 – 2003).

190. White-winged Tern

Chlidonias leucopterus grisea C/WV PM

White-winged Black Tern

Camar Hitam Sayap Putih, Burung Camar Bahu Putih

Status. – Common winter visitor and passage migrant.

Range. – Breeds in Siberia; winters through China, Myanmar, through Malay Pen (W coast), Singapore, Malacca Strait, Borneo, Java, Sulawesi, the Philippines, New Guinea and Australia.

Locality. – BSW, Changi, (CS), Johor Strait, Kranji, Mandai, Pgl, Poyan, PR, P Ubin, SBWR, (Senoko), Ser, Sg Seletar, Upper Peirce.

Habitat. – Coastal rivers, prawn ponds, canals, reservoirs and seas.

Migration. – Recorded every month. Occasionally over-summerers. Numbers have declined over the years (LKS, pers. comm.). Formerly rare vagrant in Singapore by G-H (1949a) but recorded by M & W (1976) as abundant on passage but wintering only in small numbers in Singapore. Build up of migrants is comparatively slow, with no triple-digit counts anywhere until early-mid-Oct. Numbers peak during Nov. but with no defined end-point to autumn movements. Fewer over-winter but Jan. and Mar. roosting and foraging flock counts of more than 600 and 1,000, respectively have been made in Singapore (SINAV 4; 6). See Fig. 68.

Early and late dates. – 5 Jul. – 21 Jun.

Materials examined. – RMBR 1(1 FF).

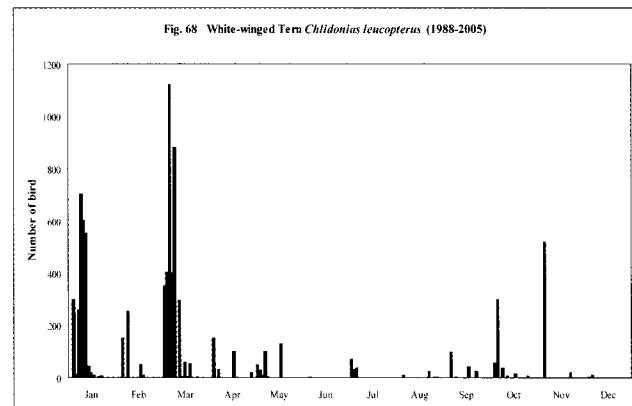


Fig. 68. White-winged Tern, *Chlidonias leucopterus* (1988 – 2005).

FAMILY ACCIPITRIDAE

191. Osprey

Pandion haliaetus haliaetus, cristatus C/WV NBV

Helang Tiram, Lang Tiram

Ssp. – Majority of the birds in Singapore belong to the typical ssp., but at least a small proportion of those reaching our area are of *P. h. cristatus* (from Australia); adult birds seen in the period May. – Sep. are most likely to be of the S ssp., *P. h. cristatus* (G-H, 1949), although its existence in Singapore is not yet proven (Hails, 1988). *Pandion haliaetus haliaetus*: fore- and hind-crown streaked dark brown; *P. h. cristatus*: head pure white, not streaked on crown.

Status. – Common winter visitor and passage migrant. Also common non-breeding visitor. CITES II.

Range. – Almost worldwide, except S America. *Pandion haliaetus* breeds in Scandinavia E to Japan and S to Mediterranean, winters in Africa, S to the Cape, the Indian subcontinent, Sri Lanka, Malay Pen, Singapore, Sumatra, Borneo. Java and the Philippines; *P. h. cristatus* breeds in Java, Bali, Sulawesi, the Philippines, E to New Guinea, Australia, the Solomons, dispersing into Malay Pen and Singapore.

Locality. – BTNR, Changi, (Jurong), KB, Kranji, Mandai, N Is, NT Rd, Pgl, Poyan, SBWR, Seaside Park, (Senoko), Ser, Sg Seletar, S Is, Tampines Pond, Tuas, Yishun coast.

Habitat. – Usually single birds seen near coasts, rivers and reservoirs.

Migration. – Recorded every month. May over-summer.

Materials examined. – None. A male collected by Kelham (1881) was not found.

192. Jerdon's Baza

Aviceda jerdoni jerdoni vR/PM

Crested Baza, Crested Lizard Hawk

Lang Baza

Status. – Very rare passage migrant. CITES II.

Records. – First record was a bird picked up at Maju Camp, 6 Dec. 2002 (WLK, per. obs.; Wang & Lim, 2003). It had probably crashed into a building and died later. Another bird has since been sighted on 23 Jan. 2004 in MCP (Tang Hung Bun, in litt.; BirdingASIA 2). On 10 Dec. 2006, two birds were observed and photographed at LCK (Melinda Chan, in litt.). Another bird was claimed at LH, 1 Jan. 2007 (various observers) but no notes were provided to confirm the sighting.

Range. – NE India, discontinuously to Himalayas, Sri Lanka, Laos, Myanmar, Thailand, N Malay Pen, Sumatra. Other ssp. in SW India, Borneo, the Philippines and Sulawesi.

Locality. – LCK, Maju Camp, MCP.

Habitat. – In Sumatra, recorded mainly in swamp forests. Typically in rainforests.

Migration. – Sedentary. Some birds, possibly juveniles, from N of range apparently disperse or migrate S into Thailand, where movements are recorded, and into Malay Pen, where the only records are in winter (del Joyo et al., 1994). The Singapore records were most likely a result of these movements.

Materials examined. – UWBM 1 (1 MM).

193. Black Baza

Aviceda leuphotes syama C/WV PM

Black-crested Baza

Helang Baza, Lang Baza Hitam

Status. – Common winter visitor and passage migrant. Formerly a scarce winter visitor, occasionally seen in small flocks (B & C, 1927; G-H, 1949a). CITES II.

Range. – Breeds in NE India, E Nepal, S China, N Thailand; winters in S India, Sri Lanka, Indochina, Pen Thailand, Malay Pen, Singapore, Sumatra. Other ssp. in Andaman Is, SW India, Sichuan, S Myanmar and W Thailand.

Locality. – Throughout Singapore, N Is and S Is: Alexandra Rd, Bedok, BT, Bt Batok, CC forest, CCK, Changi, Dairy Farm Rd, Fort Canning Park, Japanese Garden, J Kedai, (Jurong), KB, Kranji, KRP, Lor Mayang, Lor Temechut, Lower Seletar, Loyang, Mandai, MF, NT Lane, Pgl, Poyan, PR, Sarimbun, SBG, SBWR, (Senoko), Simpang, Springleaf, Tagore Woods, Tampines, TBH, (Ulu Sembawang), Xilin, Yishun.

Habitat. – Open forests, mangroves, plantations and wooded areas. They gather to roost communally.

Migration. – Parties reaching Singapore are rarely more than 30. Most of these cross the W half of Singapore, exiting for Indonesia via the S Is (Wells, 1999). See Fig. 69.

Early and late dates. – 20 Sep. – 8 Apr.

Materials examined. – RMBR 4 (2 FF, 1 MM, 1 AA), UWBM 1 (1 FF).

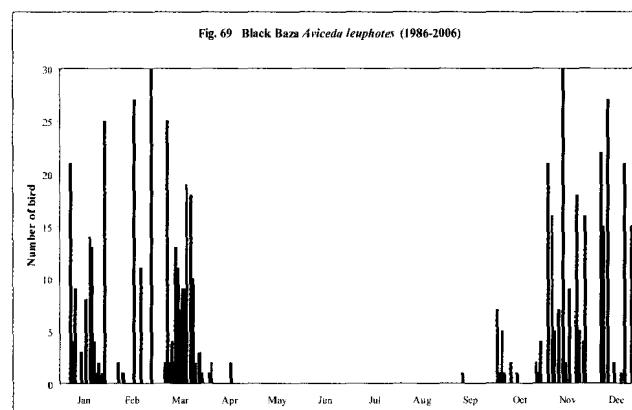


Fig. 69. Black Baza, *Aviceda leuphotes* (1986 – 2006).

194a. Oriental Honey-buzzard

Pernis ptilorhynchus torquatus U/NBV

Crested Honey-buzzard, Eurasian Honey-buzzard
Helang Lebah

Ssp. – *Pernis p. torquatus*: has long crest.

Status. – Uncommon non-breeding visitor. CITES II.

Range. – Breeds in S Indochina, Thailand, Malay Pen, Sumatra, Java and Borneo; dispersers in Singapore. Nominate ssp. in Java. Other ssp. in N and E Philippines and Palawan.

Locality. – Throughout Singapore, N Is and S Is.

Habitat. – Wooded areas.

Migration. – The resident population from Malaysia may wander to Singapore, which may account for the occasional summer records (Hails, 1988).

Materials examined. – BM 1 (1 AA), RMBR 4 (1 FF, 3 AA).

194b. Oriental Honey-buzzard

Pernis ptilorhyncus orientalis C/WV PM

Ssp. – *Pernis p. orientalis*: larger, darker and nearly crestless (Robinson, 1928). Also relatively paler than other ssp.

Status. – Common winter visitor and passage migrant. CITES II.

Range. – Breeds in Siberia, Sakhalin, N China, Manchuria, Korea and Japan; winters in S Japan, S China, Myanmar, Malay Pen, Singapore, Sumatra, Java, Borneo, Bali and the Philippines.

Locality. – Throughout Singapore, N Is and S Is.

Habitat. – Often met with on the coasts, open country and small islands (Robinson, 1928).

Migration. – Recorded in all months (Lim, 1990). May over-summer. See Fig. 70.

Early and late dates. – 10 Sep. – 22 May.

Materials examined. – BM 2 (1 FF, 1 AA), RMBR 9 (5 MM, 4 AA), UWBM 1 (1 FF).

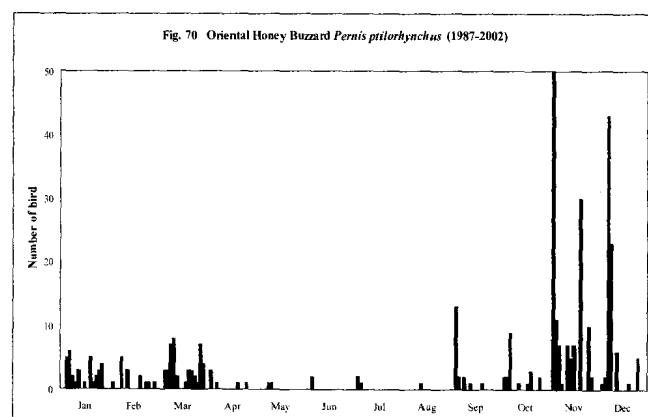


Fig. 70. Oriental Honey-buzzard, *Pernis ptilorhyncus* (1987 – 2002).

195. Bat Hawk

Macheiramphus alcinus alcinus R/NBV

Helang Malam

Status. – Rare non-breeding visitor. CITES II.

Records. – An old sight record attributed to Robinson was in fact by Boden-Kloss, in SBG in Jan. 1927 (Chasen, misc. notes in G-H, 1949). An adult female was collected on P Senang, 20 May 1951 (RMBR). No confirmed records since 1951. Several unconfirmed sight records in Tanglin, Ser, Peirce Res, Woodlands, Seletar Res, KRP, Church Street (SINAV 12-1). Wells (1999) suggested that the species is probably overlooked due to its mainly crepuscular habits. Sightings over the last 10 years suggest that a few may now be resident in Singapore in the wooded CC area, but none of the sightings since 1951 have ever confirmed. A single bird claimed to be the first confirmed record since 1950 at Chek Jawa, P Ubin on 21 Aug. 2001 and again on 22 Aug. over the adjacent islet of P Sekudu (SR in OBC Bull. 35) but no notes were given.

Range. – S Tenasserim, W Thailand, Malay Pen, Sumatra, Borneo and Sulawesi. Other ssp. in Africa and New Guinea.

Habitat. – Forests, secondary growth.

Materials examined. – RMBR 1 (1 FF).

196. Black-winged Kite

Elanus caeruleus vociferus C/RB

Black-shouldered Kite

Helang Ekor Cabang, Lang Tikus

Status. – Common resident. Formerly a scarce winter visitor (G-H, 1949a). CITES II.

Records. – Widespread but nowhere plentiful, mostly during the N autumn and winter (G-H, 1949). M & W (1976) noted that all records in Singapore have fallen in winter months, although there has been no direct observation of migration; also recorded as a winter visitor by Tweedy (1970). In the last 40 years, small numbers have settled in Singapore (Wells, 1999). A change to residency possibly assisted by the availability of large areas of cleared land awaiting development (Hails, 1988).

Range. – Africa, Pakistan, the Indian subcontinent, Sri Lanka, S China, SE Asia to Malay Pen and Singapore. Other ssp., *E. c. hypoleucus*, in Sumatra, Borneo, Java, the Philippines, the Lesser Sundas and New Guinea.

Locality. – BBW, Changi, Marina S, NT Rd, Pgl, PR, P Semakau, P Sudong, P Tekong, P Ubin, SBWR, (Senoko), Ser, Tuas, Ulu Pandan.

Habitat. – Open grassland and parks.

Breeding. – First recorded in 1986. Clutch = 3. Mating observed in Jan., Feb., Oct. Nest building observed in Feb., Mar., Apr., May. Brooding in Jan., Apr. Chicks seen in Jan., May., Sep., Dec.

Materials examined. – AMNH 1 (1 FF), RMBR 2 (2 FF), UWBM 4 (4 MM).

197. Black Kite

Milvus migrans govinda U/WV

Pariah Kite

Helang Merah, Lang Bangkai

Status. – Uncommon winter visitor. Formerly recorded as a rare vagrant (G-H, 1949a). CITES II.

Range. – Breeds in Africa, Eurasia, the Indian subcontinent, Sri Lanka, the Andamans, Japan, Korea, China, SE Asia to Indochina, Thailand, Sulawesi, New Guinea and Australia. Most N population migrates, winters throughout tropical breeding range, *M. m. govinda* in E Pakistan E through India and Sri Lanka to Indochina, Malay Pen, Singapore and Sumatra. Another ssp., *M. m. lineatus*, breeds in C and E Asia; migrates to Borneo.

Locality. – BBW, Changi, J Kayu, (Jurong), Labrador Park, Lor Buangkok, MCP, MF, N Is, Pgl, P Kusu, P Tekukor, Sarimbun, SBWR, Seletar E (Senoko), Sentosa, Ser, SJI.

Habitat. – Secondary forests, mangroves, scrub, open country. Avoids dense forests.

Migration. – See Fig. 71.

Early and late dates. – 18 Sep. – 19 May.

Materials examined. – None. A single specimen collected in Singapore in the Mt Echo Valley on 21 Oct. 1879 by Kelham (1881) was not found.

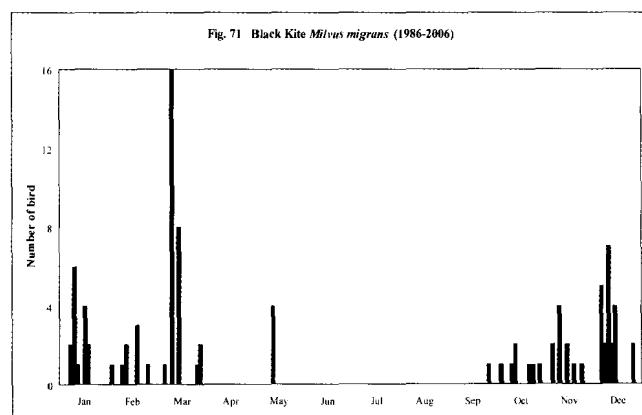


Fig. 71. Black Kite, *Milvus migrans* (1986 – 2006).

198. Brahminy Kite

Haliastur indus intermedius C/RB

Red-backed Kite

Lang Tikus, Lang Merah

Status. – Common resident. CITES II.

Range. – Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, Sulawesi, the Philippines and the Lesser Sundas. Another ssp., *H. i. indus* breeds on the Indian subcontinent, Sri Lanka, S China, Indochina, Thailand; others in Wallacea, New Guinea, the Solomons and N Australia.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Frequents coasts, reservoirs, ponds, mangroves. Also occurs inland and in urban areas.

Breeding. – First recorded by G-H (1949a). Nest building in Jan. – Mar., Oct. – Dec. Brooding in Mar. Chicks seen in Feb., Mar., May., Jun.

Materials examined. – BM 1 (1 Imm), RMBR 4 (2 FF, 2 MM), USMN 1 (1 MM), UWBM 2 (1 FF, 1 MM).

199. White-bellied Fish Eagle

Haliaeetus leucogaster C/RB

White-bellied Sea Eagle, White-breasted Sea Eagle
Lang Laut, Helang Siput

Status. – Common resident. CITES II.

Range. – India, Sri Lanka, S China, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines, E to Wallacea, New Guinea, the Solomon Is, Australian and W Pacific.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Near coasts, at sea, inland reservoirs and forested areas.

Breeding. – Suitable nesting sites on the coast have been mostly destroyed, but nesting occurs in, and adjacent to, the C forests (Hails, 1988). Mating and courtship observed in May., Dec. Nest building in Jan. – Apr., Aug., Dec. Brood seen in Jan. – Apr., Jun., Oct. Chicks seen in Jan. – May., Aug. Young birds seen in Mar., Apr., Jun.

Materials examined. – BM 1 (1 Imm MM), RMBR 3 (1 MM, 2 AA).

200. Grey-headed Fish Eagle

Ichthyophaga ichthyaetus R/RB

Grey-headed Fishing Eagle
Helang Kanguk Besar, Lang Kepala Kelabu

Status. – Rare resident. CITES II.

Threats. – Globally near-threatened/low-risk (Collar et al., 1994). Nationally-endangered, threatened by unviable population (estimated four) and competition with White-bellied Fish Eagle (Lim, 1989; 1992).

Records. – First record of an individual seen off Loyang on 15 Nov. 1949 by F. G. H. Allen (G-H, 1949). The CC area has recently held at least two pairs, with records also from one of the new coastal embayments (G-H, 1950; SINAV 2 in Wells, 1999).

Range. – India, Nepal, Sri Lanka, Myanmar, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Java, Borneo, E to the Philippines and Sulawesi.

Locality. – Mainly in the CC forest. Also recorded in BBNP, BTNR, Lenton Ave, (Loyang), Poyan Res, Rifle Range Rd, SBG, SBWR, Seletar E, Springleaf, Tg Murai, W coast.

Habitat. – Forests, reservoirs and open wooded areas. Sometimes near sea coasts and estuaries.

Breeding. – First recorded 12 Jan. 1950 in the CC, where nest building was observed in Jan. (G-H, 1950). Recent breeding recorded from Oct. – Dec. 1996 (OBC Bull. 25), although Imm have been seen earlier, in Sep., Oct. (1988, 1989). Nest building in Oct. Brooding observed in Jan., Feb., Oct. – Dec. Chicks seen in Jan. and Mar. Fledgling seen in Oct. An Imm following two adults seen in Aug.

Materials examined. – None.

201. Himalayan Griffon

Gyps himalayensis R/A

Himalayan Griffon Vulture, Himalayan Vulture
Hereng Himalaya

Status. – Accidental. CITES II.

Records. – Four birds said to have occurred in SW Singapore in Dec. 1989 but one of them taken into captivity at nearby JBP was still in Imm plumage in Mar. 1992 (Wells, 1999). Another group of nine, photographed at roost in BTNR, 12 – 14 Jan. 1992 by J. Smith and M. Strange (Iora 1). The five separate individuals photographed at roost appeared wound-free and clean. Their wing- and tail-tips, in particular, showing none of the dirt and wear expected of such big birds recently out of cages (Wells, 1999). Two exhausted birds were seen and photographed on 9 Jan. 2005, on Orchard Road (several observers). One dehydrated bird was found on reclaimed land in Changi on 23 Jan. 2006 (various observers). Another bird was picked up, dehydrated and hungry, on 29 Dec. 2006 at Ang Mo Kio (AC, in litt.). This spate of sightings is suggestive of an irruption or a range expansion of this species.

Range. – Normally sedentary resident of C Asia and Himalayas and are known only to migrate attitudinally within their breeding range.

Locality. – Ang Mo Kio BTNR, Changi, Orchard Rd.

Habitat. – Lives on mountains within its range.

Materials examined. – None.

202. Short-toed Snake Eagle

Circaetus gallicus gallicus

R/PM

Short-toed Eagle
Helang Ular

Status. – Rare passage migrant. CITES II.

Records. – First record of one along the W Coast on 31 Oct. 1979 (Wells, 1984). One at Ser, 20 Nov. 1983 (Wells, 1990). One on W Coast, 11 Dec. 1988 (SINAV 2). One flying from P Ubin to Changi on 14 Sep. 1996 (SR in OBC Bull. 25) but no notes were given. One flying N over Mt Serapong, 4 Mar. 1999 (SR in OBC Bull. 30), again no notes were given. One bird reported from SBWR on 22 Sep. 2002 (OBC Bull. 38). One seen at LH, 7 Nov. 2004 (LKS) and another at NT Lane 2 on 11 – 12 Nov. 2004 (LKC in SINAV 18-4). Most recent record of two birds soaring above a chicken farm at NT Lane 2 on 23 Oct. 2005 (LKS, in litt.). Another bird seen at Tuas W Drive on 11 Nov. 2005 (LKS, in litt.).

Range. – Breeds from S Europe across Asia to Mongolia, S to N Africa, the Indian subcontinent and in the Lesser Sundas, E to Timor. Northern populations migrate to N tropical Asia, SW Asia, the Indian subcontinent and sparsely to SE Asia.

Locality. – LH, NT Lane, SBWR, Ser, Tuas, W Coast.

Habitat. – Open wooded areas and hills.

Migration. – Movements mainly from Sep. – Dec., with a single bird recorded in Mar. See Fig. 72.

Early and late dates. – 14 Sep. – 11 Dec., 4 Mar.

Materials examined. – None.

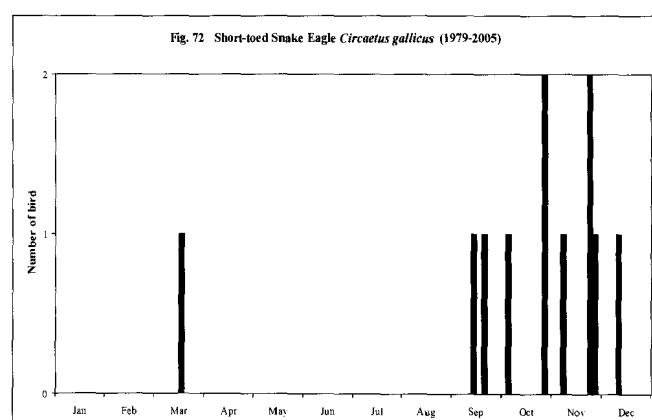


Fig. 72. Short-toed Snake Eagle, *Circaetus gallicus* (1979 – 2005).

203. Crested Serpent Eagle

Spilornis cheela bassus R/R(B)

Helang Kuik

Status. – Rare resident.

Threats. – Nationally-endangered; only two birds are now left in the CC Area (Lim, 1989; 1992). Threatened by unviable population numbers. CITES II.

Range. – S Thailand, Malay Pen, Singapore and Sumatra. Other ssp. in Borneo, N Natuna Is, Java, Bali, Bawean. Also in the lower Himalayas, Sri Lanka, the Andaman Is, SE Tibet, S China, SE Asia.

Locality. – BBNP, BTNR, CC forest, Chinese Garden, Hume Heights, Japanese Garden, (Jurong), KRP, P Tekong, P Ubin, SBG, SBWR, Seletar E, Sembawang (Senoko), Tagore Woods. Presumed wanderers have been seen at the SBG (Wells, 1990).

Habitat. – All types of forests, sometimes in more open wooded areas.

Breeding. – Not recorded although Imm are seen.

Materials examined. – BM 2 (1 FF, 1 AA), UWBM 1 (1 FF).

204. Eurasian Marsh Harrier

Circus aeruginosus aeruginosus, spilonotus
U/WV PM

Marsh Harrier, Eastern Marsh Harrier (*C. a. spilonotus*), Western Marsh Harrier (*C. a. aeruginosus*)

Helang Sawah Besar, Lang Sawah

Status. – Uncommon winter visitor and passage migrant. CITES II.

Records. – Mostly *C. a. spilonotus* recorded. Not recorded in Singapore by G-H (1949) but one specimen of doubtful provenance was collected in the 19th century (Gurney Coll. in BM); this could have been a trade skin from Penang or Malacca. Few unconfirmed records by RAFOS (Gregory, 1970) and Tweedy (1970). Probably under-recorded before. Regular sightings in the last 20 years. An Imm bird of the nominate ssp. regularly seen at Changi by various observers since 19 Nov.2005 (LKS, in litt.); still present on 1 Jan.2006 (AN, in litt.). A bird of the nominate ssp. seen at Changi, 21 Oct.2006 (various observers).

Range. – Breeds in N Africa, temperate Eurasia to Pacific Russia, N Japan, N China. Northern populations migrate through Africa, SW Asia, the Indian subcontinent, Sri Lanka, S Japan, S China and SE Asia to the Philippines, mainly N of Equator. *C. a. spilonotus* breeds in SE Siberia and Mongolia, Sakhalin, NE China and N Japan; winters in S Japan, S China to Malay Pen, Singapore, Borneo, to the Philippines; *C. a. aeruginosus* breeds in Europe and Asia E to Lake Baikal and N Mongolia; winters W Europe and S to sub-Saharan Africa.

Locality. – Changi, KB, Kranji, MacRitchie, Marina S, Marina E, N Is (L & G, 1997) NT Lane, Pgl, Poyan, Raffles Country Club, SBWR, (Senoko), Ser, Simpang, Tuas, W Coast.

Habitat. – Open country, grassland and marshes.

Migration. – Migrates alone or only temporarily in the company of other raptors (Wells, 1999). See Fig. 73.

Early and late dates. – 17 Oct. – 4 Apr.

Materials examined. – BM 1 (1 FF).

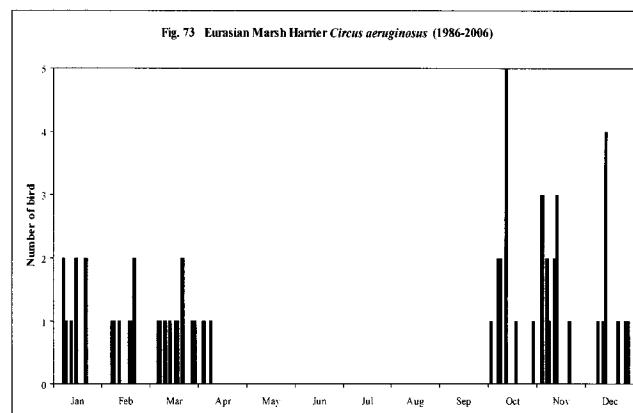


Fig. 73. Eurasian Marsh Harrier, *Circus aeruginosus* (1986 – 2006).

205. Hen Harrier

Circus cyaneus cyaneus R/WV

Northern Harrier

Helang Sawah Kelabu, Lang Paya

Status. – Rare winter visitor. CITES II.

Records. – First recorded and collected (one male) near Paya Lebar Airport on 7 Jan.1948 (G-H, 1949a). One male at Jurong prawn ponds, 3 Nov. 1963 (BR 1963). Said to be seen on a few occasions in the Tengah area by RAFOS in 1968 (Gregory, 1970). One near Poyan Res, Nov.1982 (Hails, 1988). One seen at LH in 1999. One seen there again on 4 Nov.2001 (SINAV 15-4).

Range. – Breeds throughout the Holarctic region winters in the Mediterranean, NW Africa, SW Asia, the Himalayas, SE Tibet, Indian subcontinent, Japan, S China, NE Myanmar, N Vietnam, straggling to Thailand, Malay Pen and Singapore. Another ssp. breeds in N America and winters in N S America.

Locality. – (Jurong), LH, (Paya Lebar Airport), Poyan.

Habitat. – Open country with marshes, grasslands.

Early and late dates. – 3 Nov. – 7 Jan.

Materials examined. – RMBR 1 (1 MM).

206. Pied Harrier

Circus melanoleucus R/WV

Helang Sawah Hitam-Putih, Lang Tangling

Status. – Rare winter visitor. CITES II.

Records. – First recorded and collected (1 Imm female) on 17 Dec. 1905 by H. Whistler (BM). Another specimen (one male) on 13 Nov. 1940 (G-H, 1949a). Few confirmed records since. One reportedly seen at Jurong in 1968 (Tweedy, 1970) and one at Changi on 7 Jan. 1970 (Gregory, 1970). An adult male seen at Pgl on 11 Mar. 1989 by H. Dissing (SINAV 3-1) is our first recent record. An unconfirmed sighting of an apparent subadult male at Poyan on 19 Jan. 1992 (SR in SINAV 6-1). Several winterers claimed at Tuas in 1994 – 1996 but no details were given (RFO & Loh, 1999 in Wells, in press.). One Imm at Tuas, 13 Nov. 1995 and two males at Simpang grasslands on 25 Dec. 1998 (AC, pers. comm.). One male seen on 30 Jan. 2000 at LH (SINAV 14-1). An adult male seen and photographed at Changi, 3 Dec. 2005, still there on 23 Dec. 2005 (AN, in litt.) and Jan. 2006 (A. Low, in litt.). A subadult male photographed at Changi, 23 Mar. 2006 (Cheah Weng Kwong, in litt.).

Range. – Breeds in E Asia, in Russia, S Siberia, Mongolia, China, N Korea; winters throughout E India, Sri Lanka, S China, Indochina, Thailand to Malay Pen, N Borneo and the Philippines.

Locality. – Changi, (Jurong), LH, Pgl, Simpang, Tuas.

Habitat. – Open grassland and marshes.

Migration. – See Fig. 74.

Early and late dates. – 13 Nov. – 11 Mar.

Materials examined. – BM 1 (1 FF), RMBR 1 (1 MM).

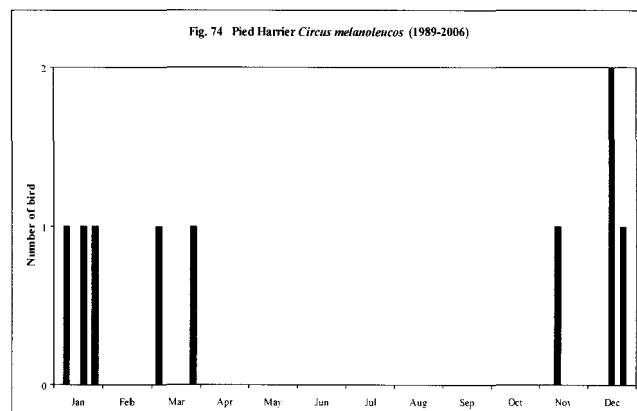


Fig. 74. Pied Harrier, *Circus melanoleucus* (1989 – 2006).

207. Crested Goshawk

Accipiter trivirgatus indicus R/RB NBV

Helang Sewah Besar, Lang Sikap

Status. – Rare resident and non-breeding visitor. CITES II.

Threats. – Nationally-endangered, estimated population levels of seven (Lim, 1992; 1994).

Records. – First recorded on 3 Nov. 1963 in Jurong by J. C. Darnell & M. A. Webster (Medway & Wells, 1964). One seen in a durian plantation at P Ubin on 23 Nov. 1986 (Wells, 1990b).

A nesting pair at SBG on 17 Jul. 1987 till 27 Mar. 1988 (R. Noske in SINAV 1-7). One seen over the beach at Changi on 1 Oct. 1987 (Wells, 1990b). Not recorded again until one was sighted at BTNR on 7 Jan. 1990 (SINAV 4-1). A bird at KRP, 4 Nov. 2001 (SINAV 15-4). One at P Ubin, 3 Jul. 2004 and one at Sg China, 27 Jul. 2004 and 13 Aug. 2004 (SINAV 18-4). A bird at Pgl, Feb. 2005 (LKS, in litt.).

Range. – India, Nepal to S China, S to Indochina, Malay Pen, Singapore. Nominate ssp. in Sumatra. Other ssp. in Sri Lanka, SW India, Taiwan, Java, Borneo, Palawan and the Philippines.

Locality. – BTNR, Changi, (Jurong), KRP, N Is, Pgl, SBG, (Senoko), Sg China, S Is, Tyersall.

Habitat. – Forests, old plantations, orchards and wooded gardens.

Breeding. – First recorded on 17 Jul. 1987 (Wells, 1990b), although the nesting failed. Another nest-building on 30 Dec. 1987 (Wells, 1990b). These are the only breeding attempts in Singapore (Hails, 1988; Lim, 1989).

Materials examined. – None.

208. Chinese Sparrowhawk

Accipiter soloensis U/WV PM

Chinese Goshawk

Helang Sewah Cina, Lang Rajawali

Status. – Uncommon winter visitor and passage migrant. CITES II.

Range. – Breeds in N China, Korea and Taiwan; migrates to the SE China, the Nicobars, Indochina, S Tenasserim, Thailand, Vietnam, Malay Pen, Singapore, Sumatra, Java, Borneo, the Philippines, Sulawesi, the Lesser Sundas, to W New Guinea.

Locality. – Ang Mo Kio, BTNR, CC forest, Changi, Hume Heights, Kranji, Labrador Park, MF, Pgl, PR, P Ubin, SBG, Seletar E, Ser, Sentosa, Sg Tengah, TBH, Woodleigh Park.

Habitat. – Small numbers found in forests, plantations and wooded areas.

Migration. – Records mainly in Oct. – Nov. and Mar. See Fig. 75.

Early and late dates. – 28 Sep. – 22 Apr.

Materials examined. – BM 1 (Imm), RMBR 1 (FF).

209. Japanese Sparrowhawk

Accipiter gularis gularis C/WV PM

Japanese Lesser Sparrow-Hawk

Helang Sewah Jepun, Lang Sewah

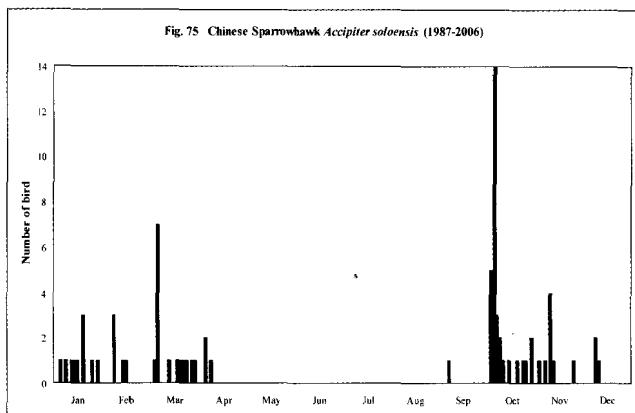


Fig. 75. Chinese Sparrowhawk, *Accipiter soloensis* (1987 – 2006).

Status. – Common winter visitor and passage migrant. CITES II.

Range. – Breeds in E Russia, SE Siberia, Japan and China; winters in Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Palawan, the Philippines and the Lesser Sundas.

Locality. – BBNP, Bedok Jetty, BTNR, CC forest, Cecil Street, Changi, (CS), Japanese Garden, KB, KRP, Marina S, MF, N Is, Padang Jeringau, Pgl, Poyan, P Semakau, P Sudong, SBWR, Sentosa, Ser, Shenton Way, Singapore Strait, SJI Tampines, Xilin.

Habitat. – Forests, plantations, orchards, gardens, parks and open country.

Migration. – The main period of S passage is from late Sep. – Dec., heaviest through Oct. and the main N passage occurs from mid-Mar. to mid – Apr. Numbers exiting via Singapore (believed to draw from both coastal plains) have not altered much since 1970s, although passage there has never been heavy (hourly counts hardly ever above double-digits) (Medway & Wells, 1964; Medway & Wells, 1965; RFO in Wells, 1999). See Fig. 76.

Early and late dates. – 25 Aug. – 25 May.

Materials examined. – AMNH 1 (FF), BM 2 (2 FF), FMNH 1 (FF), RMBR 18 (9 FF, 6 MM, 3 AA), USNM 1 (MM), UWBM 2 (1 FF, 1 MM).

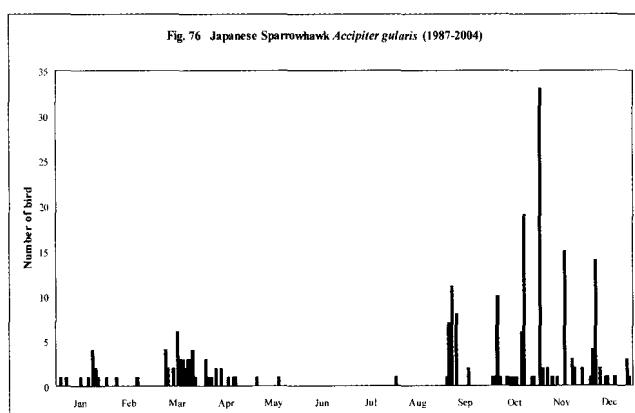


Fig. 76. Japanese Sparrowhawk, *Accipiter gularis* (1987 – 2004).

210. Besra

Accipiter virgatus nisoides R/NBV

Asiatic Lesser Sparrow-Hawk
Helang Sewah Besra

Status. – Rare non-breeding visitor. Not listed by Robinson (1928), G-H (1949), M & W (1976). CITES II.

Records. – Said to be common in Singapore during Oct. and Nov. (Kelham, 1881); probably misidentified for the Japanese Sparrowhawk. One unconfirmed record on 8 Oct. 1987 at BT (SINAV1). One female seen and netted at Tuas, on 26 Nov. 1995 by P. R. Kennerley was accepted formally as the first record for Singapore (OBC Bull. 28). One unconfirmed record at MF, 18 Dec. 1997 (OBC Bull. 27). An adult male found dead on Pan-Island Expressway, 20 Sep. 1998 (UWBM). Another bird salvaged in the last quarter of 2001. A bird reported at MacRitchie on 12 Oct. 2002 (OBC Bull. 38) cannot be confirmed due to lack of evidence. A female found dead on 31 Oct. 2002 and another female salvaged on 3 Nov. 2002, ECP.

Range. – Myanmar and Thailand, Malay Pen. Other ssp. in India, Nepal, S China, Indochina, Taiwan, Andaman Is, the Philippines, N Borneo, Sumatra, Java, Bali and the Lesser Sundas.

Locality. – BTNR, ECP, KR, MacRitchie, Tuas.

Habitat. – Secondary forest.

Migration. – Mainly sedentary but some birds from N India and Nepal may move down onto the plains in winter (del Hoyo et al., 1994). Chinese birds move to lower ground and SE (including Hainan) and into Indochina (Ferguson-Lees & Christie, 2001). The Singapore birds are most likely a result of irruptive movements in Malay Pen.

Materials examined. – UWBM 4 (4 FF).

211. Grey-faced Buzzard

Butastur indicus U/WV PM

Grey-faced Buzzard-Eagle
Helang Kepala Kelabu, Lang Belalang

Status. – Uncommon winter visitor and passage migrant. CITES II.

Range. – Breeds in Pacific Russia, S Japan, Korea and NE China; winters throughout S China, Taiwan, Indochina, Pen Thailand, Malay Pen, Singapore, Sumatra, Java, Borneo, the Philippines, the Lesser Sundas and New Guinea.

Locality. – Changi, J Kedai, KRP, P Hantu, Poyan, P Tekong, (Senoko).

Habitat. – Open grassland with scattered trees, rubber estates, forests and scrub.

Migration. – Main migratory route along Pacific coast of Japan, through Ryukyu Is to Taiwan and S to the Philippines. See Fig. 77.

Early and late dates. – 18 Oct. – 8 Mar.

Materials examined. – None. 1 formal record from Singapore, collected in 1899 (G-H, 1949a) was not found.

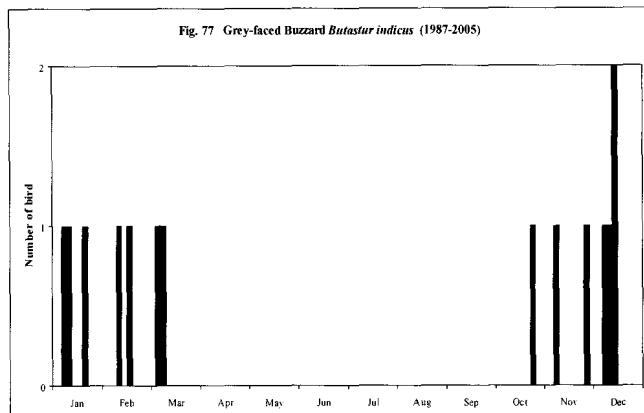


Fig. 77. Grey-faced Buzzard, *Butastur indicus* (1987 – 2005).

212. Common Buzzard

Buteo buteo U/WV

Eurasian Buzzard

Helang Gempal, Lang Utara

Status. – Uncommon winter visitor. CITES II.

Records. – First recorded in Mar. 1979 (no details given), in Hume Heights by H. A. Buck, 27 Dec. 1982 (no notes available) and singles at 2 Jan. 1983 at Hume Heights and Ser on 20 Nov. 1983 (Hails, 1988; Wells, 1990). Regular at Changi Coast Rd since 2001.

Range. – Breeds across Eurasia from the N Atlantic Is to Sakhalin and Japan, the Himalayas, NE China; migrates to E Africa, SW Asia, the Indian subcontinent, Sri Lanka, Japan, Korea, S China, Indochina, Thailand, Malay Pen, Singapore, straggling to Luzon, the Greater Sundas and Bali.

Locality. – BT Turf Club, Bumbon Woods, Changi, Eng Neo Ave, Hougang, Hume Heights, Linden Drive, Lor Buangkok, Marina E, Marina S, Marine Parade, Pgl, P Tekong, P Ubin, Sentosa, Ser, Sg Seletar, SJI, Xilin.

Habitat. – Open marsh, open wooded areas and grassland.

Migration. – Birds over the S Is of Singapore in Nov. to early Dec. (SINAV 1, 4) imply some onward movement may also be routed via Riau (Wells, 1999). See Fig. 78.

Early and late dates. – 18 Oct. – 18 Apr.

Materials examined. – AMNH 1 (1 AA), RMBR 1 (1 AA).

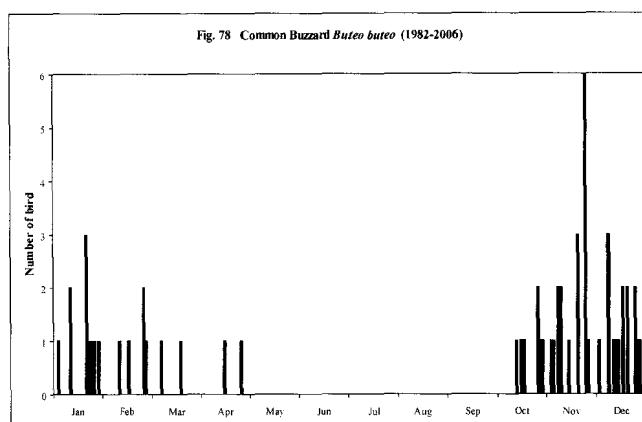


Fig. 78. Common Buzzard, *Buteo buteo* (1982 – 2006).

213. Greater Spotted Eagle

Aquila clanga R/WV

Helang Bintik, Lang Berbintik

Status. – Rare winter visitor. Globally-vulnerable (Collar et al., 1994). CITES II.

Records. – First recorded as an Imm specimen purchased by Chasen (1939) in autumn 1936, although not listed by G-H (1949). No confirmed records until an Imm seen at Tg Murai, 11 Nov. 1978, three birds there on 18 Nov. and four on 16 Dec. 1978, staying till after 24 Feb. 1979 (Wells, 1984). Another bird seen at the same site on 10 Nov. 1979 (SBBG in Wells, 1984). Not recorded every year.

Range. – Breeds from E Europe to Russia, N China, N Indian subcontinent; winters in N Africa, S Europe, Indian subcontinent, S China, SE Asia to SE Sumatra.

Locality. – (CS), Kranji, Marina S, MF, NS Camp, Pgl, Ser, SBWR, Seletar, (Senoko), Sentosa, Tg Murai, Yishun, Tuas.

Habitat. – Open wooded areas, marshes and grassland.

Migration. – See Fig. 79.

Early and late dates. – 19 Oct. – 2 Apr.

Materials examined. – RMBR 1 (1 AA).

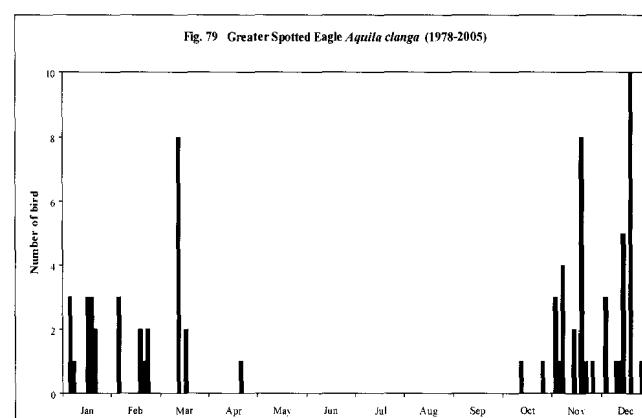
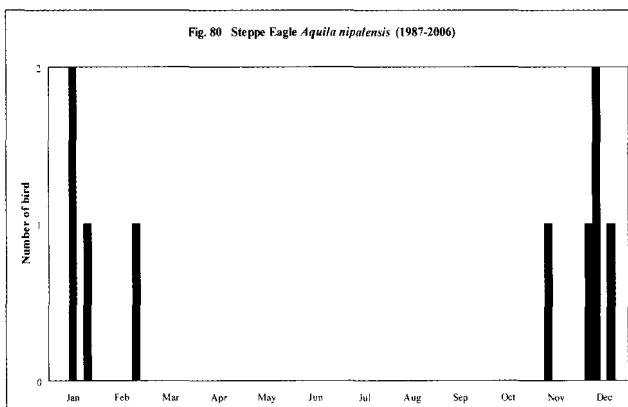


Fig. 79. Greater Spotted Eagle, *Aquila clanga* (1978 – 2005).

214. Steppe Eagle*Aquila nipalensis nipalensis* R/WV*Helang Padang, Lang Gurun***Status.** – Rare winter visitor. CITES II.

Records. – First recorded (an Imm photographed in flight by RFO) at Pgl on 25 Dec. 1987 (Wells, 1990b). Second record of one Imm at Pgl on 15 Nov. through 3 Dec. 1989 (Lim 1990; SINAV 3). Up to two birds seen at the same place from 5 Dec. 1989 through 30 Jan. 1990. One Imm on migration over Tuas, 1 Nov. 1992 (SINAV 6-4). A subadult, first reported in Dec. 1998 (RFO) seen at Ser on 1 Jan. 1999 and a younger bird in the same area on 9 Feb. 1999 (OBC Bull. 30). An Imm photographed at LH, 28 Feb. 1999 (SINAV 13-1).

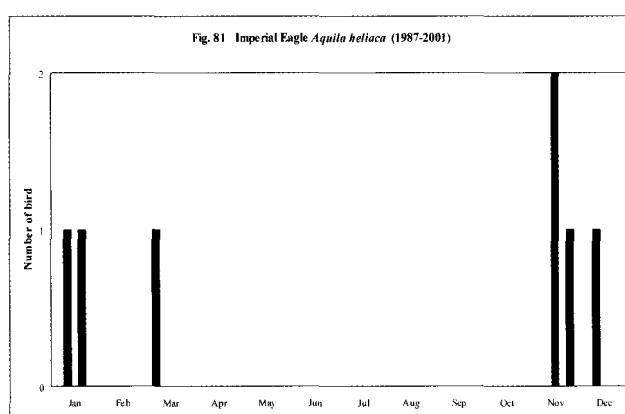
Range. – Breeds in Tibet E to Manchuria; winters in India, China, W SE Asia to Malay Pen and Singapore. Another ssp. breeds in temperate Eurasia, winters in Middle E, Arabia and Africa.

Locality. – Changi, LH, Pgl, Ser, Tuas.**Habitat.** – Open wooded areas and grassland.**Migration.** – See Fig. 80.**Early and late dates.** – 15 Nov. – 28 Feb.**Materials examined.** – None.Fig. 80. Steppe Eagle, *Aquila nipalensis* (1987 – 2006).**215. Imperial Eagle***Aquila heliaca* R/WV*Eastern Imperial Eagle**Helang Tengkuk Kuning, Lang Padang***Status.** – Rare winter visitor. Globally-vulnerable (Collar et al., 2001). CITES I.

Records. – First recorded and photographed on 1 Mar. 1987 at Pgl by RFO (BR 1986-87). A few subsequent sightings in Pgl: one confirmed record of a subadult on 1 – 2 Jan., and 29 Jan. 1989; another Imm seen on 9, 16 – 17 Dec. 1989 (SINAV 3-

1). One in flight at Pgl, 3 – 4 Nov., 18 Nov. 1990 (SINAV 4). One adult was also claimed in CS on 25 Nov. 1990 (RFO in SINAV 4) but was unconfirmed due to lack of notes. One seen and photographed at TM in Nov. 2001 (AC, in litt.).

Range. – Breeds in C Europe, E Mediterranean to China and Baikal; migrates to NE Africa, SW Asia, N India, C and SE China, throughout SE Asia as far as Malay Pen and Singapore.

Locality. – Pgl, TM.**Habitat.** – Grassland and open country.**Migration.** – See Fig. 81.**Early and late dates.** – 3 Nov. – 1 Mar.**Materials examined.** – None.Fig. 81. Imperial Eagle, *Aquila heliaca* (1987 – 2001).**216. Booted Eagle***Hieraetus pennatus pennatus* R/PM*Booted Hawk Eagle**Helang Junam, Lang Tegap***Status.** – Rare passage migrant. CITES II.

Records. – There were mounted specimens from 1879 (Hume Coll. in G-H, 1949a); one female specimen from Jan. 1889; no details available. Ridley (1898) observed two birds fighting in SBG but no dates were given. A female was collected in Singapore on 3 Mar. 1905 (RMBR). First recent sighting: one on the S coast of Johore flying toward Singapore 6 Nov. 1980 (Wells, 1986: this record was made in Johore, not Singapore). One seen by LKS over TBH and by RFO on MF, on 10 Nov. 1990 (SINAV 4). One, probably the same bird seen at TBH on 9 Dec. 1990 (SINAV 4). Two were seen at LH on 22 – 23 Jan. 2000 (SINAV 14-1). A single bird was claimed at Tuas on 26 Mar. 2001 (OBC Bull. 34), no notes given. A single bird at Ser on 24 and 30 Dec. 2001 (SR in OBC Bull. 35), no notes were given. One bird reported at NT on 2 Mar. 2003 (OBC Bull. 38), no notes given. Another probable dark morph was seen at BTNR, 15 Feb. 2004 (SINAV 18-1) but cannot be confirmed due to lack of notes. One record of a pale morph bird at Sembawang Park, 2 Oct. 2004 (SINAV 18-4) also cannot be confirmed due to lack of detailed notes.

Range. – Breeds in SW Europe, across C Asia, N Africa, N India; migrates S to NE Africa, India, Sri Lanka, W SE Asia to Myanmar, W Coast of Malay Pen and S to Singapore.

Locality. – LH, MF, NT, (SBG), TBH, Tuas.

Habitat. – Open wooded areas.

Early and late dates. – 6 Nov. – 23 Jan.

Materials examined. – RMBR 1 (1 FF).

217. Rufous-bellied Eagle

Hieraetus kienerii formosus R/WV PM

Rufous-bellied Hawk Eagle

Helang Perut Merah, Lang Rimba

Status. – Rare winter visitor and passage migrant. CITES II.

Records. – Occasionally turns up in Singapore (B & C, 1927); a female was collected on 4 May. 1925 (RMBR). No further records until 24 Nov. 1982, when one seen soaring with migrating raptors over Sentosa and an adult at MF, 20 Apr. 1983 (Wells, 1990). A bird seen over the former World Trade Centre, 27 Mar. 1984 (Wells, 1990a). A bird seen over MF, 23 Oct. 1986 (Wells, 1990b). An Imm was seen migrating northwards over KR on 6 Feb. 1998 (Iora 1). One Imm soaring over Sime Rd, 11 Mar. 2000 (SINAV 14-1). Another Imm was seen at Bt Kallang, 3 Aug. 2002 (SINAV 16-3). An Imm seen at LH, 13 Oct. 2003 (A. Low, in litt.) and BBNP, 30 Nov. 2003 (YDL, in litt.). A subadult at BBNP, 20 Nov. 2004 and another at Pgl, 27 Dec. 2004 (SINAV 18-4). One Imm seen above the quarry pond at BBNP, 23 Oct. 2005 (Singapore Bird Race 2005). A bird seen at Sime Rd on 30 Jan. 2006. (A. Low, in litt.). A bird photographed at LH on 21 Oct. 2006 and an Imm seen at Sime Forest, 28 Oct. 2006 (Lau Jia Sheng, in litt.).

Range. – Myanmar, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, the Lesser Sundas and the Philippines. Nominate ssp. in India and Sri Lanka.

Locality. – BBNP, Bt Kallang, (Changi), Hume Heights, KRP, LH, MF, Pgl, Sentosa, Sime Rd, (World Trade Centre).

Habitat. – Open wooded areas and hills.

Migration. – Mainly sedentary but migrants reported in Malay Pen (del Hoyo et al., 1994). See Fig. 82.

Early and late dates. – 3 Aug. – 4 May.

Materials examined. – BM 2 (1 FF, 1 AA), RMBR 2 (1 FF, 1 AA).

218. Changeable Hawk Eagle

Spizaetus cirrhatus limnaeetus U/RB

Lang Hindek

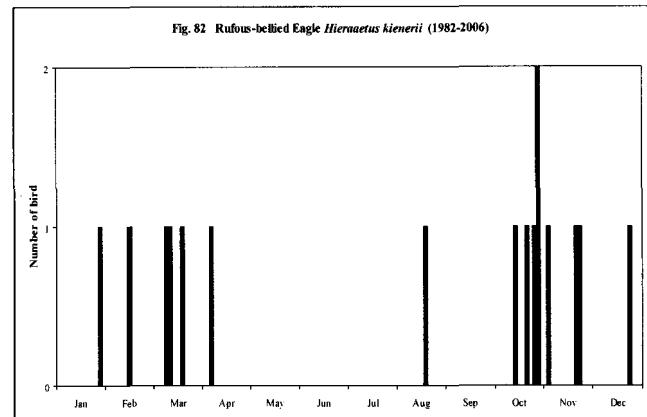


Fig. 82. Rufous-bellied Eagle, *Hieraetus kienerii* (1982 – 2006).

Status. – Uncommon resident. CITES II.

Threats. – Nationally-threatened (Lim, 1989; 1992), estimated population of 12. Its decline is probably due to habitat loss (L & G, 1997).

Range. – N India, Nepal through Myanmar, Indochina, Malay Pen, Singapore, Sumatra, Java, Borneo and the Philippines. Other ssp. in the Sri Lanka, the Indian subcontinent, the Andaman Is and the Lesser Sundas.

Locality. – BBNP, Bt Kallang, BTNR, CC forest, CCK, Changi, KRP, Mandai Rd, MF, Marina S, NT Lane, Pgl, Poyan, P Berani (M & W, 1976), PR, P Tekong, P Ubin, Rifle Range Rd, SBG, SBWR, Seletar E, Sembawang, Sg China, Tampines Pond, TM, Tyersall Woods.

Habitat. – Forests, woodlands, plantations and cultivated areas and also in open country.

Breeding. – Nesting recorded by Ridley in SBG (1898) but appears not to have been used for nine years (G-H, 1950). No nesting reported until late 1990s. Chicks observed in Mar.

Materials examined. – BM 5 (1 FF, 4 AA), FMNH 1 (1 MM), RMBR 4 (1 FF, 2 MM, 1 AA), UWBM 1 (1 MM).

219. Blyth's Hawk Eagle

Spizaetus alboniger vR/NBV

Helang Hinduk Gunung, Lang Hantu

Status. – Very rare non-breeding visitor. Most likely from heavily-forested country in Malaysia, mostly in the highlands. Imm wander widely and have occasionally been seen in Singapore (Robinson, 1928; G-H, 1949a; RAFOS 1968).

Records. – Two birds were collected in the 19th century, including one on 29 Nov. 1877 (Gurney Coll. and Hume Coll., BM). Chasen (1939) wrote that he had seen one to two caught in Singapore but no details were available. A female specimen was “purchased in the flesh” in Singapore on 4 Feb. 1936 (RMBR). No recent record until a subadult was seen at KRP, on 27 Dec. 2000 through 28 Jan. 2001 (AC in SINAV 15-1). An

adult and a subadult were seen at KRP on 13 Jan.2001 (SINAV 15-1). An adult reported from MF, 3 Feb.2003 (OBC Bull. 38).

Range. – S Tenasserim, Thailand, Malay Pen, Singapore, Sumatra and N Borneo.

Locality. – KRP, MF.

Habitat. – In Malaysia, found in hill and montane forests.

Materials examined. – BM 2 (1 FF, 1 AA), RMBR 1 (1 FF).

FAMILY FALCONIDAE

220. Black-thighed Falconet

Microhierax fringillarius vR/NBV

Common Falconet, Malay Falconet
Helang Rajawali, Lang Belakang

Status. – Very rare non-breeding visitor. Former resident in small numbers (B & C, 1927).

Threats. – Plentiful in the last century and up to 1950s (Kelham 1881; G-H, 1949). Nationally-endangered due to unviable population and habitat loss or disturbance (Lim, 1989; 1992). CITES II.

Records. – Several records from Singapore mentioned in the late 1960s (RAFOS 1968; 1970; Tweedy, 1970). Recent records, including one Imm, were all from the farming area around J Ulu Sembawang (11 Oct.1979, 2 Oct.1983, 1 Dec.1983, 12 Apr.1986), the area has since been developed (Lim, 1992). A chance sighting of a solitary adult (confirmed) in the CC forest on 7 Oct.1990 (SINAV 4-4) seemed suggestive of an undiscovered remnant population but was most likely a vagrant from Johore as its one-day presence indicates. One unconfirmed record of a bird seen flying over Sime Rd on 26 Jun. 1992 (SR in SINAV 6-2). An unconfirmed sighting over Loyang, 25 Oct.1992 (SINAV 6-4). Most recently seen on 23 Oct.2005, at the quarry pond in BBNP during a bird race (various observers) and again on 27 Nov.2005 (LKS, in litt.).

Range. – S Tenasserim, S Thailand, Malay Pen, Singapore, Sumatra, Java and Borneo.

Locality. – BBNP, CC forest, (Seletar, Ulu Sembawang).

Habitat. – Open country, forests and forest edges.

Materials examined. – BM 7 (4 FF, 1 MM, 2 AA), RMBR 9 (3 FF, 5 MM, 1 AA), USMN 1 (1 MM).

221. Lesser Kestrel *Falco naumanni* R/A

Helang Kestrel

Status. – Rare vagrant. CITES II.

Records. – First confirmed record on 4 Jan.2001 (SR, RFO in OBC Bull. 34). Two birds, including one male, were seen at Changi Coast Rd, 5 Jan.2001 (AC in SINAV 15-1). Three to four birds were reportedly seen, of which one male was again confirmed, with the rest possibly females, 6 Jan.2001, while the male was video-recorded, 7 Jan.2001 (Ng Soon Chye). Four birds were reported, with a male seen, 19 Jan.2001 (E. Hagen), the male was seen again on 25 Jan.2001 (Wu E. H.). Another sighting of a male and possibly two females on 28 Jan.2001 (SINAV 15-1). Four birds seen at Changi International Airport on 18 Feb.2001 (LKC & SR in OBC Bull. 34). Subsequently, following a storm, a pair was seen on top of a block of flats at Simei on 16 Mar.2001 (SR).

Range. – Breeds in SW Europe and N Africa, Asia Minor to Mongolia and N China; winters in Africa S of Sahara and S Asia.

Locality. – Changi.

Habitat. – Open areas.

Migration. – A mainly trans-Saharan migrant, most birds migrating to S Africa.

Materials examined. – None.

222. Common Kestrel

Falco tinnunculus interstinctus R/WV

Eurasian Kestrel

Helang Kestrel, Burung Falko Padang

Status. – Rare winter visitor. CITES II.

Records. – Occurs regularly but in small numbers during the winter months (G-H, 1949). Up to two birds seen on 6 Nov. – 6 Dec.1994 at Tuas (SINAV 8-4; Iora 1). One seen on 29 Jan.1995 at Tuas (SINAV 9). One seen recently at TM on 15 Jul.2000 was probably an escapee, as a strap was seen tied a round one of its legs (SINAV 14-3). An unconfirmed female at Changi Coast Rd, 7 Jan.2001 (SINAV 15-1). A female seen on 26 Oct.2003, 25 Nov.2003 (SINAV 17-4) and photographed on 30 Nov.2003, Changi (Chan Kim Cheng, in litt.). A female seen at Changi, 15 – 16 Oct.2004 (SINAV 18-4). An Imm reported at Changi on 25 Dec.2005 and 2 Jan.2006 (AN, in litt.). A bird seen at BBW, 29 Oct.2006 (Wing Chong, in litt.).

Range. – Breeds in Tibet E through N Indochina and S, C China to Korea and Japan; winters in India, Indochina, Malay Pen, N Sumatra, N Borneo and the Philippines. Other ssp. in Africa, Europe, Middle-East E to Siberia and Russia.

Locality. – BBW, Changi, (Gentle Rd, Jurong), KRP, Seletar, Ser, Tengah, TM, Tuas.

Habitat. – Open country and grassland.

Migration. – Usually one to two records annually, mostly Nov. to Feb. See Fig. 83.

Early and late dates. – 16 Oct. – 16 Apr.

Materials examined. – USMN 1 (1 AA).

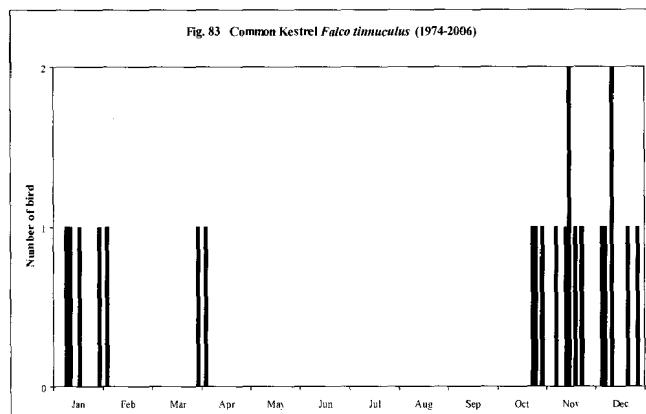


Fig. 83. Common Kestrel, *Falco tinnuculus* (1974 – 2006).

223. Oriental Hobby

Falco severus R/A

Indian Hobby, Burmese Hobby

Status. – Rare vagrant.

Records. – First confirmed record of an Imm photographed at P Ubin Jetty on 14 Jul. 2002 and seen hunting there on 19 Jul. 2002 (SINAV 16-3). Another bird seen on P Ubin, 28 Oct. 2005 (LKS, in litt.); record was unconfirmed.

Range. – Indo-Malayan: India, SE Asia, Malay Pen, Indonesia to the Philippines, Papua New Guinea and NW Melanesia.

Locality. – P Ubin.

Habitat. – Open country.

Migration. – Himalayan population winters in W and SW India; populations elsewhere are regarded as sedentary but odd records in Sumatra and Borneo perhaps suggest that some also move S in winter, perhaps from SE China (Ferguson-Lees & Christie, 2001); this might also account for the two birds in Singapore.

Materials examined. – None.

224. Peregrine Falcon

Falco peregrinus japonensis U/WV PM

Helang Peregrine, Burung Falco Peregrin

Status. – Uncommon winter visitor and passage migrant. CITES I.

Range. – Almost worldwide distribution. Breeds in W Siberia to Kamchatka; migrates to N Africa, Sri Lanka, Indochina, Thailand, Malay Pen, Singapore and Sumatra. A resident ssp.,

F. p. ernesti, is found in Malaysia, Sumatra, Borneo, Java, Bali and the Philippines to New Guinea.

Locality. – BBNP, BTNR, CC forest, Cecil Rd, Changi, Farrer Rd, KB, Kranji, Labrador, LH, Marina S, Nicholl Highway, Pgl, PR, P Ubin, SBWR, Seaside Park, Sembawang, (Senoko), Sentosa, Ser, Sg Mandai, Shenton Way, Simpang, TM, Tuas, Woodlands, Yishun.

Habitat. – Coastal areas, open wooded areas and open country.

Migration. – See Fig. 84.

Early and late dates. – 7 Aug. – 25 May.

Materials examined. – BM 1 (1 FF), RMBR 3 (2 FF, 1 MM).

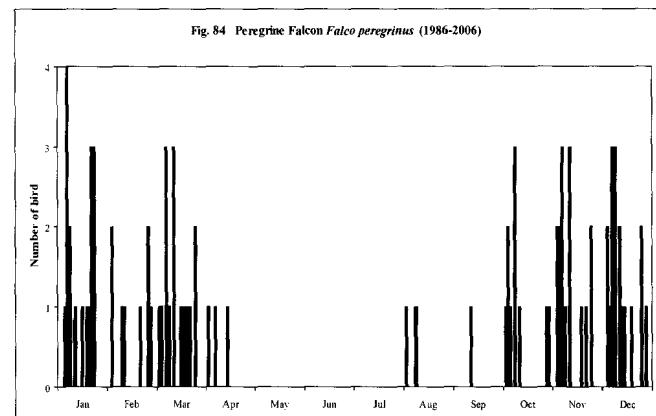


Fig. 84. Peregrine Falcon, *Falco peregrinus* (1986 – 2006).

FAMILY PODICIPEDIDAE

225. Little Grebe

Tachybaptus ruficollis poggei U/RB

Dabchick

Grebe Kecil, Burung Gerib Kecil

Status. – Uncommon resident.

Records. – Not recorded in Singapore by G-H (1949) who recorded it as a rare vagrant on P Pisang, in the Malacca Strait in Jan. 1934. Malaysian populations probably spread from Thailand (Wells, 1999), where birds have been identified as *T. r. poggei* (Deignan, 1963 in Wells, 1999). First recorded in Pgl in late Dec. 1992 (Wells, 1999). Established in LH in May 1994. Numbers have declined since the mid-1990s and in Dec. 2004, only two birds were counted (SINAV 18-4).

Range. – Japan, Taiwan, Hainan, Pen Thailand, Malay Pen, Sumatra, Borneo. Other ssp. in Europe, Africa, the Philippines, Sulawesi, Java, Lesser Sundas and New Guinea to the Solomon Is.

Locality. – Confined to LH, (Pgl, NT Rd, Tampines).

Habitat. – Ponds, shallow pools and still waters. Avoids brackish water (L & G, 1997).

Breeding. – First recorded in Oct. 1994. Nest building in Jun., Dec. Brooding observed in Jan., Feb. Chicks seen in Feb., Oct., Jun., Nov. Imm in Jul., Oct.

Materials examined. – None.

FAMILY SULIDAE

226. Brown Booby

Sula leucogaster plotus vR/NBV

Brown Gannet

Burung Dendang Laut, Angsa Laut

Status. – Very rare non-breeding visitor. Presumably dispersing from the nearest surviving colonies on P Perak in the Malacca Strait, or Swallow Reef in the S China Sea (Hails, 1988).

Records. – A male collected by A. d'Cotta at 18 Apr. 1905, Horsburgh Lighthouse (RMBR). Sight records in 1948 (G-H, 1949); 1982 (P. Bristow in British Armed Forces) but no details are available. No further records.

Range. – Malay Pen, Sumatra, Borneo, NW Borneo, Java, Christmas Is and Cocos-Keeling Is. The nominate ssp. is found in the Atlantic Ocean and breeds on isolated Is. Other ssp. in NE and CE Pacific.

Locality. – Horsburgh Lighthouse.

Habitat. – Open seas and islands. Seldom approaches the shallow-shored mainland (G-H, 1949).

Materials examined. – RMBR 1 (1 MM). Specimens collected in 1878 (Hume & Davison in G-H, 1949a) were not found.

FAMILY ARDEIDAE

227. Little Egret

Egretta garzetta garzetta, nigripes C/WV PM

Bangau Kecil

Ssp. – Mostly *E. g. garzetta* (toes and lowest part of the tarsus yellow) but some *E. g. nigripes* (black feet) are also recorded.

Status. – Common winter visitor and passage migrant.

Range. – Breeds throughout S Europe, S Asia to China, Japan, Korea, the Indian subcontinent, Sri Lanka, Myanmar, Vietnam, Thailand and Malay Pen, Java, Bali and Borneo. Some populations of both hemispheres migrate: *E. g. garzetta* in Malay Pen, Singapore, Sumatra, Borneo and the Philippines; *E. g. nigripes* in Java, Bali, Kangean Is, Cocos-Keeling Is and sparingly in Singapore. Other ssp. in Africa, New Guinea and Australia.

Locality. – Changi, (CS, Jurong), KB, Kranji, LH, Marina E, Marina S, Pgl, PR, P Seletar, P Ubin, SBWR, (Senoko), Ser, Sg Pandan, Sg Seletar, TM, Ulu Pandan, Yishun.

Habitat. – Found in mudflats, estuaries, ponds, mangroves, canals.

Migration. – Recorded all year round. Mainly Sep. – Apr. Usually a few over-summer. See Fig. 85.

Materials examined. – UWBM 1 (1 MM).

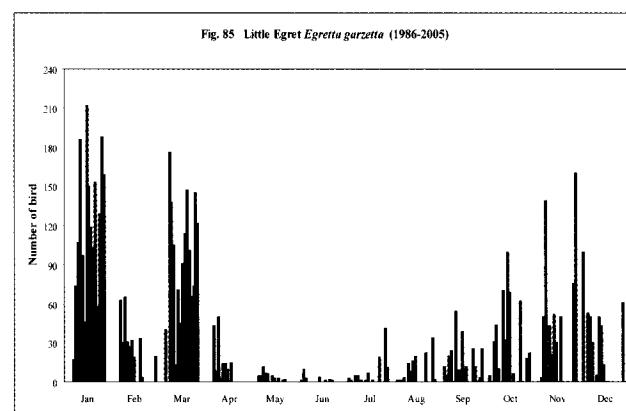


Fig. 85. Little Egret, *Egretta garzetta* (1986 – 2005).

228. Chinese Egret

Egretta eulophotes U/WV

Swinhoe's Egret

Bangau Cina

Status. – Uncommon winter visitor. Globally-threatened (Collar et al., 1994).

Records. – First recorded (one collected) at Seletar Airbase on 29 Sep. 1940 (G-H, 1949a). One seen on 17 Oct. 1992 at P Ubin, banded as a chick on 6 Jul. 1990 in Sin-Do, Korea (Mundkur, 1993 in Wells, 1999).

Range. – Breeds in N temperate zone in China, Korea; winters mainly in the Philippines (Palawan, Luzon and Bohol), also in Malay Pen, Singapore, SE Sumatra, SW Java, Borneo and Sulawesi.

Locality. – Changi, (Jurong), KB, Kranji, PR, P Tekong, P Ubin, SBWR, Seletar, Ser, TM, W Coast.

Habitat. – Prefers tidal mudflats and seaward mangroves (L & G, 1997); occasionally in prawn ponds

Migration. – See Fig. 86.

Early and late dates. – 24 Sep. – 21 May.

Materials examined. – None.

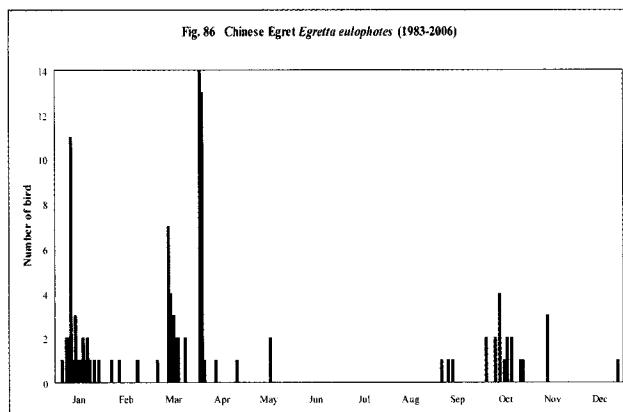


Fig. 86. Chinese Egret, *Egretta eulophotes* (1983 – 2006).

229. Pacific Reef Egret

Egretta sacra sacra U/RB

Reef Egret, Eastern Reef Egret
Bangau Batu, Pucung Batu

Status. – Uncommon resident.

Range. – Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines to Australia and W Pacific. Also in the Andaman Is, Nicobar Is, S China, Japan and Indochina. Another ssp. in New Caledonia.

Locality. – BT canal, KB, Changi, Gilman track, (Jurong), Kranji, Loyang, Marina E, N Is, Pgl, PR, SBWR, Ser, Sg Pandan, Sg Seletar, S Is, Ulu Pandan, Yishun, WCP, (World Trade Centre).

Habitat. – Found mostly on reef flats of rocky islands, sandy shores, occasionally on mudflats, estuaries, ponds, mangroves and canals.

Breeding. – A nest in a tree with at least one whitish chick on 20 May 1992 on P Bukom may be the first proof of nesting for this species but unfortunately it was not confirmed (SINAV 6-2). Four more nests were tentatively assigned to this species when discovered on an islet off P Bukom on 15 Jun 1992; one had three chicks in it (CB in SINAV 6-2). A nest with three chicks seen at P Bukom on 15 Aug 1992 was also not confirmed but most likely to belongs to this species. Several adults were seen on the island that day (SINAV 6-3). First confirmed record of a nest at Anak Bukom herony, on 26 Apr 1998 (Ollington et al., 1999 in Wells, in press).

Materials examined. – RMBR 3 (2 FF, 1 MM).

230. Grey Heron

Ardea cinerea jouyi C/RB

Pucung Seriap

Status. – Common resident. Formerly recorded as an occasional visitor (G-H, 1949a).

Threats. – Nationally-vulnerable due to loss of nesting sites because of direct site clearance (Lim, 1992) and human disturbance.

Records. – Formerly found only in small numbers until a small colony was established at Kranji marshes in 1983. A Mar. 1989 count of 107 birds represented a significant real increase in Singapore; irregular before the late 1970s (Wells, 1999). An island-wide survey in May 2003 and Sep 2003 yielded 117 birds and 331 birds, respectively (Wang, 2003; 2004). The largest herony of over 100 nests remains in a relatively undisturbed area in Seletar Camp but the adults were being culled regularly at the nearby airbase due to risks of airplane bird strikes. A small and constant colony has been established in a country club in TM but its future is at risk due to expanding road development. Another small colony was re-established at the former Kranji site; 15 nests were found on 5 Feb. 2004 (SINAV 18). A recent count in Oct. 2005 at the Seletar herony estimated about 200 nests and 400 birds (Tan K. H., in litt.).

Range. – The Indian subcontinent, Yunnan, China, Korea, E Siberia, Japan, Myanmar, Vietnam, Thailand, Malay Pen, Singapore, Sumatra, Java and Borneo and the Philippines. Other ssp. in most parts of the Palaearctic, Africa and Madagascar.

Locality. – BBW, Changi, Chinese Garden, Japanese Garden, (Jurong), KB, Kranji, LCK, Lower Seletar Dam, Mandai, MCP, N Is, Pandan Res, Pgl, PR, P Seletar, SBWR, Seletar Airbase, Sembawang, (Senoko), Ser, Simpang, S Is, Tengah Airbase, TM, Turut Track.

Habitat. – Marshes, mangroves, mudflats, estuaries and other coastal areas.

Breeding. – First recorded in 1983. Breeds throughout the year. Nest building observed in Mar., Aug., Nov. Brooding observed in Jan., Feb., Mar., Jul., Oct., Nov. Chicks seen in Feb., Apr. Imm seen in Jul., Aug.

Materials examined. – RMBR 1 (1 FF), UWBM 4 (1 FF, 3 MM).

231. Great-billed Heron

Ardea sumatrana sumatrana R/RB

Dusky Grey Heron, Sumatran Heron
Pucung Lembu, Burung Lembu

Status. – Rare resident.

Threats. – Globally near-threatened (Collar et al., 1994) but dropped from the list in 2001 (Collar et al., 2001). Nationally-endangered (Lim, 1992; 1994). Currently low wild population, estimated at no more than 20 in the widely-dispersed S Is, which are not only unprotected and disturbed (Lim, 1989) but many have been designated to become landfills, holiday resorts, petrochemical refinery plants and military training areas.

Records. – First recorded in Changi where a juvenile was caught (Ridley, 1906); recently at Sg Loyang on 7 Nov. 1976 (Wells, 1983) and P Tekong (first recorded 23 Apr. 1994).

Range. – S Myanmar, Thailand, S Vietnam to Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines, the Moluccas and New Guinea. Another ssp. in N Australia.

Locality. – Mainly in S Is, especially P Hantu, Salu, Semakau and Sudong. Occasionally seen on mainland: Changi, Keppel Harbour, Kranji, KRP, Labrador, P Ubin, Sarimbun, SBWR, Sg Pandan, Tuas, W Coast.

Habitat. – Confined to reef flats and mangroves of offshore islands, occasionally seen on the coasts of Singapore.

Breeding. – First recorded on 14 Apr. 1978 on P Bukom (D. M. Simpson in Wells, 1984) although a young bird was caught in 1906. Not known to breed on other islands. Courtship observed in Jun., Nov. Nest building in Jun. and Jul. Brood observed in Sep. Chicks seen in Apr.

Materials examined. – RMBR 1 (1 MM), UWBM 1 (1 FF).

232. Purple Heron

Ardea purpurea manilensis C/RB

Pucung Serandau

Status. – Common resident. Formerly a scarce winter visitor (G-H, 1949; 1949a). It has been assumed, but not proven, that the winter population contains migrants (Hails, 1988).

Records. – Several winter records, particularly in the Jurong mangrove area by RAFOS (Gregory, 1970). Formerly more widespread than Grey Heron (L & G, 1997). A island-wide count of 222 birds in Singapore, 26 Mar. 1989 (SINAV 3) is believed to have reflected new local nesting success (Wells, 1999). However recent surveys have shown a great decline in numbers (AWC; ABC; Wang, 2003; 2004) due to loss of nesting grounds and human disturbance. The largest heronry consisting of more than 100 Purple Heron nests was constantly disturbed at SBWR until the colony was abandoned completely in 2000. Since then, only small colonies of a few nests were observed in Singapore, including a new colony of nests at Kranji, 5 Feb. 2004 (SINAV 18).

Range. – Malay Pen, Singapore, Sumatra, Borneo, Java, Bali and the Philippines. Other ssp. in Europe, Africa, the Indian subcontinent, Sri Lanka, Manchuria, China, Korea, Indochina, Thailand, the Lesser Sundas. Northern populations migrate, reaching as far S as Malay Pen.

Locality. – CC Res, Chinese Garden, Japanese Garden, J Bahar, (Jurong), KB, Kranji, KRP, LH, Lor Asrama, Lower Seletar Dam, Marina E, Marina S, MCP, NT Rd, Pandan Res, Pgl, Poyan, PR, P Ubin, SBG, SBWR, Sembawang Park, (Senoko), Sentosa, Ser, Sg China, Sime Rd, Springleaf, Tengah Airbase, Turut Track, Ulu Pandan.

Habitat. – Mangroves, marshes, ponds, mudflats, estuaries, grasslands, fields and canals.

Breeding. – First recorded on 3 Apr. 1976 in Ser mangroves (Wells, 1983), although two Imm were seen on 15 Dec. 1963 at Jurong prawn ponds (Medway & Wells, 1964) and one specimen of a juvenile collected from Singapore dated 1940 in the RMBR (Wells, 1999). Chicks to fledging: at least 74 days. Nest building seen in Jan. – May., Sep., Nov., Dec. Eggs seen in Apr. Chicks seen in Jan. – Sep., Dec. Imm seen in Mar., Apr., May., Jul., Aug., Sep.

Materials examined. – RMBR 2 (1 FF, 1 MM), UWBM 1 (1 MM).

233. Great Egret

Casmerodius albus modesta C/WV

Large Egret, Great White Heron
Bangau Besar

Status. – Common winter visitor.

Range. – Breeds in tropical China, Japan, the Indian subcontinent, Sri Lanka, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines, Sulawesi to New Guinea, Australia and New Zealand. Northern populations migrate, to equatorial SE Asia. Other ssp. in Americas, Africa, Eurasia.

Locality. – Chinese Garden, Japanese Garden, (Jurong), KB, Kranji, Lower Seletar Dam, Marina S, NT Lane, Pandan Res, Pgl, Poyan, PR, P Ubin, SBWR, (Senoko), Ser, Sg Seletar, Sime Rd.

Habitat. – Mangroves, mudflats, estuaries, rivers and prawn ponds.

Migration. – Recorded all year round. A few birds over-summer every year. See Fig. 87.

Materials examined. – RMBR 1 (1 FF).

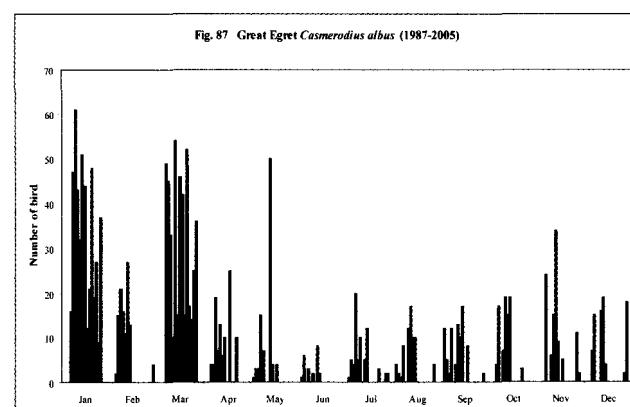


Fig. 87. Great Egret, *Casmerodius albus* (1987 – 2005).

234. Intermediate Egret

Mesophoyx intermedia intermedia U/WV

Plumed Egret

Bangau Kendi, Bangau Kerbau

Status. – Uncommon winter visitor. Not recorded by G-H (1949a).

Records. – First record uncertain, but some of the earlier records include: one to two birds made seen at Jurong, 9–10 Nov., 25–27 Dec. 1963 (Medway & Wells, 1964) and one to two birds from Jan. to early Apr. and from Sep. to Dec. 1964 (Medway & Nisbet, 1965).

Range. – Breeds on the Indian subcontinent, Sri Lanka, Indochina, S China, Japan, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines and Sulawesi. Other ssp. in Africa, New Guinea and Australia.

Locality. – BSW, Changi, Coney Is, (Jurong), KB, Kranji, Marina S, NT Lane, Pgl, Poyan, PR, SBWR, (Senoko), Ser, TM.

Habitat. – Marshes, mangroves, prawn ponds, mudflats and estuaries.

Migration. – May–Aug. records from Singapore indicate some individuals may over-summer. See Fig. 88.

Early and late dates. – 5 Jul. – 26 May.

Materials examined. – None.

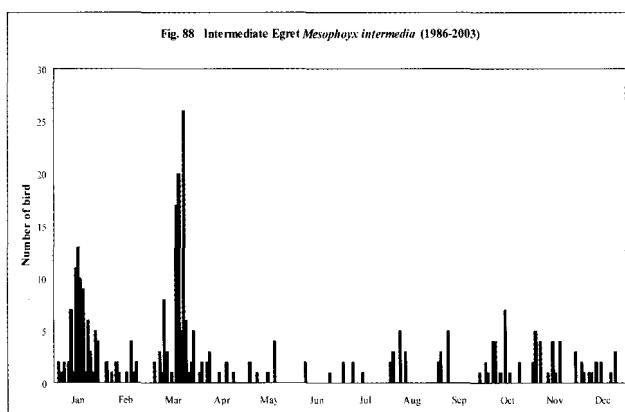


Fig. 88. Intermediate Egret, *Mesophoyx intermedia* (1986–2003).

235. Cattle Egret

Bubulcus ibis coromandus C/WV PM*Bangau Kerbau, Bangau Kendi*

Status. – Common winter visitor and passage migrant.

Records. – Free-flying birds from the JBP are often seen in W Singapore and are spreading rapidly throughout the country. These free-flying birds are also breeding freely in large numbers (over 230 nests counted in 2003 in Wang, 2003) in

the compounds of JBP, slowly establishing its status as a feral species. It is now almost impossible to tell the migratory population from the introduced free-flyers (LKS, pers. comm.).

Range. – The Indian subcontinent, Sri Lanka, the Andaman Is, China, E Siberia, Korea, Japan, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, Sulawesi, the Philippines and the Moluccas. Northern populations migrate to equatorial SE Asia. Other ssp. in Africa, Europe, Americas.

Locality. – Throughout Singapore: in Kranji, Marina S, New Changi Rd, Poyan, PR, P Ubin, SBWR, (Senoko), Ser, Sg Seletar, W Coast, Pgl. Free-flyers mainly seen in the western part of Singapore, near JBP: Chinese Garden, J Bahar, Jurong, towards the centre of the island, including SBG, BT.

Habitat. – Grassland, fields, mangroves, marshes, ponds, canals; rarely on mudflats.

Early and late dates. – 4 Sep. – 21 Apr. (from old data)

Materials examined. – RMBR 1 (1 MM), UWBM 1 (1 MM).

236. Chinese Pond Heron

Ardeola bacchus U/WV*Pucung Cina, Burung Tampong Bajau*

Status. – Uncommon winter visitor.

Range. – Breeds from Manchuria, SE Tibet, E China, Japan, W to the Indian subcontinent, E Indochina to S Vietnam, Pen Thailand, migrates to the Andamans, Malay Pen, Singapore, Sumatra and Borneo.

Locality. – BSW, BT Rd, CCK, Changi, Chinese Garden, (CS), Commonwealth Sewage Works, (Jurong), Kranji, KRP, Labrador, LH, Loyang, MacRitchie Res, Mandai Lake Rd, Marina S, Normanton Park, NT Lane, Pgl, Poyan, P Tekong, SBWR, (Senoko), Sentosa, Ser, Sg Seletar, Tg Rhu, WCP.

Habitat. – Waterlogged grassland, freshwater and brackish ponds, mangroves, marshes.

Migration. – See Fig. 89.

Early and late dates. – 15 Sep. – 19 May.

Materials examined. – RMBR 2 (2 AA).

237. Striated Heron

Butorides striatus javanicus, amurensis C/RB, R/WV

Little Green Heron, Little Heron, Green-backed Heron, Mangrove Heron

Pucung Keladi, Pucung Bakau

Ssp. – *Butorides s. javanicus*: wing length: 156–180 mm (M & W, 1976); *B. s. amurensis*: larger with long scapulars, darker

and greener (Delacour, 1947); wing length 194–214 mm (M & W, 1976).

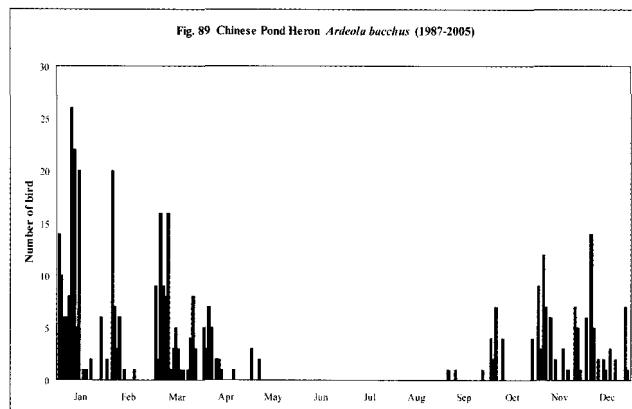


Fig. 89. Chinese Pond Heron, *Ardeola bacchus* (1987–2005).

Status. – Common resident and rare winter visitor.

Range. – *Butorides s. javanicus*: Myanmar, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Sulawesi and the Philippines. Other ssp. in Africa, America, the Indian subcontinent, Sri Lanka, S China, New Guinea and Australia. *B. s. amurensis* breeds in Manchuria E to Sakhalin, S to S China, Korea, Amurland and Japan; migrates S to S China to Sumatra and the Philippines.

Locality. – Throughout Singapore, N Is, S Is in suitable habitats: KB, Kranji, Labrador, Loyang, Mandai, Pgl, Poyan, PR, SBG, SBWR, (Senoko), Ser, Sg Seletar, TM, WCP.

Habitat. – Most frequent in mangroves, prawn ponds, mudflats, estuaries, coasts, drainage canals, rivers, less frequent in inland reservoirs and streams.

Breeding. – Nest building and brooding observed in Jan. Eggs seen in Aug. Chicks found in Mar., Apr., May. Imm seen in Aug.

Migration. – A male ascribable to the N ssp., *B. s. amurensis* was taken at Katong, Singapore on 14 Jan. 1921 (RMBR). An unusual, close-packed flock of 40 birds flying along the shore of Kranji, Singapore, 26 Dec. 1982 (BR 1982-83) may have been on passage (Wells, 1999).

Materials examined. – *Butorides s. javanicus*: RMBR 17 (7 FF, 9 MM, 1 AA), USMN 1 (1 MM), UWBM 2 (1 MM, 1 AA); *B. s. amurensis*: RMBR 1 (1 MM).

Note. – Migrant birds were not separated from the resident ssp. and thus no migration records were available.

238. Black-crowned Night Heron

Nycticorax nycticorax nycticorax U/RB

Common Night Heron

Pucung Kuak

Status. – Uncommon resident. Formerly a rare vagrant to Singapore (G-H, 1949a).

Threats. – Nationally-threatened and endangered (Lim, 1994), due to loss of nesting sites and pesticide poisoning (Lim, 1992).

Records. – First record an Imm male shot at Pgl on 13 Dec. 1915 (R & C, 1936). Known from only two records before Apr. 1975, but numbers increased in late 1970s at Ser; maximum count of 103 flying at dusk on 15 Apr. 1983 (Well, 1990). This population shifted further E following reclamation works: up to 200 seen passing Senoko at dusk and 100 roosting there during the day on Aug. 1986 (LKS and LKC in Hails, 1988). Disturbance moved them on but some have since started re-visiting and are thought to be nesting at one or more alternative sites (Wells, 1999). Today, the largest colony is established within the compounds of JBP [> 135 nests counted in May. 2003 (Wang, 2003)], consisting of free-flyers and possibly wild birds.

Range. – Malay Pen, Singapore, Borneo and Java. Almost worldwide distribution, except Wallacea and Australia.

Locality. – Bedok Res, BSW, Chinese Garden, (CS), Geylang, Japanese Garden, Jurong, KB, Kranji, KRP, Lakeside, LH, Lower Peirce, MacRitchie Res, Marina E, Marina S, Marine Parade, Pgl, PR, Prince George's Park, P Ubin, SBG, SBWR, (Senoko), Ser, Sg Seletar, Sg Simpang, Sime Rd, TM, Tuas, WCP, Yishun.

Habitat. – Mainly in mangroves, estuaries, prawn ponds, reservoirs, canals and rivers.

Breeding. – The first Imm bird recorded was on 19 Dec. 1974 by SBSG (Hails, 1988). The first colony (of at least 300 nests) was discovered in the Yishun mangroves in 1988. Nest building observed in Mar. through Jul., Nov. Chicks seen in Jan., Mar., May. – Sep. and Nov. Imm seen year round except in Jun. and Oct. Free-flying birds released by JBP are freely nesting in the compounds throughout the year and are hard to differentiate from wild birds.

Materials examined. – RMBR 1 (1 MM), UWBM 3 (1 FF, 2 MM).

239. Malayan Night Heron

Gorsachius melanolophus R/WV PM

Tiger Bittern, Malayan Bittern

Pucung Harimau, Burung Pucong Rimau

Status. – Rare passage migrant and winter visitor.

Records. – Irregularly seen in the CC forest: an Imm near MacRitchie Res, 28 May. 1984 (Well, 1990a), several reports on Oct. 1986 (Wells, 1990b), an Imm at Peirce Pipeline on 7 Mar. 1987 (SINAV 1-3), an adult at Sime on 5 Apr. 1987, and an Imm at NS on 10 Apr. 1987 (SINAV 1-4) and an adult at Sime

on 2 Jan. 1988 (SINAV 2-1). One adult at NS on 16 Oct. 1989 (SINAV 2-10). One seen at MacRitchie Res on 7 Dec. 1989 (SINAV 3-12). One Imm seen and photographed at Sime Rd, throughout Jan. 1994; another adult at KRP on 5 Dec. 1994 (SINAV 8; Iora 1). One claimed at SJI on 28 Apr. 1995 (Ollington & Loh, 1995 in Wells, in press). One bird found weak, unable to fly on 12 Dec. 1995 and donated to JBP. One adult at BTNR, 29 Jan. 2000 and 28 Feb. 2000 (SINAV 14-1).

Range. – SW India, S China, Indochina, to the Philippines, the Nicobars, Myanmar, Thailand; migrates to Sri Lanka, Malay Pen, Singapore, Sumatra, Java and Borneo.

Locality. – Mainly in CC forest, also seen in BTNR, (Changi), KRP, SJI, Tyersall.

Habitat. – Forest edges and streams, wooded hills, ponds.

Migration. – See Fig. 90.

Early and late dates. – 11 Oct. – 28 May.

Materials examined. – None. A female specimen collected by Kelham (1883) near Changi was not found.

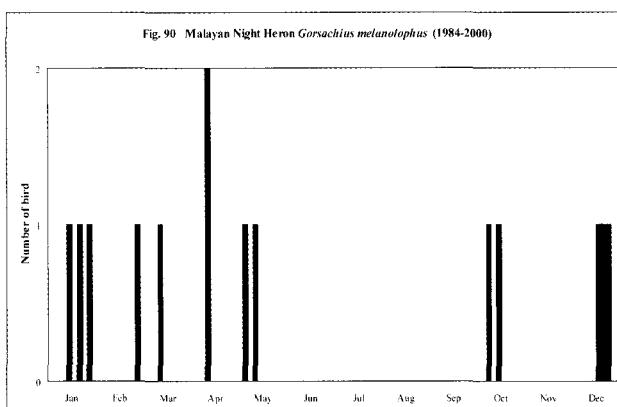


Fig. 90. Malayan Night Heron, *Gorsachius melanolophus* (1984 – 2000).

240. Yellow Bittern

Ixobrychus sinensis C/RB WV

Chinese Least Bittern, Chinese Little Bittern
Pucung Kuning, Burung Pucong Merah

Status. – Common resident and winter visitor. Formerly recorded only as a winter visitor in small numbers (R & C, 1936; Delacour, 1947; G-H, 1949; 1949a), less common than *I. cinnamomeus* (Kelham, 1883). Numbers have declined since the 1990s.

Range. – SE Siberia, Japan, China, the Indian subcontinent, Myanmar, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali to the Philippines and Sulawesi. Northern populations are migratory, wintering in part of the breeding range and on to Wallacea and New Guinea.

Locality. – Bedok, (Jurong), KB, Kranji, LH, MacRitchie Res, Marina E, Marina S, NT Lane, Pgl, Poyan, P Tekong, P Ubin, SBG, SBWR, Sentosa, Ser, Sg Seletar, WCP.

Habitat. – Marshes, wet grasslands, reed beds, ponds and reservoirs.

Breeding. – First recorded on 22 Jun. 1986 (nest and young found). Imm found in Apr., Nov.

Materials examined. – AMNH 1 (1 MM), RMBR 2 (1 MM, 1 AA), USMN 1 (1 FF), UWBM 5 (4 FF, 1 MM).

241. von Schrenck's Bittern

Ixobrychus eurhythmus U/WV PM

Schrenck's Bittern

Pucung Gelam

Status. – Uncommon winter visitor and passage migrant. Globally near-threatened/low-risk (Collar et al., 1994).

Records. – First recorded on 14 Feb. 1976 at Telok Paku (Wells, 1983), although two were claimed to be captured and ringed by RAFOS (Gregory, 1970).

Range. – Breeds in SE Siberia, Manchuria, China, Japan; migrates to S China, Indochina, Malay Pen, Singapore, Sumatra, Borneo, Java, Sulawesi and the Philippines.

Locality. – Bedok, BT, CC forest, Chai Chee, Kranji, Loyang, Marina E, Marina S, PR, P Semakau, P Tekong, P Ubin, Sarimbun, SBWR, (Senoko), Ser, Teluk Paku.

Habitat. – Mangroves, reservoir edges, mixed scrub, grassland, ponds, marshes and forested streams.

Migration. – Main passage in Oct. – Dec. and returns in Mar. See Fig. 91.

Early and late dates. – 15 Oct.–21 Jun.

Materials examined. – AMNH 1 (1 MM), RMBR 2 (1 FF, 1 MM), UWBM 6 (4 FF, 2 MM).

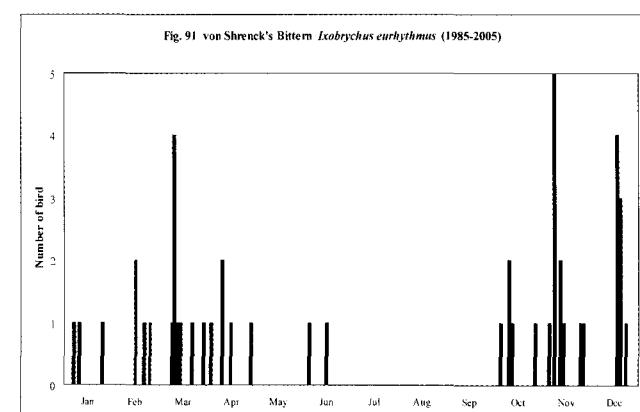


Fig. 91. von Schrenck's Bittern, *Ixobrychus eurhythmus* (1985 – 2005).

242. Cinnamon Bittern

Ixobrychus cinnamomeus C/R(B) WV

Chestnut Bittern
Pucung Bendang

Status. – Common resident and rare winter visitor. Numbers have decreased since 1990s.

Range. – The Indian subcontinent, Sri Lanka, the Andaman Is, Myanmar, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines and Sulawesi.

Locality. – Bt Brown, Changi, (Jurong), KR, Kranji, MacRitchie Res, Marina E, Marina S, NT Rd, Pandan Gardens, Pgl, Poyan, P Semakau, P Tekong, P Ubin, SBWR, (Senoko), Sentosa, Ser, Sg Seletar, Simpang, (Tampines), TM, WCP.

Habitat. – Mangroves, freshwater marshes, ponds, reed beds and grassland.

Breeding. – Breeding assumed although the nest was not found (B & C, 1927; G-H, 1949a). Spittle (MS notes) reports a nest with eggs found in Bt Sembawang estate, near Changi; information from E. K. Allin; date unknown. Imm seen in May.

Migration. – It is possible that the resident numbers are augmented during Nov. – Mar. by migrants from the N (though not proven), though the route followed is not by sea as birds were never obtained at the lighthouses or on the small islands in the Malacca Strait (Robinson, 1927; G-H, 1949a). Observations and netting results at Sg Way (Selangor) have shown that the sedentary breeding population is augmented by winter visitors from Oct. at least through Jan. (M & W, 1976). It is assumed that some visitors may reach Singapore, although not proven (Hails, 1988). Northern populations spend non-breeding season S of their breeding range, passes through Malay Pen in Sep.–Nov. and Feb.–May (del Hoyo et al., 1992).

Materials examined. – AMNH 4 (2 FF, 2 MM), RMBR 9 (3 FF, 5 MM, 1 Imm), UWBM 7 (4 FF, 3 MM).

243. Black Bittern

Dupetor flavicollis flavicollis U/WV PM

Pucung Hitam

Status. – Uncommon winter visitor and passage migrant.

Range. – Pakistan, the Indian subcontinent, Sri Lanka, S China, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines and Sulawesi. Northern population migrates to equatorial SE Asia. Other ssp. in the Lesser Sundas, New Guinea, the Solomon Is and Australia.

Locality. – Bedok Res, Changi, Chinese Garden, Commonwealth Ave, (CS, Jurong), Kranji, KRP, Loyang, MacRitchie Res, Marina S, NT Lane, Pgl, P Tekong, SBWR,

(Senoko), Sentosa (Ollington et al., 1999 in Wells, in press), Ser, Sg Seletar, Sime Rd, Tampines, WCP, Yishun.

Habitat. – Grassy areas, freshwater ponds, forest streams, marshes, reed beds and occasionally in mangroves.

Migration. – May over-summer. See Fig. 92.

Early and late dates. – 25 Oct. – 24 Jun.

Materials examined. – AMNH 2 (1 MM, 1 AA), RMBR 4 (4 FF), UWBM 6 (1 FF, 5 MM).

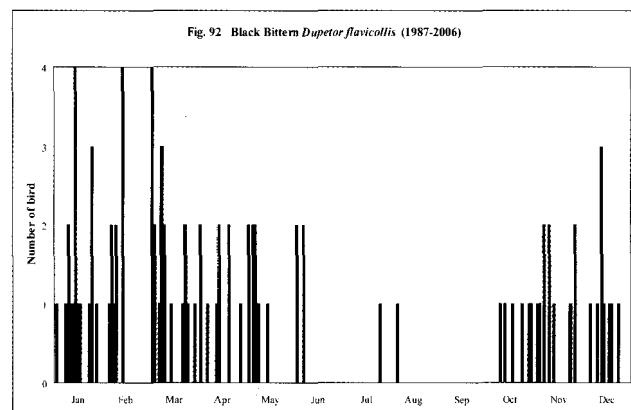


Fig. 92. Black Bittern, *Dupetor flavicollis* (1987 – 2006).

244. Great Bittern

Botaurus stellaris stellaris vR/A

Burung Pucong Danau

Status. – Accidental.

Records. – Only one confirmed record, a formal record taken by native collectors in autumn 1908, Perseverance Estate (G-H, 1949a). The specimen is now in the public gallery of the RMBR. All recent records were unconfirmed and cannot be accepted due to lack of notes: temporary freshwater wetlands at Marina E and Tuas: one flushed at Marina E, 16 Mar. 1991 and on 4 Jan. 1992 and 1 Jan. 1993; two on 27 Mar. 1993 (Ollington in Wells, 1999; J & P, 1999).

Range. – Breeds across temperate Eurasia, Japan, NE China; winters to sub-Saharan Africa, the Indian subcontinent, Sri Lanka, Japan, S China, C Thailand and small numbers in Luzon, vagrant in Malay Pen, Singapore and Borneo. Other ssp. in Africa and Australia.

Habitat. – Grassland and marshes.

Materials examined. – RMBR 1 (1 AA).

FAMILY THRESKIORNITHIDAE

245. Glossy Ibis

Plegadis falcinellus vR/A

Sekendi Kecil, Burung Sekendi Licin

Status. – Accidental. Not listed by G-H (1949).

FAMILY CICONIIDAE

Records. – Only two records. A flock of 11 (including one Imm) at Ser on 12 – 26 Jun.1984 (Wells, 1990a), feeding in prawn ponds and on the mangrove edge. Ten of them stayed a week and one for two weeks. Two on the N coast at SBWR on 21 May. 1989 (Wells, 1990a; SINAV 3). A well-known wanderer, there is only an small probability of wildlife trade involvement (Wells, 1990a). A mixture of Imm and adults at Ser supports the suggestion of a wild occurrence since big, colonial-nesting birds in the trade are usually been taken as fledglings and consignments of captives tend to be of uniform age (Wells, 1999).

Range. – Breeds in Borneo, the Philippines, Java and Australia. Other ssp. in America, Europe, Africa and Asia. Vagrant in Sumatra and Malay Pen. Known S down to C Thailand and as an occasional visitor to Sumatra. Wanders widely throughout its range; the nearest breeding sites are W Java, Sulawesi and S Vietnam. Discontinuous breeding distribution from S Europe, Africa and Madagascar to C and S Asia, the Philippines, Sulawesi and Java; S New Guinea and Australia, Atlantic coast of N America and W Indies. Occurs more widely as a vagrant.

Locality. – SBWR, Ser.

Habitat. – Mudflats and marshes.

Materials examined. – None.

FAMILY PELECANIDAE

246. Great White Pelican

Pelecanus onocrotalus vR/NBV

Eastern White Pelican

Burung Undan, Burung Undan Putih

Status. – Very rare non-breeding visitor.

Records. – Last confirmed record was a bird taken by native collectors in Singapore on Jan.1903 (R & C, 1936). A flock of at least 15 pelicans flying from Pgl Point to the Royal Navy Dockyard on 3 Dec.1960 could be this species (Medway & Nisbet, 1965).

Range. – Breeds in Eurasia, Africa, N India and S Vietnam, Northen populations migrate to Pakistan, C Annam, S Myanmar, S Vietnam, Tenasserim, Malay Pen. and occasionally, Singapore.

Habitat. – Frequents inshore waters, estuaries and open inland pools (M & W, 1976).

Materials examined. – USMN 1 (1 AA).

247. Lesser Adjutant

Leptoptilos javanicus R/NBV

Lesser Adjutant Stork

Burung Botak, Burung Babi

Status. – Rare non-breeding visitor; free flying birds from the Zoo cannot be excluded. Former resident (Kelham, 1883). Globally-vulnerable (Collar et al., 1994).

Records. – A pair was resident at Tanglin in 1882 (Kelham, 1883). Unconfirmed reports of breeding on the outskirts of town in 1938 (G-H, 1949a), but no later records until a wing-clipped individual seen at Pgl on 22 Jun.1986 (RFO/ Lansdowne in SINAV 1). Eight birds were observed soaring briefly in the late morning of 29 Mar.1987 before drifting S; four seen over Peirce Res on 2 Jun.1987 were probably free-flying birds from the Zoo (SINAV 1). One seen at Senoko on 16 Oct.1988. Eleven seen flying over Seletar Res on 8 Mar.1990. A bird seen over SBWR, 3 Apr.1999 (SINAV 13-2). One juvenile was seen at SBWR on 9 Aug.2000, possibly a stray from Johore (SINAV 14-3). One bird seen on 27 Jun.2000 by Hoo Hya Chew, S. Sutari and WLK at SBWR was believed to be a visitor from the mangroves in W Malaysia.

Range. – E Indian subcontinent, Sri Lanka, Indochina, Thailand, Malay Pen, Singapore, Sumatra, Borneo and Java.

Locality. – Peirce Res, SBWR, Seletar Res, (Senoko).

Habitat. – Mangroves and coastal mudflats.

Breeding. – Not recorded.

Materials examined. – None.

FAMILY FREGATIDAE

248. Lesser Frigatebird

Fregata ariel ariel vR/NBV

Least Frigatebird, Least Man-o'-War

Burung Simbang Kecil

Status. – Very rare non-breeding visitor.

Records. – In former times common at the E end of Singapore Straits (G-H, 1949a). Several sight records in Singapore, Jul.1940, Mar.1942 and 1948 (G-H, 1949). Seen most recently 4 Jul.1967, 7 Dec.1968, Jul.1969 (Gregory, 1970). Not recorded until one bird seen on 1 Oct.1994 at Changi-Johore Ferry Terminal, flying N along the coast in the direction of P Ubin (SINAV 8).

Range. – Malay Pen, Singapore Strait, Sumatra, Borneo, Java and W Pacific. Other ssp. in the Indian and Atlantic Ocean. The nearest known breeding station is on the Cocos-Keeling Is (M & W, 1976).

Locality. – Changi.

Habitat. – At sea.

Materials examined. – RMBR 3 (1 FF, 2 MM).

249. Christmas Island Frigatebird

Fregata andrewsi vR/NBV

Christmas Frigatebird, Andrews's Man-o'-War
Burung Simbang Pulau Christmas

Status. – Very rare non-breeding visitor. Globally-endangered (Collar et al., 1994). CITES I.

Records. – Few sight records. Chasen said that he saw it at sea 70 km E of Singapore (R & C, 1936). One at Ser, 24 Apr. 1983 and a few days later at P Hantu (Hails, 1988). One male on 30 May 1986 at the National Stadium (LKC in SINAV 1). Recent sighting of one juvenile flying NE off SE P Ubin, 26 Jul. 1998 (OBC Bull. 29) is unconfirmed.

Range. – The only definitely known breeding site of this bird is on Christmas Is in the Indian Ocean. Recorded in Anamba Is, coast of Sarawak, Java, Cocos-Keeling Is and rarely in Singapore.

Locality. – P Hantu, P Ubin, Ser.

Habitat. – Coastal waters and islands.

Materials examined. – None.

FAMILY PROCELLARIIDAE

250. Wedge-tailed Shearwater

Puffinus pacificus vR/A

Green-billed Shearwater
Burung Olak Ekor

Status. – Very rare vagrant.

Records. – An unconfirmed record of four flying over the Singapore Strait on 10 Oct. 1989 (LKS/SR in SINAV 3); no notes were available. One lone swimmer (dark phase) was claimed off Changi on 29 Sep. 1994 (Birdline, 1996 in Wells, in press; J & P, 1999) but no notes were available. First confirmed record of a bird seen and photographed by S. M. A. Rashid, 22 Jun. 1998 at Woodlands housing estate, sitting in a shallow pool of water. It flew off after a few hours (OBC Bull. 29).

Range. – Breeds on small islands in the Pacific Ocean and S hemisphere of Indian Ocean, including Cocos-Keeling Is. Non-breeding visitors to W and N coasts of Sumatra, the Andamans, Malacca Straits and rarely to the Singapore Strait.

Locality. – Woodlands.

Habitat. – Usually at sea and rarely approaches land.

Materials examined. – None.

251. Swinhoe's Storm-petrel

Oceanodroma monorhis monorhis U/PM

Swinhoe's Petrel

Petrel Badai Coklat, Burung Petral Swinhoe

Status. – Uncommon passage migrant. Globally near-threatened/low-risk (Collar et al., 1994).

Records. – First record of a bird captured on a ship in Keppel Harbour in May 1913 (R & C, 1936). The species next turned up at a lighthouse in the Malacca Strait in Nov. 1918 (R & C, 1936).

Range. – Breeds in Japan, W to Yellow Sea off China, on islands in the Taiwan Strait to Korea, N to extreme SE Russia; migrates mainly to the W Indian Ocean; recorded off the S and SE coasts of Malay Pen, Straits of Malacca, S China Sea and Java Sea.

Locality. – Horsburgh Lighthouse.

Habitat. – At sea, usually well offshore. May occur in coastal waters.

Migration. – Not uncommon at the E end of the Singapore Strait from Sep. to May. (G-H, 1949; 1949a). Large flocks passing through Singapore Strait: estimated 1,000 per hour in early Sep. (Lim, 1989; Birdline, 1993 in Wells, 1999).

Early and late dates. – 7 Sep. – 10 May.

Materials examined. – RMBR 7 (2 FF, 1 MM, 4 AA).

FAMILY PITTIDAE

252. Hooded Pitta

Pitta sordida cucullata U/WV PM

Burung Pachat Hijau

Status. – Uncommon winter visitor and passage migrant.

Records. – Although listed by G-H (1949a), there were no records until an injured specimen was found in late Nov. 1984 and another sighted at BTNR, 1 Dec. 1984 (Hails, 1988). It was not recorded again until one seen at BTNR on 5 Dec. 1988 and 18 Dec. 1988 (SINAV 2). A few birds recorded every year since the late 1980s.

Range. – Breeds in the Himalayas, SW China, Indochina, Myanmar, Thailand, winters in Malay Pen, Singapore, Sumatra and Java. Another ssp., *P. s. mulleri*, in Sumatra, Borneo and W Java. Also found in the Philippines and Sulawesi, New Guinea.

Locality. – BBNP, BTNR, CC forest, HNP. Dead or injured birds have been salvaged in suburban areas in various parts of mainland. Thought to be on P Tekong (Wells, 1990a).

Habitat. – Scrub, secondary forests and wooded gardens. They settle first in the mangrove belts, usually during Oct., and then move inland later (Robinson, 1927).

Migration. – Southward passage mainly from Nov. and peaks in Dec. See Fig. 93.

Early and late dates. – 2 Nov. – 4 May.

Materials examined. – AMNH 1 (1 FF), RMBR 1 (1 FF), USMN 1 (1 AA), UWBM 12 (7 FF, 5 MM).

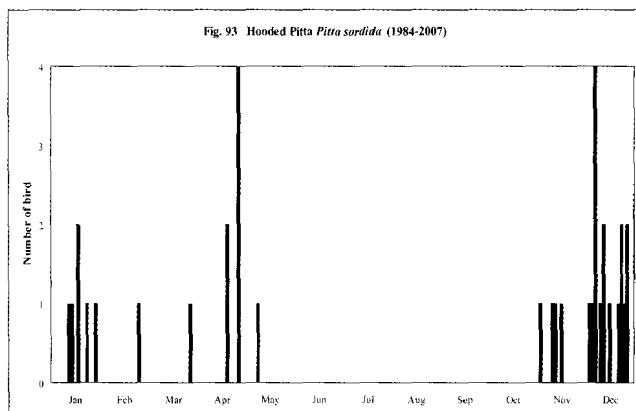


Fig. 93. Hooded Pitta, *Pitta sordida* (1984 – 2007).

253. Garnet Pitta

Pitta granatina coccinea E

Burung Pachat

Status. – Extinct. Former uncommon resident; last recorded by G-H (1949a). An unconfirmed report of one seen in a gully at BTNR on 7 Dec. 1988 (Clark in SINA 2) was probably an error.

Range. – Pen Myanmar, Thailand, Malay Pen and Sumatra; *P. g. granatina* in Borneo.

Habitat. – Formerly more common in swampy lowland jungle inland but not in the mangrove belt.

Materials examined. – None.

254. Blue-winged Pitta

Pitta moluccensis U/WV PM

Burung Pachat Sayap Biru

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in S China, Vietnam, Myanmar, Thailand and Malay Pen; migrates S of the range to S Malay Pen, Singapore, Sumatra, Borneo and Java.

Locality. – CC forest, Changi, Medway Park, P Tekong, P Ubin, SBG and WCP. Dead or injured birds have been picked up from suburban areas throughout mainland and Jurong Is.

Habitat. – Forests, wooded gardens and secondary scrub.

Migration. – Southward passage mainly in Oct. See Fig. 94.

Early and late dates. – 9 Oct. – 12 Apr.

Materials examined. – RMBR 5 (1 FF, 1 MM, 3 AA), UWBM 11 (8 FF, 3 MM).

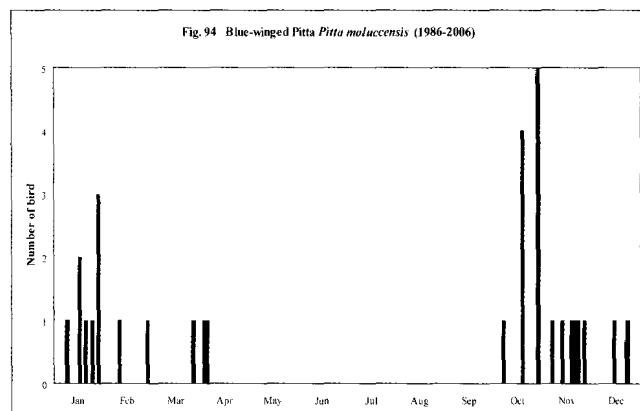


Fig. 94. Blue-winged Pitta, *Pitta moluccensis* (1986 – 2006).

255. Mangrove Pitta

Pitta megarhyncha R/RB

Burung Pachat Bakau

Status. – Rare resident.

Threats. – Globally near-threatened (Collar et al., 1994). Nationally-endangered, due to loss of habitat (Lim, 1989; 1992; Lim et al., 1994). It was extinct on the mainland in 1979, when its last refuge, Tg Karang was cleared (LKC, pers. comm. in Lim, 1992). Estimated population of 10 (Lim, 1992).

Records. – Formerly often found along the N coast of Singapore in the 1920s (B & C, 1927) and regularly on the W coast in 1979 – 1980 (Hails, 1988) before extensive mangrove destruction. An unconfirmed report of an individual seen and heard at SBWR on 7 Apr. 2001 (SR in OBC Bull. 34). One juvenile was picked up on 18 Aug. 2002 in a garden on mainland Singapore and donated to JBP (UWBM). Another juvenile was found by a photographer in Jul. 2006 on P Ubin and was eventually sent to JBP.

Range. – Pen Myanmar, Thailand, Malay Pen, Singapore and Sumatra.

Locality. – Confined to P Tekong and P Ubin, (Jurong, Kranji, P Ayer Merbau, Pasir Panjang, Sentosa, Sg Sembawang).

Habitat. – Confined to the mangroves.

Breeding. – Recorded from P Ayer Merbau (Chasen, 1924a), P Ubin (Chasen, 1929 in G-H, 1949), Pasir Panjang (Allen, 1955). Chasen reported eggs in mid-May, and juveniles at beginning of Jun. (G-H, 1949a). Nesting has not been confirmed on P Tekong and P Ubin (Hails, 1988) until a very young bird was picked up by a photographer in Jul. 2006 and sent to JBP.

Materials examined. – BM 2 (1 FF, 1 MM), RMBR 6 (3 FF, 2 MM, 1 AA), UWBM 1 (1 FF).

FAMILY EURYLAIMIDAE

256. Dusky Broadbill

Corydon sumatranus sumatranus E

Status. – Extinct. Former rare resident.

Records. – The only record was that of a specimen in the Hume Coll. (BM), collected in 1871.

Range. – Malay Pen and Sumatra. Other ssp. in S Myanmar, Indochina and Borneo.

Habitat. – Formerly in heavy jungle, along watercourses and damp ravines (Robinson, 1927).

Materials examined. – BM 1 (1 AA).

257. Black-and-red Broadbill

Cymbirhynchus macrorhynchos malaccensis E

Burung Hujan, Burung Rakit, Burung Ja'ajang

Status. – Extinct. Former uncommon resident, likely to be seen at times in the less-frequented parts of Singapore (B & C, 1927).

Records. – Last recorded in 1949 (G-H, 1949a). Several unverified reports in the wooded areas in the late 1960s by RAFOS (Gregory, 1970; Tweedy, 1970). A bird was seen at P Ubin by various observers on 7 and 22 Aug. 2004 (AN, in litt.; SINAV 18-4) and again on 9 Apr. 2005 (W. Foo, in litt.). The origin of this bird is uncertain; it could have flown over from Johore or could be an escapee.

Range. – Indochina, Thailand, Malay Pen, E Sumatra. Nominate ssp. in W Sumatra and Borneo.

Locality. – (CCK, P Ubin, SBG).

Habitat. – Formerly found in the courses of streams and rivers in secondary and primary jungle.

Breeding. – Formerly recorded on Singapore (B & C, 1927).

Materials examined. – BM 3 (2 FF, 1 MM), RMBR 9 (4 FF, 5 MM).

258. Banded Broadbill

Eurylaimus javanicus pallidus E

Status. – Extinct. Former rare resident, last seen around the mid-1920s (G-H 1949a).

Records. – A pair was collected in 1871 (Hume Coll., BM).

Range. – Vietnam, Myanmar, Thailand, Malay Pen and Sumatra. Another ssp. in Borneo and Java.

Habitat. – Formerly found in open jungles, rarely on the edges of clearings or banks of large rivers (Robinson, 1927; 1928).

Materials examined. – BM 2 (1 FF, 1 MM).

259. Black-and-yellow Broadbill

Eurylaimus ochromalus ochromalus E

Status. – Extinct. Former common resident.

Records. – Last recorded by Hume in 1871, no records since (G-H, 1949a).

Range. – Tenasserim, Malay Pen and Sumatra. Another ssp. in Borneo.

Habitat. – Formerly found at the edges of jungles and clearings, in the environs of villages, not as tied to water (Robinson, 1927).

Materials examined. – BM 3 (1 FF, 2 MM).

260. Green Broadbill

Calyptomena viridis viridis E

Lesser Green Broadbill

Status. – Extinct. Former rare resident.

Records. – Was at times seen in the denser-wooded spots of the SBG in the late 19th century (Ridley, 1898), but increasing isolation and disturbance of the “jungle” led to its extinction there (Lim, 1992). Also known to occur on P Ubin in the 1920s (B & C, 1927). Last sighted in BTNR in Dec. 1941 (G-H, 1949a). Several unverified records from the forested C areas in the late 1960s by RAFOS (Gregory, 1970; Tweedy, 1970).

Range. – Malay Pen, Sumatra and Borneo. Another ssp. in Pen Thailand and N Malay Pen.

Locality. – (BTNR, P Ubin, SBG, Woodlands).

Habitat. – Formerly in primary and secondary jungle.

Materials examined. – BM 3 (1 FF, 2 MM), RMBR 2 (1 MM, 1 AA).

FAMILY PARDALOTIDAE

261. **Golden-bellied Gerygone***Gerygone sulphurea sulphurea* C/RB

Yellow-breasted Wren-Warbler; Flyeater
Kelicap Perepat

Status. – Common resident. Not listed by G-H (1949) and M & W (1976).

Records. – A bird was mist-netted, ringed and photographed by RAFOS in the late 1960s; appeared localised in the Changi area (Gregory, 1970).

Range. – S Thailand, S Vietnam, Pen Malaysia, Singapore, Sumatra, Borneo, Java and Bali. Also in Sulawesi and the Philippines.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Parks, gardens, tree-lined roads, mangroves, coastal regions and wooded areas except forests.

Breeding. – Nest-building observed in Mar. through May. Chicks seen in Jan., Jul., Sep. Parents observed sitting in nest in Oct. Imm seen in Feb., Sep.

Materials examined. – None.

FAMILY IRENIDAE

262. **Asian Fairy Bluebird***Irena puella malayensis* C/RB

Blue-mantled Fairy Bluebird, Fairy Bluebird
Murai Gajah

Status. – Common resident.

Records. – Occurs in small but stable populations in the C forests (Lim, 1992). First record away from the C forests: one male was seen at Lor Sesuai, near BBNP on 15 Feb. 1998 (SINAV 12-1).

Range. – Malay Pen and Singapore. Other ssp. in the Indian subcontinent, Indochina, Borneo, Sumatra, Java and the Philippines.

Locality. – Confined to Bt Brown, BTNR and CC forest, formerly numerous in Changi and P Ubin (B & C, 1927).

Habitat. – Confined to old forests, movements localised and largely dependent on the fruiting of certain trees, esp. *Ficus*, but never far from old forests (Robinson, 1927; 1928).

Breeding. – One fledgling being fed by parents at BTNR in Jul. (SINAV 18-4).

Materials examined. – BM 1 (1 FF), RMBR 9 (8 FF, 1 MM).

263. **Greater Green Leafbird***Chloropsis sonnerati zosterops* R/R(B)

Greater Leafbird
Burung Daun Besar

Status. – Rare resident.

Threats. – Nationally-endangered; estimated population of four to eight (Lim, 1989; 1992; 1998a). Only two to three records every year, usually from Sime Rd or NS (Lim, 1989).

Range. – Myanmar, Pen Thailand, Malay Pen, Singapore, Sumatra and Borneo. The nominate ssp. in Java.

Locality. – Confined to BTNR and CC forest, (Jurong, P Ubin).

Habitat. – Confined to forests. Formerly not uncommon in mangroves (Chasen, 1924a; B & C, 1927) and in wooded areas (G-H, 1949a).

Breeding. – Not recorded.

Materials examined. – BM 5 (1 FF, 4 MM), FMNH 1 (1 MM), RMBR 9 (7 FF, 2 MM).

264. **Lesser Green Leafbird***Chloropsis cyanopogon cyanopogon* U/R(B)

Burung Daun Kecil

Status. – Uncommon resident.

Threats. – Nationally-endangered; unviable population of 10–14 (Lim, 1989; 1992; 1998a; Lim et al., 1994).

Range. – Malay Pen, Singapore, Sumatra and Borneo. Another ssp. found N of Penang and extending N into S Tenasserim.

Locality. – Confined to BTNR, CC forest, (Sime Rd, MacRitchie), SBG.

Habitat. – Confined to forests.

Breeding. – Not recorded.

Materials examined. – None.

265. **Blue-winged Leafbird***Chloropsis cochinchinensis icterocephala* C/R(B)

Burung Daun Sayap Biru

Status. – Common resident. Fairly regular sightings in the forests may be of residents or of visitors from Malaysia, where it is common in forests (Hails, 1988).

Range. – Malay Pen, Singapore, Sumatra, N Natuna Is. Other ssp. in Java, Borneo, the Indian subcontinent, Myanmar, Indochina and Thailand.

Locality. – BTNR, CC forest, KRP, Loyang, SBG, SCR, Sentosa. Sightings in non-forest areas and Sentosa are probably of escapees.

Habitat. – Open wooded country, secondary growth and forests.

Breeding. – Not recorded.

Materials examined. – BM 4 (4 MM), FMNH 1 (1 MM).

FAMILY LANIIDAE

266. Tiger Shrike

Lanius tigrinus C/WV PM

Thick-billed Shrike

Tirjup Harimau

Status. – Common winter visitor and passage migrant.

Range. – Breeds in NE Asia, N China and Japan; winters in Indochina, Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, the Philippines and Sulawesi.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Mostly in forests, forest edges, wooded rural areas, secondary growth, parks and gardens.

Migration. – Most individuals seen are Imm. Southward passage in Sep. – Nov. See Fig. 95.

Early and late dates. – 3 Aug. – 30 Apr.

Materials examined. – AMNH 1 (1 Imm), BM 2 (2 Imm FF), UWBM 6 (1 FF, 5 AA), RMBR 2 (2 AA).

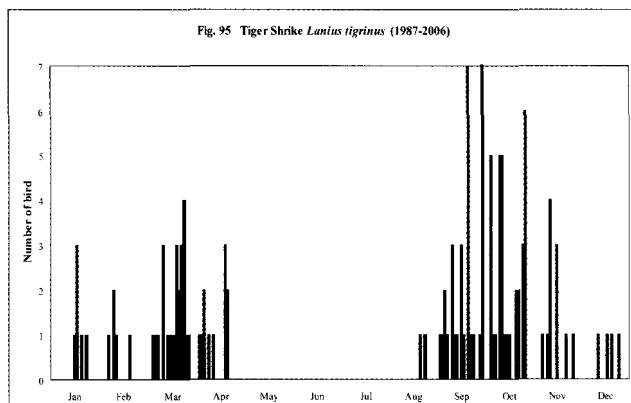


Fig. 95. Tiger Shrike, *Lanius tigrinus* (1987 – 2006).

267. Brown Shrike

Lanius cristatus luconiensis, *cristatus*, *superciliosus*, *confusus* C/WV PM

Tirjup Coklat, Merbah

Ssp. – *Lanius c. lucionensis* male: head grey, back greyish-brown, indistinct white eyebrow; female browner. *L. c. confusus*: a little lighter than *L. c. cristatus*; *L. c. superciliosus*: much brighter reddish-rufous above, the head fox-red in males; *L. c. cristatus*: redder all over, head reddish-rufous, broad white eyebrow and frontal band.

Status. – Common winter visitor and passage migrant.

Range. – Breeds in C, N Asia, Sakhalin and Japan; winters in the Indian subcontinent, SE Asia to the Greater Sundas, Lesser Sundas and the Philippines.

Lanius c. lucionensis: breeds in E Siberia, Korea and Manchuria; winters largely in E Malay Pen, Singapore, Sumatra and Borneo.

Lanius c. confusus: breeds in Amur and E Mongolia; winters in Malay Pen and Singapore.

Lanius c. superciliosus: breeds in Sakhalin and Japan; on passage in Malay Pen, Singapore, Anamba Is, Sumatra, Borneo, Java and Bali.

Lanius c. cristatus: breeds in W and N Asia; winters in Malay Pen, Singapore and Borneo.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Open country, fields, parks and gardens, occasionally on forest edges.

Migration. – Examples of the three ssp. have been taken in Singapore (*L. c. cristatus*, *L. c. lucionensis* and *L. c. superciliosus*), but it is not possible at present to state with certainty which is the commonest in our area. It could possibly be *L. c. superciliosus*, arriving by way of China Sea islands or the W coast of Borneo (G-H, 1949a). The ssp. *L. c. superciliosus* apparently occurs only on passage with records in the period of 22 Sep. – 7 Nov. and in Apr., S to Singapore (M & W, 1976). *Lanius c. confusus* seen regularly in Singapore (SINAV 1; SINAV 18-4).

Early and late dates. – 7 Sep. – 9 May.

Materials examined. – RMBR 1 (1 FF).

268. Long-tailed Shrike

Lanius schach bentet C/RB

Schach Shrike, Grey-backed Shrike
Tirjup Ekor Panjang

Status. – Common resident.

Records. – There were two specimens collected from Singapore by Davison (Hume Coll., BM). These were considered by G-H (1949) as wrongly localised as there were

no other formal records S of Kuala Lumpur, Malaysia (G-H, 1949). A number of sight records confirm that this species is resident and apparently breeding in Singapore since the late-1960s (Medway & Wells, 1970). A bird was also mist-netted, ringed and photographed by RAFOS in 1969 (Gregory, 1970). Regular since the 1980s.

Range. – Malay Pen, Singapore, Sumatra, Java, Bali and Kangean Is. Another ssp. in N Borneo, Palawan and the Philippines.

Locality. – Throughout Singapore, P Ubin.

Habitat. – Open grassland, scrub, parks and gardens.

Breeding. – First recorded on 4 Oct. 1987, nest (with chicks) found on 21 Jul. 1989. Eggs found in Jul., chicks in Apr., Jul., Aug. Imm in Jan., Apr., Aug. to Oct.

Materials examined. – BM 2 (2 MM).

FAMILY CORVIDAE

269. Mangrove Whistler

Pachycephala grisola vandepolli U/RB

Murai Bakau

Status. – Uncommon resident.

Records. – Formerly fairly common (G-H, 1949a, 1952a) throughout the mangrove areas, particularly at Changi (Gregory, 1970) and Jurong River (MAPS 1970). A bird seen and photographed at NS on 1 Aug. 2004 was an odd record for a mangrove specialist (SINAV 18-4).

Range. – Andaman Is, S Indochina, Thailand, Malay Pen, Singapore, Sumatra, Java and Bali E to Lombok. Other ssp. in W Sumatra, N Borneo, Palawan and the Philippines.

Locality. – Mainly on N Is and S Is, also (Changi, Jurong River), KB, Kranji, NS (Lim, 2004), PR, SBWR, (Senoko), Sg Mandai, Sg Simpang, Seletar.

Habitat. – Mangroves, *Casuarina* stands, occasionally in old rubber estates.

Breeding. – Recorded by B & C (1927). Young birds taken in May 1923 on the Ayer Merbau group were probably bred locally (Chasen, 1924a). Nest described by G-H (1950). Very young birds were caught in P Tekong in May 1997 (WLK, pers. obs.).

Materials examined. – BM 5 (3 FF, 2 MM), RMBR 5 (1 FF, 2 MM, 2 AA).

270. House Crow

Corvus splendens protegatus C/I RB

Gagak Rumah

Status. – Common resident. Introduced, ca. 1945.

Records. – According to a note left by Chasen, an unsuccessful attempt was made to introduce it in Singapore during the interwar period (G-H, 1950). Certainly, there is no indication of its presence in Singapore before the Second World War (G-H, 1950). The original small colony could have been derived from escaped cage birds or birds released from captivity during the Japanese occupation but it is also possible that they arrived naturally (G-H, 1952; Ward, 1968). They are also thought to have travelled to Singapore on ships from India and Sri Lanka (M & W, 1976; Lee & Kang, 1990). The present feral population became established in the 1940s when a small colony was founded at the Tg Pagar godowns and said to have been there since at least 1948. This strongly suggests that they established themselves during either the Japanese Occupation or the British Military Administration period (G-H, 1950; 1952). Between 1948 – 1968, the numbers had increased and 200 – 400 roosted in a few trees among flats outside at dock gates at Tg Pagar (Ward, 1968). A few had also spread to the E of the City (Gregory, 1970). Johnson (1973) reported that in 1968, about 2,000 birds were present in Singapore, which eventually spread to all parts of the island and formed communal roosts mainly on the offshore islands (Hails & Jarvis, 1987). Numbers have increased markedly since 1985.

Range. – Native to the Indian subcontinent and Myanmar.

Locality. – Widespread throughout Singapore, N Is, S Is.

Habitat. – In all habitats except the interior of forests. Especially common around urban areas.

Breeding. – Recorded throughout the year. Parasitised by Asian Koel. Nest building observed in Oct., Nov., Dec., Jan. and Mar.; mating seen in Apr. Eggs seen in Jul. Brooding observed in Jan., Apr., Sep. to Nov. Chicks seen in Mar. and Sep.

Materials examined. – AMNH 2 (1 FF, 1 MM), RMBR 8 (2 FF, 5 MM, 1 AA), UWBM 3 (3 MM).

271. Large-billed Crow

Corvus macrorhynchos macrorhynchos C/RB

Jungle Crow

Gagak Paruh Besar

Status. – Common resident.

Records. – Ridley (1898) noted that singles or pairs were seen in the SBG once or twice a year. Robinson (1927) doubted its presence in Singapore. Chasen (1922 in G-H, 1949) merely lists it for Singapore but had not seen it personally, also with the note that crows are not normally seen there. Scarce before the Second World War (G-H, 1949a). A southward extension of range occurred from ca. 1920 onwards, becoming much more common in Singapore after 1941 (G-H, 1949). By the late 1960s, it was common and widespread on Singapore (Gregory, 1970). Much less of an urban scavenger than *C. splendens*.

Range. – Malay Pen, Singapore, Sumatra, Java, Bali and Borneo. Also on the India subcontinent, Russia, China, Japan to the Philippines and Lesser Sundas.

Locality. – Throughout Singapore, N Is and S Is.

Habitat. – Open wooded areas, forests, mangroves, cultivation, plantations, gardens and parks.

Breeding. – Nest building seen in Dec. Nest found in Jun., brooding and chicks observed in Jan.

Materials examined. – RMBR 4 (1 MM, 3 AA).

272. Dark-throated Oriole

Oriolus xanthonotus xanthonotus E

Malaysian Black-headed Oriole

Status. – Extinct. Former rare resident.

Records. – Last recorded at BTNR in 1941 (G-H, 1949a). One ringed by RAFOS (McClure, 1970) but the details are not available and thus this record cannot be confirmed.

Range. – Myanmar, Pen Thailand, Malay Pen, Sumatra, W Borneo and Java. Other ssp. in N Borneo and the Philippines.

Locality. – (BTNR).

Habitat. – Formerly in heavy jungle, rarely coming into orchards or open country.

Breeding. – Not recorded.

Materials examined. – BM 1 (1 FF).

273. Black-naped Oriole

Oriolus chinensis maculatus, diffusus C/RB, R/WV

Burung Kunyit Besar

Ssp. – *Oriolus c. diffusus* differs from *O. c. maculatus* in having much more yellow on the inner secondaries.

Status. – Common resident (*O. c. maculatus*) and rare winter visitor (*O. c. diffusus*).

Records. – A recent arrival from Indonesia which only became established in Singapore in the 1920s, when it became apparent that a few birds were resident on the outskirts of the town (B & C, 1927; G-H, 1952). These were presumably natural occurrences but possibly assisted by escaped cage birds (Hails, 1988). In the 25 years since its discovery, *O. c. maculatus* had become firmly established in Singapore and by 1949 it was one of the commonest and most conspicuous of the birds occurring in gardens and orchard areas (G-H, 1952). Gibson-Hill (1952) and Ward (1968) determined the Singapore resident birds belonged to the Sumatra ssp. but

were unable to decide whether the birds had been introduced to Singapore as cage birds or had arrived naturally.

Range. – *Oriolus c. maculatus*: Malay Pen, Singapore, Sumatra, Borneo, Java and Bali; *O. c. diffusus* breeds in the Indian subcontinent, Russia, China, Korea and N Indochina; migrates to Malay Pen, Singapore.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – *Oriolus c. maculatus*: gardens, parks, urban areas, forests and mangroves; *O. c. diffusus* frequents mangroves forest canopies and partly-cleared land.

Breeding. – Breeding observed only from 1936 onwards, although two Imm specimens were collected from P Ubin (Feb. 1921) and one from Owen Rd (Jan. 1916). Nest described by Spittle (1949). Nest building observed in Feb., Mar.; eggs in Jan., Jun., Dec.; brooding in Mar., Apr.; chicks seen in Jan., Mar., Apr., Jun., Imm seen in Jan., Mar., May., Jun., Jul.

Migration. – Migrants not separated from residents in the field, so no migration records are available. Kelham (1883) collected an adult female “*Oriolus indicus*” (probably *O. c. diffusus*) at Tanglin in the last week of Sep., suggesting that migrants may sometimes reach Singapore. Recorded as a casual visitor by Ridley (1898). Chasen (1927 in G-H, 1949) noted that a few birds over-summer but did not breed.

Materials examined. – *Oriolus c. maculatus*: RMBR 13 (7 FF, 5 MM, 1 AA), UWBM 5 (2 FF, 3 MM); *O. c. diffusus*: AMNH 1 (1 MM), BM 2 (1 MM, 1 Imm AA), RMBR 3 (3 Imm FF).

274. Bar-bellied Cuckooshrike

Coracina striata sumatrensis E

Barred Greybird

Status. – Extinct. Former uncommon resident.

Records. – Last confirmed record was a specimen collected on 4 Jun. 1922 at Sg Kranji (RMBR). Seen in small numbers in the 1960s by the British Armed Forces (Tweedy, 1970; Gregory, 1970). No further records.

Range. – Malay Pen, Sumatra and Borneo.

Habitat. – Formerly in coastal secondary forests and scrub.

Breeding. – Nest never found in Singapore but a juvenile was shot in Jun. 1922 by Chasen (1924a).

Materials examined. – RMBR 8 (5 FF, 3 MM).

275. Lesser Cuckooshrike

Coracina fimbriata culminata R/R(B)

Lesser Greybird

Burung Kelabu Sayap Hitam

Status. – Rare resident.

Threats. – Nationally-endangered due to unviable population levels (Lim, 1992). Formerly fairly common in wooded areas away from coastal belt (G-H, 1949a) and in small numbers in the 1960s by RAFOS (Gregory, 1970; Tweedy, 1970).

Records. – Only a few records after the 1960s; all of single males, seen in the 1960s and again on 5 Jan. 1975, one in Oct. 1986 (Lim, 1989; SINAV 2-4) and one female at BTNR on 4 Jan. 1998 (LKS in SINAV 12-1).

Range. – S Pen Thailand, Malay Pen, Singapore, Sumatra and Borneo. Other ssp. in Java and Bali.

Locality. – Confined to BTNR.

Habitat. – Forests.

Breeding. – Not recorded.

Materials examined. – BM 3 (2 FF, 1 MM), RMBR 1 (1 FF).

276. Pied Triller

Lalage nigra nigra C/RB

Rembah Kening Putih, Murai Batu

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra and W, C Java. Other ssp. in Borneo, the Philippines, Sulawesi and the Lesser Sundas.

Locality. – BBNP, Changi, KAP, Kranji, Marina E, Marina S, N Is, Pgl, SBWR, Ser, Seletar Res, S Is, Sunset Way.

Habitat. – Mangroves, gardens, plantations, parks, scrub, open wooded country and rural areas.

Breeding. – Nest described by Spittle (1949). Clutch = 2. Nest building in Mar. Brooding observed in Aug. Eggs seen in Mar., May., Jun. Chicks seen in Apr., May., Jun., Sep., Imm. in Jul., Nov.

Materials examined. – BM 32 (9 FF, 23 MM), RMBR 8 (4 FF, 4 MM).

277. Ashy Minivet

Pericrocotus divaricatus divaricatus C/WV PM

Burung Matahari Kelabu

Status. – Common winter visitor and passage migrant.

Range. – Breeds in Russia, China, Korea, Japan and E Asia; winters in N Indian subcontinent, SE Asia to Malay Pen, Singapore, Sumatra, Borneo, the Philippines and Sulawesi.

Locality. – BBNP, BTNR, BT Turf Club, CC forest, CCK, Changi, HNP, Kranji, KRP, Loyang, Mandai, Marina S, Mimosa Park, Pasir Panjang Hill, Pgl, Poyan, PR, P Ubin, SBG, SBWR, Seaside Park, (Senoko), Sentosa, Singapore Polytechnic, SJI, Springleaf, Tanglin, Telok Blangah, TM, Xilin.

Habitat. – Forests, mangroves, scrub, plantation, gardens, parks and coastal areas.

Migration. – The majority of the birds wintering here appear to be juveniles and adult females (G-H, 1949). See Fig. 96.

Early and late dates. – 13 Sep. – 11 Apr.

Materials examined. – BM 6 (6 FF), RMBR 1 (1 MM).

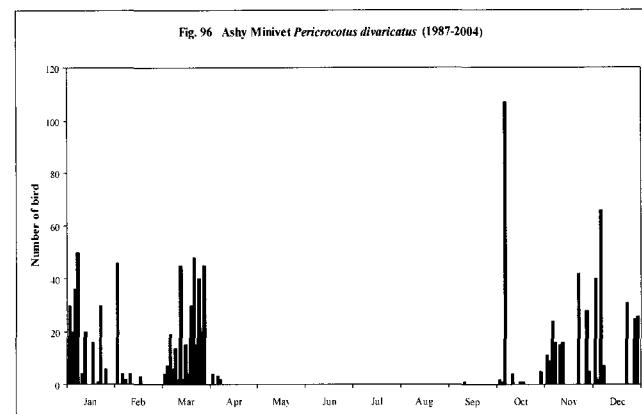


Fig. 96. Ashy Minivet, *Pericrocotus divaricatus* (1987 – 2004).

278. Fiery Minivet

Pericrocotus igneus igneus E

Status. – Extinct. Formerly uncommon resident (G-H, 1949a).

Records. – A male was collected by A. R. Wallace, 1854. Four ringed by RAFOS (McClure, 1970) but no details were available. Several records claimed from coastal and wooded areas by RAFOS in the late 1960s (Gregory, 1970; Tweedy, 1970).

Range. – Malay Pen, Sumatra, Borneo. Also in Java, Bali and Palawan. Another ssp. in the Indian subcontinent, Myanmar and Thailand.

Habitat. – Formerly in open forests, fairly common on the coasts, especially where there are *Casuarinas* trees (Robinson, 1927).

Materials examined. – BM 1 (1 MM).

279. Scarlet Minivet

Pericrocotus flammeus xanthogaster vR/R(B)

Flame Minivet

Burung Matahari

Status. – Very rare resident.

Threats. – Nationally-endangered, estimated only four birds left (Lim, 1992).

Range. – S Malay Pen, Singapore, Sumatra and Borneo. Other ssp. on the Indian subcontinent, S China, Indochina, N Malay Pen, Java, Bali, Lombok and the Philippines.

Locality. – Confined to BTNR and CC forest.

Habitat. – Confined to forests. Formerly found in small numbers in heavily-wooded areas (G-H, 1949a).

Breeding. – Not recorded (no nests found) although one pair with an Imm male seen near the summit of BTNR on 2 Oct. 1994 (F. Wong, pers. comm.) and one pair with one apparent juvenile seen at Fern Valley, BTNR on 18 Apr. 1997 (LKS).

Materials examined. – BM 7 (3 FF, 4 MM).

280. Pied Fantail

Rhipidura javanica longicauda C/RB

Malaysian Fantail, Pied Fantail Flycatcher
Murai Gila

Status. – Common resident.

Range. – S Vietnam, Myanmar, S Thailand, Malay Pen, Singapore, Sumatra and Borneo. Nominate ssp. in Java and Bali. Also in the Philippines.

Locality. – Throughout Singapore, N Is, S Is; especially BBW, Changi, Gymkhana Ave, KB, Kranji, PR, Sarimbun, SBWR, Ser, Springleaf.

Habitat. – Most common in mangroves, also in all open country habitats, scrub, plantations, cultivation and gardens.

Breeding. – Nest building observed in May., Jul., chicks in May, Jun. Imm seen in Aug., Sep.

Materials examined. – BM 5 (4 FF, 1 AA), UWBM 3 (1 FF, 2 MM). Specimens collected by Chasen (1924a) from P Tekong were not found.

281. Black Drongo

Dicrurus macrocercus cathoecus U/WV PM

King Crow; Ceylon Black Drongo
Cecawi Hitam

Status. – Uncommon winter visitor and passage migrant.

Records. – First confirmed record of several birds at Jurong between 5 Nov. 1978 and 24 Feb. 1979 (Wells, 1984) and since then in small numbers annually (Hails, 1988).

Range. – The Indian subcontinent, China, through SE Asia to Java and Bali. Northern populations are migratory.

Locality. – Changi, CCK, Jurong, Marina E, Marina S, Paya Lebar, Pgl, Poyan, P Tekong, SBWR, Seaside Park, (Senoko), Ser, TM, Tuas, Yio Chu Kang.

Habitat. – Open country, grasslands, reed beds, marshes and fields.

Migration. – See Fig. 97.

Early and late dates. – 23 Oct. – 13 May.

Materials examined. – None.

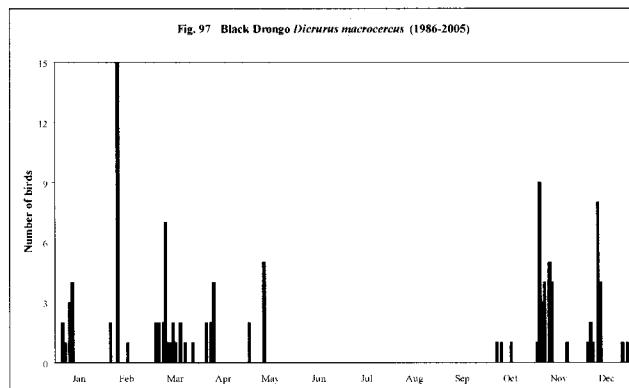


Fig. 97. Black Drongo, *Dicrurus macrocercus* (1986 – 2005).

282. Ashy Drongo

Dicrurus leucophaeus leucogenis, salangensis, nigrescens, leucophaeus R/WV NBV

Grey Drongo

Cecawi Kelabu

Status. – Rare winter visitor and non-breeding visitor.

Records. – First confirmed sighting in 1976 (undated) in a suburban garden, photographed by Joan Fong (Wells, 1983) could be *D. l. leucophaeus*. One possible *D. l. nigrescens* was seen at Marine Parade parkland by SR, 11 May. 1986 and another at Senoko on 13 May. 1986 (Wells, 1990b). A bird seen at Sime Rd on 29 Oct. 1989 (SINAV 3). One *D. l. nigrescens* seen at Poyan on 25 Nov. 1990 (SINAV 4). One possible *D. l. salangensis* seen at Admiralty Rd on 5 Jan. 1992 and a *D. l. nigrescens* at Poyan on 12 Apr. 1992 (SINAV 6). Another *D. l. salangensis* seen at NS, on 16 Mar. 1997 (SINAV 11-1). Three birds seen at Poyan on 22 Mar. 1998 (SINAV 12). One *D. l. leucogenis* seen at BBNP on 14 – 21 Jan., 10 Feb., 27 Feb., 10 Mar., 30 Mar., 13 Apr., 17 Apr. 2000 (AC, 2000 in SINAV 14-1). A *D. l. nigrescens* was recorded in KRP on 9 Dec. 2000 (SINAV 14-4). One bird, *D. l. leucogenis* seen at WCP, 17 Jan. 2004 (LKS, 2004). One seen at NS during the ABC, 27 Mar. 2005 (LKC, in litt.).

Range. – The Indian subcontinent, China through SE Asia to the Greater Sundas, Bali, the Philippines and Lombok.

D. l. leucogenis: winters along E, W Malay Pen and Singapore. Other ssp. in Borneo and Sumatra.

D. l. salangensis: winters as far S as Pen Thailand and recorded in Singapore; black chin and forehead, sides of

head white, wing length 137–148 mm, winter visitor from E Asia.

D. l. nigrescens: resident in Malay Pen; wing length 123–134 mm.

D. l. leucophaeus: Simalur, Java and Bali; small, rather light grey, lores black, non-breeding visitor.

Locality. – Admiralty Rd W, BBNP, KRP, Marine Parade, NS, Poyan, P Semakau, SBWR, (Senoko), Sime Rd, WCP.

Habitat. – Forests, scrub, mangroves, parks and open woods, often near cultivation.

Migration. – See Fig. 98.

Early and late dates. – 29 Oct. – 13 May.

Materials examined. – None.

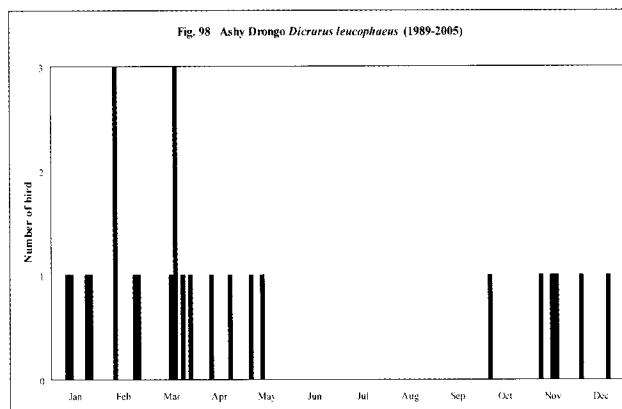


Fig. 98. Ashy Drongo, *Dicrurus leucophaeus* (1989 – 2005).

283. Crow-billed Drongo

Dicrurus annectans annectans U/WV PM

Cecawi Paruh Tebal

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in the Himalayas, N Myanmar, N Thailand; winters in Malay Pen, Singapore, Sumatra, Borneo and W Java.

Locality. – Bt Brown, Bt Kalang, BTNR, CC forest, CCK, Changi, KB, Kranji, KRP, Loyang, Pgl, Poyan, P Ubin, (Senoko), Sentosa, Ser, Sg Kadut, Sg Seletar, Somapah, TBH, Tuas, Xilin, Zehnder Rd.

Habitat. – Forests, mangroves, coastal areas, secondary growth, parks, plantations and occasionally in open country.

Migration. – See Fig. 99.

Early and late dates. – 1 Oct. – 22 Apr.

Materials examined. – BM 1 (1 Imm).

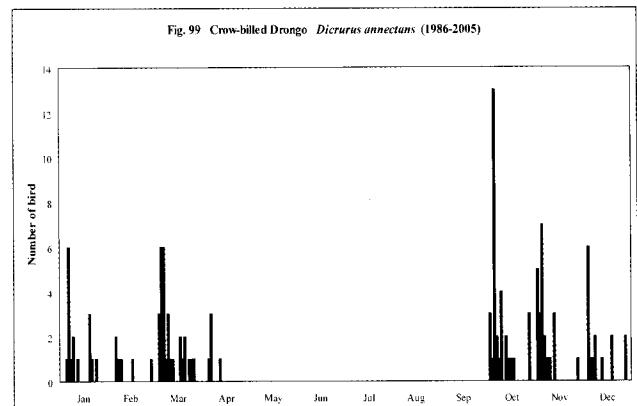


Fig. 99. Crow-billed Drongo, *Dicrurus annectans* (1986 – 2005).

284. Bronzed Drongo

Dicrurus aeneus malayensis E

Burong Cawi-Cawi

Status. – Extinct. Former uncommon resident. Doubtful in Singapore (Robinson, 1928); has not been met with in recent years (B & C, 1927). Said to occur in small numbers in Singapore (G-H, 1949).

Records. – Several unverified records in the mangroves and forested C area from Nov. to May. by RAFOS in the late 1960s (Gregory, 1970; Tweedy, 1970). Recent sightings: one at Sime Rd on 29 Oct. 1989, one at NS on 9 Aug. 1990 (SINAV 4) were largely unconfirmed records and rejected by Lim (1990) based on lack of evidence.

Range. – Malay Pen, Sumatra and Borneo. Nonimate ssp. in S Indian subcontinent, Indochina and N Malay Pen.

Habitat. – Formerly in forests and open wooded areas.

Materials examined. – None.

285. Greater Racket-tailed Drongo

Dicrurus paradiseus platurus C/RB

Large Racket-tailed Drongo
Cecawi Anting-Anting

Status. – Common resident.

Range. – Malay Pen (S of Perak), Singapore, Sumatra. Other ssp., *D. p. malayensis* in Malay Pen (N of Perak); *D. p. microlophus* in Tioman, Anambas, N Natuna Is; *D. p. brachyphorus* in Borneo; *D. p. banguey* in N Bornean Is. Also on the Indian subcontinent, S China, Indochina.

Locality. – Throughout wooded parts of Singapore, mostly in BTNR, CC forest, Mandai Orchid Garden, SBG. Also in BBW, Bt Brown, (Changi), Clementi, (CS), Eng Neo Ave, Holland Woods, J Kedai, (Jurong), Kranji War Memorial, KRP, Lor Asrama, Lor Gombak, Lor Persatuan, Poyan, (P Tekong), P Ubin, Sembawang, (Senoko), Sunset Way, Ulu Pandan, WCP.

Habitat. – Secondary forests, forest edges, clearings, woodlands, degraded mangroves, scrub, plantations and cultivated land.

Breeding. – Nest building and brooding observed in Feb. – Apr., Imm seen in May.

Materials examined. – BM 10 (1 FF, 4 MM, 1 Imm, 4 AA), FMNH 1 (1 AA), RMBR 28 (10 FF, 16 MM, 2 AA), USMN 1 (1 MM).

286. Black-naped Monarch

Hypothymis azurea prophata R/R(B)

Black-naped Blue Monarch, Black-naped Blue Monarch Flycatcher
Kelicap Ranting

Status. – Rare resident. Previously common, recorded in small numbers from mainland Singapore (Robinson, 1927; G-H, 1949a).

Threats. – Nationally-endangered, now absent from the forests of mainland Singapore, threatened by habitat loss and disturbance (Lim, 1989; 1992). A small population estimated at 15 (Lim, 1989; 1992) is now confined mainly to P Tekong.

Records. – A female was reported on Lazarus Is on 19 Jan. 2001 by RFO and SR was probably a stray from the Riau Is (OBC Bull. 34) but no notes were available. One female was seen at Sime Rd on 1 Jan. 2004 (LKS, 2004; BirdingASIA 2; AN, in litt.), possibly the first mainland record since last reported by G-H (1949a).

Range. – Malay Pen, Sumatra and Borneo. Other ssp. in Java, Natuna Is, the Anambas and the Lesser Sundas. Also on the Indian subcontinent and S China.

Locality. – Confined to P Tekong, P Ubin, once in Sime Rd.

Habitat. – Secondary forests, scrub and thickly-wooded areas.

Breeding. – Not recorded.

Materials examined. – None.

287. Asian Paradise-flycatcher

Terpsiphone paradisi incei C/PM, R/WV

Paradise Flycatcher
Murai Ekor Gading

Status. – Common passage migrant and rare winter visitor. Not recorded in the early 1920s but probably occurring here at times (Robinson, 1927).

Range. – Malay Pen, Singapore, Sumatra. Other ssp. on the Indian subcontinent, E Russia, China and Korea; the Andamans and Nicobar Is; Borneo and the Lesser Sundas; *T. p. indochinensis* in Pen Thailand, N Sumatra and Malay Pen (N of Perak).

Locality. – BBNP, Bt Kallang, BTNR, CC forest, Changi C, Loyang, KAP, Kranji, KRP, Marina E, PR, P Ubin, SBWR, Seaside Park, Sembawang, (Senoko), Sentosa, SCR, SJI, Tagore Woods, Tampines, TBH, Tuas and Tyersall.

Habitat. – Open forests or densely-wooded rural areas, scrub, mangroves, plantations, occasionally in parks and gardens.

Migration. – Influxes occur mainly in Oct. (L & G, 1997). Much smaller numbers winter from Sep. – Apr. Occasionally over-summer. Three birds seen on 16 Jul. 1990 could either be passage migrants or stragglers (SINAV 4). See Fig. 100.

Early and late dates. – 17 Jul. – 26 Apr.

Materials examined. – RMBR 1 (1 MM), UWBM 1 (1 MM), BM 2 (1 MM, 1 AA).

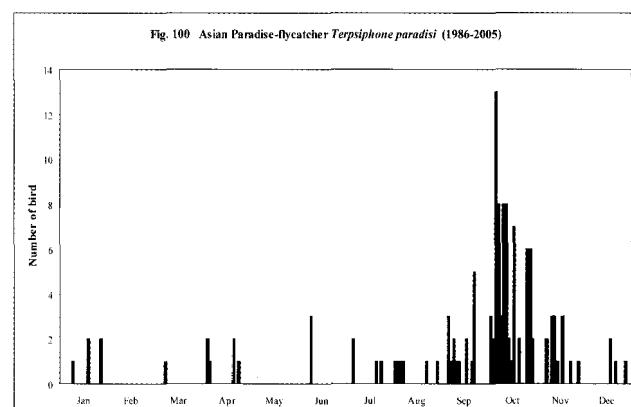


Fig. 100. Asian Paradise-flycatcher, *Terpsiphone paradisi* (1986–2005).

288. Japanese Paradise-flycatcher

Terpsiphone atrocaudata atrocaudata R/PW

Murai Ekor Gading Jepun

Status. – Rare passage migrant. Globally near-threatened (Collar et al., 1994).

Records. – Recorded as fairly frequent in winter by Chasen (1939) but G-H (1949) could not trace records from Singapore. First confirmed record is a male at BTNR on 31 Oct. and 8 Nov. 1987 (BR 86-87). One male at Sime Rd on 1 Nov. 1995 (SR in OBC Bull. 23). One female reported at Sime Rd on 14 Nov. 1996 (OBC Bull. 25) but no notes were given. One caught on 17 Oct. 2001 at SBWR (S. Sreedharan, pers. comm.). One seen in Sime Forest on 23 Feb. 2003 (LKS in OBC Bull. 38). One seen at Sime Rd on 12 Oct. 2003 (SINAV 17-4). A male was seen and photographed on 28 Mar. 2004 at Bishan Park (various observers).

Range. – Breeds in Japan and Korea; migrates to E, S China, Indochina, SE Thailand, Malay Pen, Sumatra and the Philippines, occasionally in Singapore.

Locality. – Bishan Park, BTNR, SBWR, Sime Rd. Recorded on SJI by RFO (Wells, in press) but no notes were available.

Habitat. – Forests and wooded gardens.

Migration. – Main passage mainly in Oct., Nov., return passage in Feb., Mar. See Fig. 101.

Early and late dates. – 12 Oct. – 28 Mar.

Materials examined. – None.

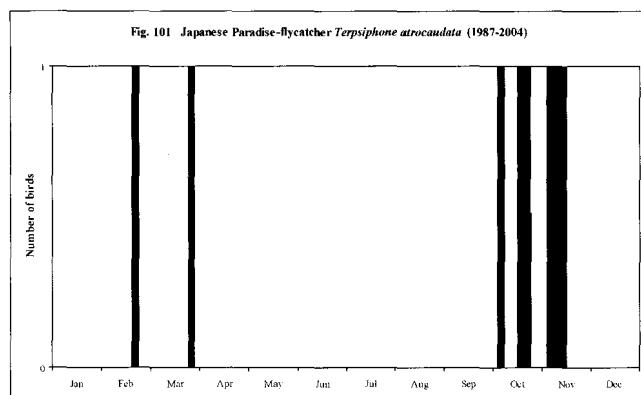


Fig. 101. Japanese Paradise-flycatcher, *Terpsiphone atrocaudata* (1987 – 2004).

289. Common Iora

Aegithina tiphia singapurensis C/RB

Black-winged Iora

Burung Kunyit Kecil

Status. – Common resident.

Range. – S Malay Pen and Singapore. Other ssp. in Pen Thailand, N Malay Pen, Sumatra, Java, Bali, Borneo and Palawan. Also on the Indian subcontinent, Yunnan, Indochina and Myanmar.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Mangroves, plantations, scrub, gardens, parks and rural areas.

Breeding. – Brooding observed in Mar., Apr. Chicks seen in May., Jun. Imm seen in May., Jul.

Materials examined. – AMNH 1 (1 FF), BM 8 (3 FF, 5 MM), RMBR 3 (2 FF, 1 MM), UWBM 2 (1 MM, 1 AA).

290. Green Iora

Aegithina viridissima viridissima E

Status. – Extinct. Former uncommon resident.

Records. – One ringed in 1963 by M. A. Webster & P. F. Stewart (Medway & Wells, 1964). One ringed on 17 Jul. 1965 in Changi, retrapped on 10 Feb. 1968 by RAFOS (Gregory, 1970). Another ringed in 1969, in the neighbourhood of Seletar Base by D. N. Greasley and P. F. Stewart (McClure, 1970). Small numbers most frequently seen in the Changi area fringes (Gregory, 1970). All the ringing records were regarded as erroneous by Wells (pers. comm.) although no reasons were given. No records since.

Range. – Pen Myanmar, Thailand, Malay Pen, Sumatra and Borneo. Another ssp. on Anamba Is.

Habitat. – Formerly in thickly-wooded areas (G-H, 1949a).

Breeding. – Not recorded.

Materials examined. – None.

291. Rufous-winged Philentoma

Philentoma pyrhopoterum pyrhopoterum E

Chestnut-winged Monarch, Chestnut-winged Monarch Flycatcher

Sambur Sayap Merah

Status. – Extinct. A former fairly common resident.

Records. – One bird collected on 1 Aug. 1875 (Hume Coll., BM). Last recorded by G-H (1949a).

Range. – S Indochina, Pen Thailand, Malay Pen, Sumatra and Borneo. Another ssp. on Natuna Is.

Habitat. – Formerly in forests and scrub.

Breeding. – Not recorded.

Materials examined. – BM 3 (3 AA).

292. Maroon-breasted Philentoma

Philentoma velatum caesia E

Maroon-breasted Monarch, Maroon-breasted Monarch Flycatcher

Sambar Dada Ungu

Status. – Extinct.

Records. – One specimen collected in 1874, a formal record in the Gould Coll. (Salvadori in G-H, 1949a). Last collected by Davison (Hume Coll., BM) on 8 Dec. 1879. It is normally an inhabitant of the more densely-wooded sections of forest country, and may possibly have been on Singapore 100 years ago; there were no subsequent records (G-H, 1949a). No other records.

Range. – Pen Myanmar, Thailand, Malay Pen, Sumatra and Borneo. Nominate ssp. in Java.

Habitat. – Formerly resident in forests and swamps.

Breeding. – Not recorded.

Materials examined. – BM 1 (1 MM).

293. Large Woodshrike

Tephrodornis gularis fretensis E

Hook-billed Greybird

Rembah Kayu Besar

Status. – Extinct. Former resident.

Records. – A female collected in Singapore by W. Davison on 8 Dec. 1879 (Hume Coll., BM). Occurs in small numbers in the BT area and assumed to be still present in the 1940s (G-H, 1949a). A few records from the Changi area only; always seen in flocks never greater than six birds (Gregory, 1970) but the records cannot be accepted due to lack of evidence. No records since.

Range. – Malay Pen and Sumatra (except SW). Other ssp. on the Indian subcontinent, Myanmar, Borneo, Java and SW Sumatra.

Locality. – (BT, Changi).

Habitat. – Formerly in heavy forests.

Breeding. – Not recorded.

Materials examined. – BM 1 (1 FF).

FAMILY MUSCICAPIDAE

294. White-throated Rock Thrush

Monticola gularis R/WV PM

Murai Biru Leher Putih

Status. – Rare passage migrant and winter visitor.

Records. – Only a few records: one male seen at Changi on 9 Nov. 1988 (SINAV 2-11). Subsequent records at BTNR on 27 Nov. 1988, 2 Jan. 1989, 6 – 7 Feb. till 10 Mar. 1989, 5 Dec. 1990, 23 Dec. 1990, 18 Jan. 1992 (SINAV 2 to 6). No further records until a probable female seen in Sime Rd, 1 Jan. 2004 (Lim, 2004).

Range. – Breeds in N China, Korea and E Russia; winters in S China and SE Asia to the Malay Pen.

Locality. – BTNR, Changi, Sime Rd.

Habitat. – Forests and scrub.

Early and late dates. – 9 Nov. – 10 Mar.

Materials examined. – None.

295. Blue Rock Thrush

Monticola solitarius pandoo R/P/M

Murai Tarum, Burung Tarum

Status. – Rare passage migrant.

Records. – Only a few records. The first record was photographed by RFO in Tuas but the date was not given (Wells, pers. comm.). The second record of a bird at Changi Ferry Terminal, 9 – 11 Oct. 1994 (SINAV 8; Iora 1), said to be misidentified and notes pointed to a Siberian Thrush or White-throated Rock Thrush (Wells, pers. comm.). The third record was of an Imm male at BTNR, 31 Dec. 1994 (SINAV 8; Iora 1). No records since, until a bird was spotted at HNP, 21 Dec. 2006 (various observers).

Range. – Breeds in the Himalayas, Japan and Siberia; winters in Malay Pen, Singapore and Sumatra. Another ssp. in Malay Pen, Borneo and N Natuna Is.

Locality. – BTNR, Changi, HNP, Tuas.

Habitat. – Rocky coasts, breakwaters and forests.

Materials examined. – None.

296. Orange-headed Thrush

Zoothera citrina citrina R/WV

Orange-headed Ground Thrush

Murai Dada Oren

Status. – Rare winter visitor.

Records. – First recorded on 20 and 23 Dec. 1988 by LKS (SINAV 2-12). A female seen on 2 and 13 Jan. 1989 through 10 Mar. (SINAV 3). A male on 21 Dec. 1989 through 27 Jan. 1990 (SINAV 3, 4). One male seen on 9 – 29 Dec. 1990, a female on 16 – 22 Dec. 1990 (SINAV 4). A male seen on 8 Dec. 1992 and 12 Dec. 1992 (SINAV 6-4). A female on 17 Jan. through 28 Feb. 2000 (SINAV 14-1). A female seen at BBNP on 15 Mar. 2000 (SINAV 14-1). One bird seen at Lower Peirce, 19 Feb. 2004 (LKS, 2004). A male seen at BTNR on 12 – 13 Dec. 2004 (SINAV 18-4). One male at SBG in Mar. 2005 (LKS, in litt.). A bird seen and photographed in SBG, 25 – 30 Jan. 2006 and 4 Feb. 2006 (various observers). Two birds seen at HNP, 23 Dec. 2006 (A. Low, in litt.). Still there on 8 Jan. 2007 (YDL, in litt.).

Range. – Breeds in the Himalayas, S China, through SE Asia; winters in Malay Pen, Singapore and Sumatra. Other ssp. in Borneo, Java and Bali.

Locality. – Mainly at BTNR, also in CC forests (Lower Peirce), occasionally in BBNP, HNP and SBG.

Habitat. – Forests, wooded areas.

Migration. – Not recorded every year. See Fig. 102.

Early and late dates. – 8 Dec. – 15 Mar.

Materials examined. – None.

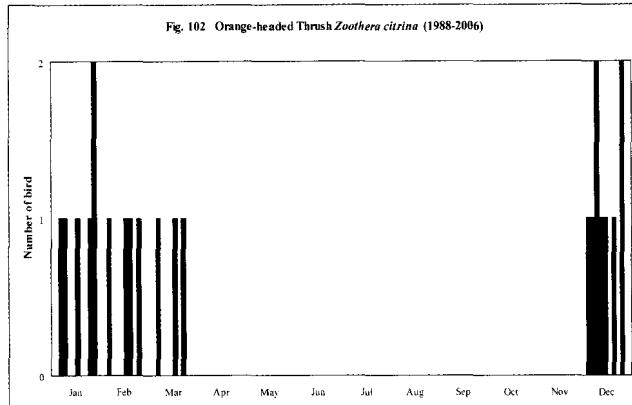


Fig. 102. Orange-headed Thrush, *Zoothera citrina* (1988 – 2006).

297. Siberian Thrush

Zoothera sibirica davisoni, sibirica R/P/M

Siberian Ground Thrush

Murai Hitam Siberia

Status. – Rare passage migrant.

Records. – First recorded on 27 Nov. 1987 at BTNR by SR (Wells, 1990b; SINAV 1-11). Up to three birds seen in BTNR on 10 – 22 Dec. 1990 (SINAV 6-4). A female on a fruiting fig at the summit of BTNR on 22 Oct. 1992 (SINAV 6-4). A male seen near the summit of BTNR on 9 Dec. 1994 (SINAV 8-4). Two birds seen from 23 – 25 Nov. 1994 (SINAV 8-4). One unconfirmed report from BTNR, 5 Nov. 2005 (Y. C. Lin, in litt.) and a female on 30 Nov. 2005 (James Heng, in litt.).

Range. – Breeds in E Russia, Mongolia, Siberia, N China, and Japan; winters in the E Indian subcontinent, Myanmar, through Malay Pen, Singapore, Sumatra, Borneo and Java.

Locality. – BTNR, HNP.

Habitat. – Primary and secondary forests.

Migration. – See Fig. 103.

Early and late dates. – 22 Oct. – 20 Dec.

Materials examined. – None.

298. Eyebrowed Thrush

Turdus obscurus obscurus U/PM, R/WV

Dusky Thrush, Grey-headed Thrush

Murai Belanda

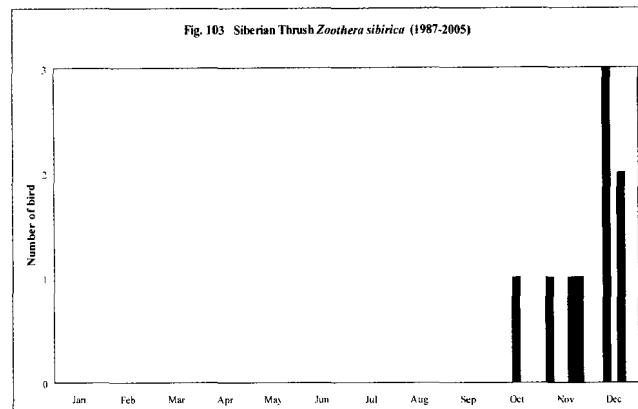


Fig. 103. Siberian Thrush, *Zoothera sibirica* (1987 – 2005).

Status. – Uncommon passage migrant and rare winter visitor.

Range. – Breeds in E Russia, Mongolia and Japan; winters in the NE Indian subcontinent, S China, through Malay Pen, Singapore, Sumatra, Borneo, Java and the Philippines.

Locality. – BTNR, CC forest (MacRitchie, Sime, Upper Peirce), HNP, KRP, Kusu Is, MF, Sentosa, Ser, SJI, Tuas.

Habitat. – Primary and secondary forests, scrub, occasionally in gardens.

Migration. – See Fig. 104.

Early and late dates. – 25 Oct. – 24 Mar.

Materials examined. – BM 2 (1 FF, 1 AA).

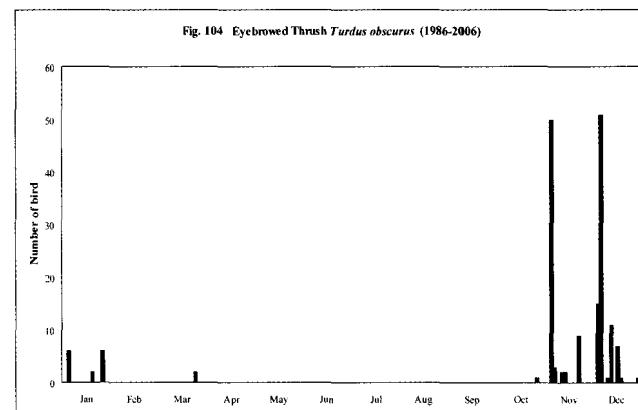


Fig. 104. Eyebrowed Thrush, *Turdus obscurus* (1986 – 2006).

299. Brown-chested Jungle Flycatcher

Rhinomyias brunneata R/WV PM

Sambar Hutan

Status. – Rare winter visitor and passage migrant. Globally-vulnerable (Collar et al., 1994).

Records. – First recorded in Ulu Sembawang, where an adult was seen in a garden by LKC on 4 Jan. 1980 (SINAV 1). Second record of one at Changi C on 16 Oct. 1988 (SINAV 1). Another at BTNR on 20 Oct. 1988 (SINAV 1). Seen and photographed

at NS on 9 Oct. 1994 (SINAV 8-4). One at Tuas on 30 Oct. 1997 and one at Tyersall on 31 Oct. 1997 (SINAV 11-4). One bird seen on 25 Oct. 2005 at Sime Rd (LKC, in litt.). One first-year bird was netted at KR on 23 Sep. 2006 (WLK). Another first-year bird photographed at Chinese Garden, 27 Oct. 2006 (K. C. Tsang, in litt.). On 28 Oct. 2006, five birds counted at Sime Forest (A. Low, in litt.); another bird was found exhausted in a garden (Chan Kim Cheng, in litt.) and another was seen at NS (LKS).

Range. – Breeds in SE China; winters mainly in Malay Pen, rare in Thailand and Singapore.

Locality. – Alexandra Park, BTNR, CC forest, CCK, Changi C, Chinese Garden, ECP, Holland Woods, (J Ulu Sembawang), KR, MF, NS, Sentosa, Sime Rd, TM, Tuas, Tyersall.

Habitat. – Forests and scrub.

Migration. – Not recorded annually. Main movement during Oct. – Nov. See Fig. 105.

Early and late dates. – 23 Sep. – 4 Jan.

Materials examined. – AMNH 1 (1 AA), UWBM (1AA).

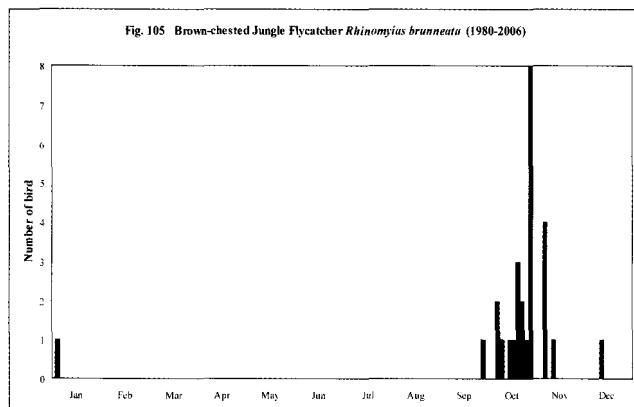


Fig. 105. Brown-chested Jungle Flycatcher, *Rhinomyias brunneata* (1980 – 2006).

300. Dark-sided Flycatcher

Muscicapa sibirica sibirica U/WV PM

Sooty Flycatcher
Sambar Siberia

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in the Himalayas, E Russia, Siberia, China and Japan; winters in S China, the Indian subcontinent, Myanmar, Thailand, Malay Pen, Singapore, Sumatra, Borneo and Java.

Locality. – Mainly in BTNR, CC forests. Also Kranji, Sentosa.

Habitat. – Usually found in forests but occasionally in wooded areas.

Migration. – Main passage in Dec., Mar. See Fig. 106.

Early and late dates. – 10 Sep. – 19 Apr.

Materials examined. – None.

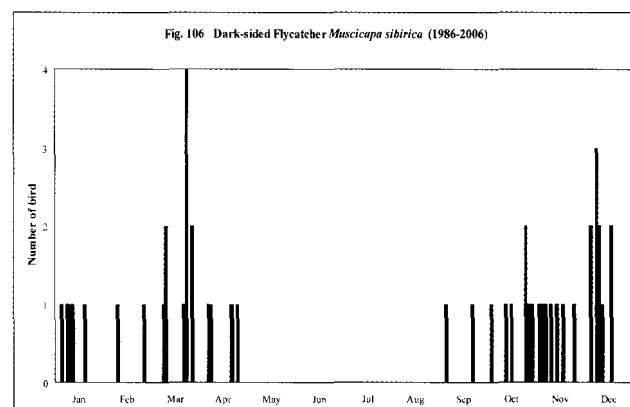


Fig. 106. Dark-sided Flycatcher, *Muscicapa sibirica* (1986 – 2006).

301. Asian Brown Flycatcher

Muscicapa dauurica latirostris C/WV PM

Brown Flycatcher
Sambar Asia

Status. – Common winter visitor and passage migrant.

Range. – Breeds in the Himalayas and NE Asia to Japan and Korea; winters in the Indian subcontinent, S China, Indochina, Malay Pen, Singapore, S Sumatra, Borneo, Java and the Philippines.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Forests, mangroves, scrub, plantations, cultivation, gardens and parks.

Migration. – Some apparently over-summer (G-H, 1949).

Early and late dates. – 9 Aug. – 16 Apr.

Materials examined. – BM 5 (5 FF), RMBR 2 (1 FF, 1 AA).

302. Brown-streaked Flycatcher

Muscicapa williamsoni R/WV

Status. – Rare winter visitor. Not listed by Lim (1999); formerly regarded as a ssp. of *M. dauurica*.

Records. – One recorded and photographed on SJI on 6 Jan. 1981 by RFO (Wells, pers. comm.). One at Sentosa on 9 Nov., 28 Nov. and 1 Dec. 1987 (SINAV 1). One bird at BTNR on 27 Oct. 1992 and 4 Jan. 1998 (SINAV 6; 12). One bird at P Ubin on 18 Jan. 1998 (SINAV 12). One bird at BTNR on 25 Nov. 2000 (SINAV 14).

Range. – Myanmar, S Thailand and S Vietnam to Sumatra and possibly the Philippines. Assumed resident in Malay Pen.

Locality. – Mostly on Sentosa, SJI. Also recorded on BTNR, P Ubin.

Habitat. – Forests, mangroves, scrub, plantations, cultivation, gardens, parks.

Migration. – See Fig. 107.

Early and late dates. – 27 Oct. – 18 Jan.

Materials examined. – None.

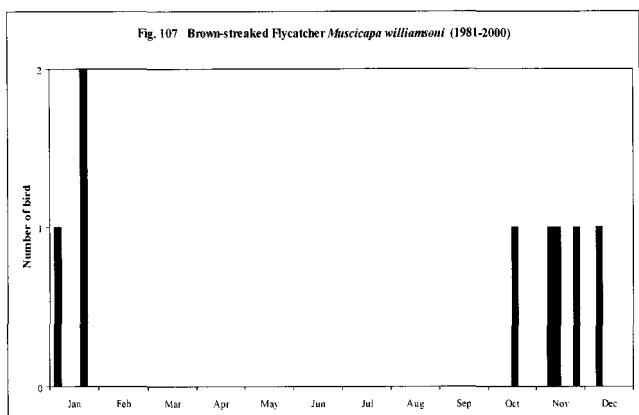


Fig. 107. Brown-streaked Flycatcher, *Muscicapa williamsoni* (1981 – 2000).

303. Ferruginous Flycatcher *Muscicapa ferruginea* U/WV

Sambar Sampah

Status. – Uncommon winter visitor.

Records. – First record of up to two individuals over-wintering in BTNR on 9 Oct. 1986 till 13 Apr. 1987 by SR (SINAV 1).

Range. – Breeds in the Himalayas and S China; winters in Indochina, S China, Myanmar, Malay Pen, Singapore, Sumatra, Borneo, Java and Palawan.

Locality. – Bt Brown, BTNR, CC forest, (J Ulu Sembawang), KRP, Rifle Range Rd, SBG.

Habitat. – Forests and sometimes in cultivated areas.

Migration. – See Fig. 108.

Early and late dates. – 25 Sep. – 13 Apr.

Materials examined. – None.

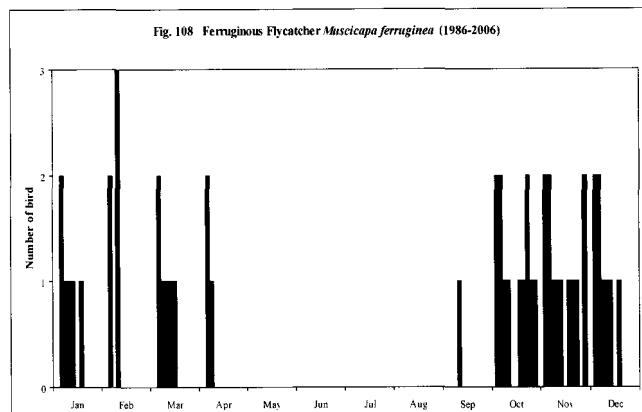


Fig. 108. Ferruginous Flycatcher, *Muscicapa ferruginea* (1986 – 2006).

304. Yellow-rumped Flycatcher

Ficedula zanthopygia C/WV PM

Sambar Belakang Kuning

Status. – Common winter visitor and passage migrant.

Range. – Breeds in E Russia, Mongolia, N China and Korea; winters in Malay Pen, Singapore, Sumatra and Java.

Locality. – Throughout Singapore in suitable habitats: Amoy Street, BBNP, BTNR, CC forest, CCK, Changi C, Chinese Garden, Kranji, KRP, LH, Marina S, MF, PR, P Ubin, SBWR, Sentosa, SJI, Youngberg Hospital, Tuas.

Habitat. – Forests, mangroves, scrub, plantations, gardens and parks.

Migration. – More common on S passage, Sep. to Nov. Most birds seen are females. May over-summer (one bird on 14 Jun. 1992). See Fig. 109.

Early and late dates. – 1 Sep. – 27 Apr.

Materials examined. – None.

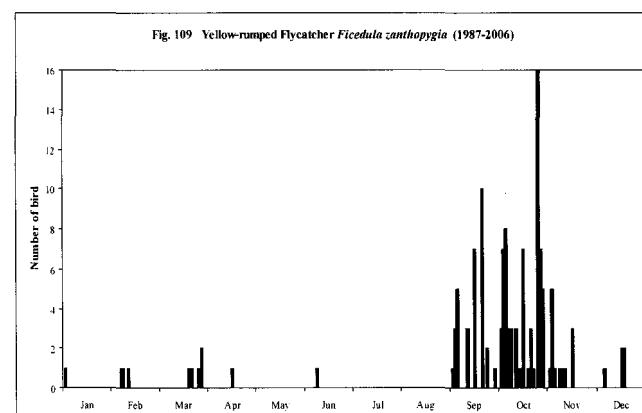


Fig. 109. Yellow-rumped Flycatcher, *Ficedula zanthopygia* (1987 – 2006).

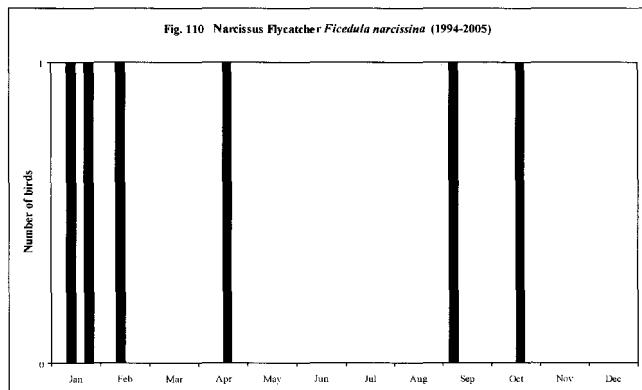
305. **Narcissus Flycatcher***Ficedula narcissina elisae* R/PM*Sambar Narcissus***Status.** – Rare passage migrant.

Records. – A bird ringed in the neighbourhood of Seletar in 1963 by M. A. Webster & P. F. Stewart and in 1964 by D. N. Greasley & P. F. Stewart (Medway & Wells, 1964; Medway & Nisbet, 1965) was probably a Yellow-rumped Flycatcher (Wells, pers. comm.). A female or Imm male at KRP on 22 Sep. 1994 (Lamont, 1998; Iora 1) was the first confirmed record. One male at KB on 14 Jan. 2001 and a female at NS on 4 Feb. 2001 (SINAV 15-1). A male in breeding plumage seen at NS on 9 Apr. 2004 (SINAV 18-2). A bird at Bidadari cemetery on 21 Sep. 2004 (SINAV 18-3) cannot be confirmed due to lack of notes. A female was seen on 24 Oct. 2004 at NS (Yeo Suay Hwee, in litt.). A female was seen by various observers on 30 Jan. 2005 at NS (LKS, in litt.).

Range. – Breeds in E Russia, N China and Japan; migrates through S China, Pen Myanmar, Thailand, Malay Pen, and the Philippines; rarely to Singapore.

Locality. – KB, KRP, NS.**Habitat.** – Forests and wooded areas.

Migration. – Passage dates from 22 Sep. – 24 Oct., return passage from 14 Jan. – 4 Feb., once till 9 Apr. See Fig. 110.

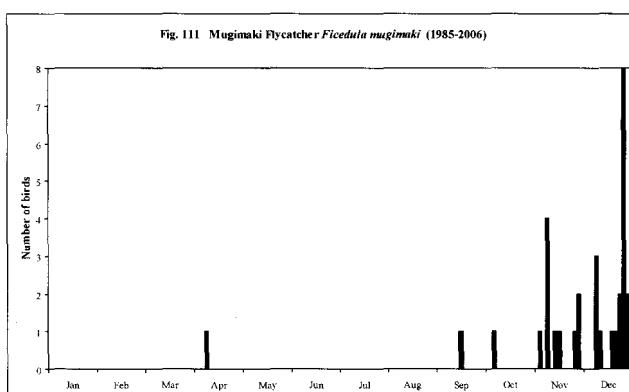
Materials examined. – None.Fig. 110. Narcissus Flycatcher, *Ficedula narcissina* (1994 – 2005).306. **Mugimaki Flycatcher***Ficedula mugimaki* U/PM*Sambar Mugimaki***Status.** – Uncommon passage migrant.

Records. – First recorded 9 Apr. 1950, a male in a garden on the outskirts of Singapore (G-H, 1950; 1952b). A female at NS on 22 Apr. 1987, four at Sime Rd on 26 Nov. and 25 Dec. 1987, and one on SJI on 2 Dec. 1987 (Wells, 1990b). Recently, one male seen at BTNR on 25 Dec. 1997 (SINAV 11-4). A bird at

Sime Rd on 18 Nov. and a female on 2 Dec. 2000 (SINAV 14-4). One bird at MF on 26 Nov. 2005 (LKS, in litt.). Two birds seen at BBNP, 4 Dec. 2005 and a pair seen at HNP on 10 Dec. 2005 and four more at MF on 11 Dec. 2005 (various observers). A female photographed at NS, 28 Dec. 2006 (various observers), a first winter male photographed at HNP, 30 Nov. 2006 (Johnny Wee, in litt.), bird seen there on 22 Dec. 2006 – Jan. 2007 (YDL, in litt.).

Range. – Breeds in E Russia, N China and Japan; winters in SE Asia to Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines and the Moluccas.

Locality. – BBNP, Bt Kallang, BTNR, CC forest, HNP, KRP, MF, SJI, Tuas.

Habitat. – Forest.**Migration.** – Main passage in Nov., Dec. See Fig. 111.**Materials examined.** – None.Fig. 111. Mugimaki Flycatcher, *Ficedula mugimaki* (1985 – 2006).307. **Blue-and-white Flycatcher***Cyanoptila cyanomelana cumatilis* R/PM*Sambar Biru-Putih***Status.** – Rare passage migrant.

Records. – First recorded on SJI, a presumed male seen and photographed by SR on 2 Nov. 1986 (Wells, 1990b). An Imm male in BTNR, 20 Dec. 1990 and one at KRP on 12 and 19 Nov. 1994 (SINAV 8; Lamont, 1998). A female seen and photographed at MF on 6 Jun. 2002 (SINAV 16-1). A male recorded in “spring” 2005 (LKS, in litt.) but no details are available. A bird at Sime Rd on 23 Oct. 2005 (LKS, in litt.). Another female seen at HNP on 3 Dec. 2005 (LKS, in litt.). A first winter male seen at HNP, 22 Dec. 2006 (YDL, in litt.).

Range. – Breeds in E Russia, N China, Korea and Japan; winters in S China, through SE Asia to the Greater Sundas and the Philippines.

Locality. – BTNR, HNP, KRP, MF, SJI.**Habitat.** – Forests and secondary woods.

Early and late dates. – 23 Oct. – 6 Jan.

Materials examined. – None.

308. Blue-throated Flycatcher

Cyornis rubeculoides vR/PM

Sambar Biru Berhijrah

Status. – Very rare passage migrant.

Records. – Unconfirmed record of a male in shrubs at ECP, 14 Apr. 1992 (SR in SINAV 6-2). The first confirmed record of a first winter male seen in SBWR on 18 Nov. 1997 by LKS (SINAV 11-4). A bird claimed from the S Is: a female at P Hantu Besar on 23 Sep. 2001 (RO, SR in OBC Bull. 35) is unconfirmed due to lack of notes.

Locality. – SBWR.

Habitat. – Wooded areas.

Materials examined. – None.

309. Mangrove Blue Flycatcher

Cyornis rufigastra rufigastra R/RB

Sambar Biru Bakau

Status. – Rare resident.

Threats. – Nationally-endangered, its range has been drastically reduced as a result of habitat loss and poaching; estimated population of 20 (Lim, 1989; 1992; Lim et al., 1994). Formerly widespread in Singapore and not uncommon (Chasen, 1924; Chasen, 1924a; B & C, 1927; G-H, 1949a).

Records. – A few records from mangrove areas in the late 1960s, mainly in the Jurong (Gregory, 1970; Tweedy, 1970). A bird ringed in Jurong mangroves on 2 Jan. 1971 (MAPS 1971).

Range. – S Malay Pen, Singapore, Sumatra and Borneo. Other ssp. in N Malay Pen, Sumatra, Anambas, Karimata Is, the Philippines and Sulawesi.

Locality. – Confined mostly to P Tekong, seen once on P Ubin (SINAV 9), (Jurong, Kranji, Ulu Pandan).

Habitat. – Strictly in mangroves and adjacent vegetation.

Breeding. – Recorded on P Tekong only, although no nest was found, juveniles seen in Jun. (Tweedy, 1970); one pair seen with a juvenile in the mangroves of P Tekong on 23 May. 1986 (SINAV 1). Juveniles seen in the company of adults on P Tekong, 23 Jul. 2000 (SINAV 14-3). Independent Imm seen in Jul.

Materials examined. – RMBR 10 (4 FF, 4 MM, 2 AA).

310. Siberian Blue Robin

Luscinia cyane cyane C/WV PM

Murai Biru Siberia

Status. – Common winter visitor and passage migrant.

Records. – First recorded in BTNR: a male in full breeding plumage was taken by F. G. H. Allen on 25 May. 1952; it was in company of two females (G-H, 1952b).

Range. – Breeding in E USSR, N China, Korea and Japan; wintering from NE India and S China through SE Asia to Sumatra, Borneo and the Philippines.

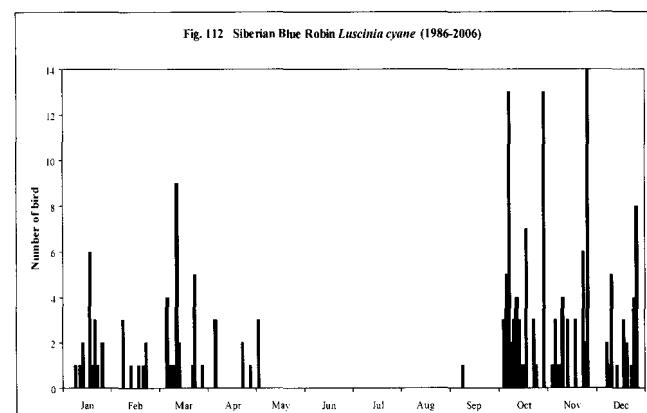
Locality. – BBNP, BTNR, CC forest, KRP, P Ubin, SBG, SBWR, SJI, Tyersall Woods, (Ulu Sembawang).

Habitat. – Found in or near the ground in forests and wooded areas.

Migration. – Main passage in Oct. – Dec. See Fig. 112.

Early and late dates. – 25 Sep. – 25 May.

Materials examined. – None.



period of two years, starting in 1984, in various protected areas. A survey in 1996 only found 114 birds (Goh et al., 2002).

Range. – Malay Pen, Singapore, Sumatra. Others ssp. in W Borneo (*C. s. problematicus*), N Borneo (*C. s. niger*), E Borneo (*C. s. pluto*). Also many other ssp. on the Indian subcontinent to S China, SE Asia to the Greater Sundas, Bali and the Philippines.

Locality. – Throughout Singapore, more common on N Is and S Is.

Habitat. – Mangroves, mature gardens, parks and rural areas.

Breeding. – Nest described by Spittle (1949). Clutch = 4. Eggs found from Jan. – Jul., Sep.; chicks in May. – Jul.; fledglings and Imm in Jan., Feb., Apr. – Nov.

Materials examined. – BM 16 (7 FF, 8 MM, 1 Imm), RMBR 20 (8 FF, 10 MM, 2 Imm), UWBM 2 (2 MM).

312. White-rumped Shama

Copsychus malabaricus mallopercna R/RB

Murai Rimba, Murai Hutan, Murai Batu

Status. – Rare resident. Formerly not uncommon (Robinson, 1927; B & C, 1927, G-H, 1949).

Threats. – Nationally-endangered (Lim, 1989; 1992) and almost extinct on mainland (L & G, 1997). The population has been much reduced by the bird trade.

Records. – More numerous on the offshore islands than in Singapore (Chasen, 1924a). Mainland population consisted of individuals recorded in a few areas in the forests. One at BTNR on 6 May.1983 was the first record for many years (Hails, 1988). These are possible escapees as nearly all have been males, except for single pairs at Peirce Res in Jun. – Jul. 1987. Pairs also seen on P Tekong, P Ubin and Sentosa. The population on P Tekong appears viable [a total of 23 counted in 2000 (SINAV 14-3)] but is nevertheless prone to poaching (Lim, 1992).

Range. – Malay Pen, Singapore, Riau and Lingga Arch. Other ssp. on the Indian subcontinent, Indochina, Thailand, Borneo, Sumatra and Java.

Locality. – BBNP, CC forest, Changi, Chestnut Ave, ECP, HNP, Japanese Garden, KAP, Lornie Rd, Loyang, MF, Poyan, P Tekong, P Ubin, SBG, Sentosa, (Ulu Sembawang), Tyersall.

Habitat. – Forests and thickly-wooded areas, seldom ventures into the open, although it is not shy of human habitation (Ridley, 1898; Tweedie, 1960).

Breeding. – Bred formerly in BTNR (B & C, 1927); two Imm birds were collected (RMBR) and a very young bird was caught on P Ubin (WLK, pers. obs.). Recent breeding records

of two recently-fledged young seen being attended by two adults on 2 Jul.2000 (SINAV 14-3). Imm in Aug. Nest building and eggs observed in Jul.2003 (SINAV 17-3). A fresh nest with three chicks found in Aug.2003 (Chan Kim Cheng, in litt.).

Materials examined. – BM 8 (2 FF, 6 MM), RMBR 12 (3 FF, 9 MM).

313. Siberian Stonechat

Saxicola torquata stejnegeri R/WV PM

Stonechat, Common Stonechat
Murai Sawah

Status. – Rare winter visitor and passage migrant.

Records. – Formerly recorded as a rare vagrant with only a few visual records (G-H, 1949a). One to two recorded most years. One male ringed at Ser on 28 Mar.1975 (SBBG, 1975). One female ringed at Ser on 10 Jan.1976 (SBBG, 1976). One female at Kranji on 1 Jan. and 18 Jan.1987 (SINAV 1). Up to two females seen at Marina E on 20 – 23 Nov. and 1 Dec.1988 (SINAV 2). Two birds seen at Kranji on 29 Oct.1989 and two females at Marina E on 26 Nov.1989 (SINAV 3). A male at Lor Mayang on 25 Mar.1990 and a female at Ponggol on 17 Oct.1990 (SINAV 4). One bird at Pgl on 22 Mar.1992 (SINAV 6). A female at Tuas on 14 Dec.1997 (SINAV 11). A female seen at TM on 28 Nov.2004 (SINAV 18-4). One bird seen on 25 Dec.2005 at Changi (AN, in litt.). Lone females were seen at Changi and Pgl in Dec.2005 (LKS, in litt.).

Range. – Breeds in Africa and Madagascar, through the Palaearctic. Northern populations are migratory, winter in N Africa; S Asia and SE Asia to Malay Pen, Singapore and Borneo.

Locality. – BTNR, Changi, (Jurong), Kranji, Lor Mayang, Marina E, Pgl, Ser, TM, Tuas.

Habitat. – Marshy grassland areas and open country.

Migration. – Southward passage in Oct. – Nov. and N passage in Mar. See Fig. 113.

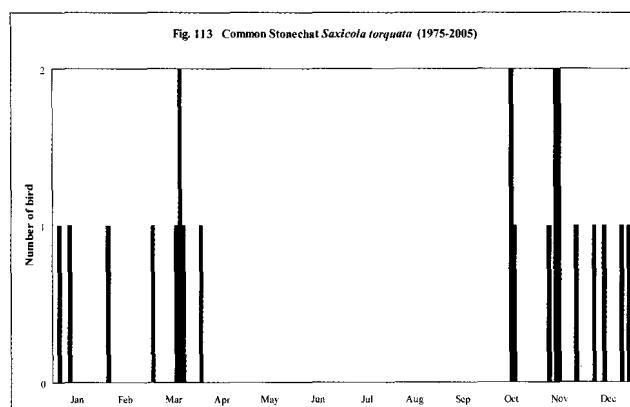


Fig. 113. Common Stonechat, *Saxicola torquata* (1975 – 2005).

Early and late dates. – 17 Oct. – 28 Apr.

Materials examined. – None.

FAMILY STURNIDAE

314. Asian Glossy Starling

Aplonis panayensis strigatus C/RB

Philippine Glossy Starling, Glossy Starling
Perling Mata Merah

Status. – Common resident.

Range. – NE Indian subcontinent, Myanmar, Pen Thailand, Malay Pen, Singapore, Sumatra, Borneo and Java. Other ssp. in N Tenasserim and the Philippines.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Widespread in all habitats, in forest edges, urban areas, gardens, parks, open country and orchards.

Breeding. – Nesting recorded throughout the year.

Materials examined. – AMNH 1 (1 MM), BM 32 (13 FF, 17 MM, 1 Imm, 1 AA), RMBR 40 (16 FF, 17 MM, 6 AA, 1 imm), UWBM 2 (1 FF, 1 AA).

315. Purple-backed Starling

Sturnus sturninus C/WV PM

Daurian Starling

Perling Belakang Ungu

Status. – Common winter visitor and passage migrant.

Range. – Breeds in E Russia, N China and Korea; winters in S China, NE Indian subcontinent, through SE Asia to Malay Pen, Singapore, Sumatra and Java.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Mangroves, scrub, forest edges, gardens, parks and open country.

Migration. – Flocks in large numbers. Main passage in Sep. – Oct. and again in Mar. See Fig. 114.

Early and late dates. – 22 Aug. – 28 Mar.

Materials examined. – BM 12 (4 FF, 7 MM, 1 AA), RMBR 7 (4 FF, 3 MM). Specimens collected by W. L. Abbott in Feb. 1900 (Riley, 1938) were not found.

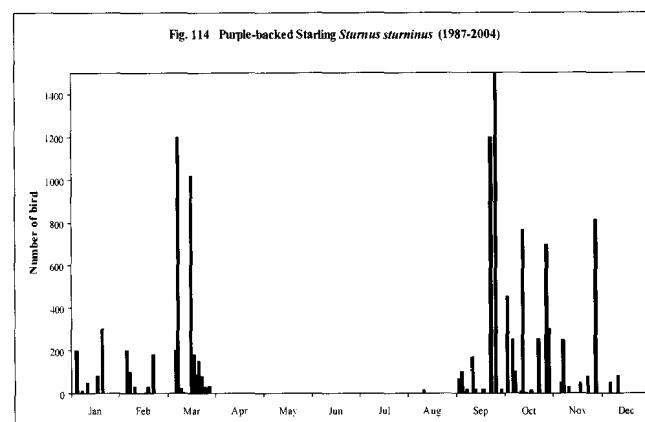


Fig. 114. Purple-backed Starling, *Sturnus sturninus* (1987 – 2004).

316. Chestnut-cheeked Starling

Sturnus philippensis vR/A

Violet-backed Starling

Perling Pipi Perang

Status. – Very rare vagrant.

Records. – Only one confirmed record: a male at Loyang on 8 Dec. 1987 by SR (SINAV1-12). Another bird claimed at Kallang on 18 – 30 Dec. 1987 (Ollington et al., 1999 in Wells, in press) but no notes or photographs were taken. One unconfirmed record from Mandai, 23 Mar. 2003 (SINAV 17-1; OBC Bull. 38).

Range. – Breeds in Japan; winters mainly in the Philippines, Borneo, Sulawesi and the Ryukyu Is.

Locality. – Loyang.

Habitat. – Secondary scrub.

Materials examined. – None.

317. White-shouldered Starling

Sturnus sinensis U/WV PM

Grey-backed Starling, Chinese Starling, Chinese Myna
Perling Bahu Putih

Status. – Uncommon winter visitor and passage migrant.

Records. – Baker (1907) listed it as common, but he possibly confused it with *S. sturninus* (Hails, 1988). Specimens taken on Singapore when in some years it would seem to be fairly numerous (G-H, 1949, 1949a), and five netted in Tengah on 31 Jan. 1968 (Medway & Wells, 1970).

Range. – Breeds in China, Taiwan and Japan; winters in the NE Indian subcontinent, through SE Asia to Malay Pen, Singapore and Borneo.

Locality. – BTNR, Bt Tinggi, CCK, Changi, ECP, J Kedai, (Jurong), KB, Marina S, Pgl, SBWR, (Senoko), Ser, SJI, (Tg Katong), Tengah, W Coast.

Habitat. – Mangrove, coastal vegetation, open wooded areas and grassland.

Migration. – Recorded more frequently from Singapore than Malaysia and has never been taken with night-flying migrants in the Malay Pen (M & W, 1976) which suggests that they pass through the region in only small numbers and possibly converge on Singapore (Hails, 1988). See Fig. 115.

Early and late dates. – 11 Sep. – 1 Apr.

Materials examined. – RMBR 6 (4 FF, 2 MM). Specimens collected by W. L. Abbott in Feb. 1900 (Riley, 1938) were not found.

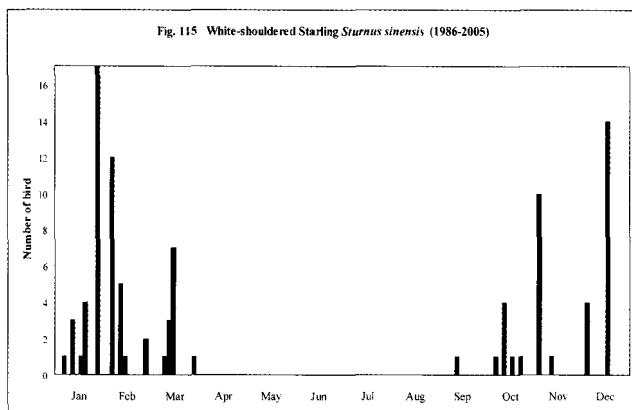


Fig. 115. White-shouldered Starling, *Sturnus sinensis* (1986–2005).

318. Rosy Starling
Sturnus roseus R/A

Rose-coloured Starling

Status. – Vagrant. Classified as escapee or introduced by the records committee of Nature Society, Singapore. Based on the dates of sighting, however it is most probably a genuine visitor ssp. the N.

Records. – First record of one juvenile seen by P. Kennerley at Tuas, 5 Nov. 1994 – 18 Jan. 1995 (Iora 1). First reported from SJI on 15 Jan. 2001, was seen there again on 15th Feb. 2001 (SR in OBC 34). One subadult photographed at Changi on 15 Dec. 2005 and 29 Dec. 2005 (Eric Tan, in litt.). One seen at Changi on 4 Jan. 2006 (Ho Hua Chew, in litt.). Two birds seen there on 19 Feb. 2006 (YDL, in litt.). Another bird photographed on reclaimed land in Changi on 4 Mar. 2006 (David Tan, in litt.).

Range. – Breeds in Russia, Middle East and C Asia; winters in the India subcontinent and Sri Lanka.

Locality. – Changi, SJI, Tuas.

Migration. – Occurs frequently outside its winter range (Mayr & Greenway, 1962).

Habitat. – Open country.

Materials examined. – None.

319. Black-winged Starling

Sturnus melanopterus melanopterus R/I RB

White-breasted Myna

Perling Sayap Hitam

Status. – Rare resident. Introduced in the 1920s from Java or Bali, probably as caged birds but seem to have died out (Chasen 1935).

Records. – An Imm female of the typical ssp. was collected in Katong on 20 Jul. 1920 (RMBR), stated to have been killed from a flock of similar birds (P. de Fontaine in Chasen, 1924). There are old records from Singapore (Chasen, 1924), but G-H (1949; 1950d) found no evidence for it having become established. Resident only in small numbers on SJI with a few also on Kusu Is and these populations are feared to have died out by 2003 (SR, pers comm.).

Range. – Native to Java and Bali.

Locality. – Alexandra Park, Bt Merah, Changi, Kallang, Keat Hong Camp, Kranji, KRP, Kusu Is, LCK, Lor Gambas, MacRitchie, MF, Queenstown, SJI, Tanglin, Upper Thomson Rd. Records outside of Queenstown, SJI and Kusu Is are probably recent escapees (L & G, 1997).

Habitat. – Open wooded areas and gardens.

Breeding. – First recorded in Alexandra Estate, Mar. 1983, where a group of six to seven persisted (H. Carrard in Hails, 1988). Bred on SJI: a new fledgling on 11 Jul. 1986.

Materials examined. – RMBR 1 (1 FF).

320. Common Myna

Acridotheres tristis tristis C/RB

Indian Myna

Tiong Gembala Kerbau

Status. – Common resident.

Records. – First recorded as a few pairs in Singapore in 1935 (Chasen). Previously thought to be introduced into the Malay Pen by man, and spread recently S (Chasen 1939 in G-H, 1949a). There was evidence of a natural spread down the Malay Pen beginning in 1919 from Myanmar at the time of extensive deforestation of the W coastal plain, from Myanmar (G-H, 1949; 1952). In the course of five years (late 1930s), it became established in parts of the residential area on the outskirts of town and spread to Changi (G-H, 1952).

Subsequently, in the period 1940 – 1950, there was a very considerable increase in its numbers and it is now plentiful in all suitable localities (G-H, 1952). First recorded on P Senang on 10 Jun. 1951, where an Imm female was collected (G-H, 1952a).

Range. – Native to Iran, S Russia, the Indian subcontinent and Indo-China; introduced to many SE Asian and Pacific areas.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Widespread in all open country habitats and urban areas.

Breeding. – Recorded all year round. Some hybridization with *A. javanicus* (WLK pers. obs.). Nest described by Spittle (1949). Clutch usually four to five. Nest building from Jan. through Sep. Eggs in Feb., Jul. Chicks seen in Feb., May., Jul. Imm seen in Mar. through Jul.

Materials examined. – AMNH 2 (2 MM), RMBR 1 (1 FF).

321. Javan Myna

Acridotheres javanicus C/I RB

White-vented Myna
Tiong Jambul Jawa

Status. – Common resident. Introduced.

Records. – Apparently descended from cage-birds originating in Java (Chasen, 1925). A feral population has been present in Singapore since at least 1925. By the mid-1930s, it was well established in a few localities on the edge of town but was by no means numerous (G-H, 1952). A few pairs had established themselves before the Second World War. Within a few years, it had grown more plentiful (G-H, 1949). By 1952, it was still not yet reported from any of the off-lying islands (G-H, 1952). It is now the commonest resident bird in Singapore, though less common on offshore islands.

Range. – Native to the NE Indian subcontinent, S China, discontinuously to Java and Sulawesi. Introduced to Sumatra and Malay Pen.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Found in all habitats, except the interior of forests. Most common in urban areas.

Breeding. – Recorded all year round.

Materials examined. – AMNH 3 (1 FF, 1 MM, 1 AA), RMBR 2 (2 MM), UWBM 5 (4 MM, 1 FF).

Note – Listed as the Buffalo Myna (*A. fuscus*) in early records (G-H, 1949; 1949a; 1950d; Gregory, 1970), but without evidence, and evidently in error (Hails, 1988); may well have been mistaken for a pale-bellied juvenile. *A. javanicus* in the

past (Wells, 1983). Despite a detailed discussion of *A. fuscus* (G-H, 1950), there are no specimens in RMBR. An island-wide survey of Singapore during 8 – 10 May 1977 also did not record any *A. fuscus* (Wells, 1983).

322. Crested Myna

Acridotheres cristatellus brevipennis R/I RB

Tiong Jambul Cina

Status. – Rare resident. Introduced.

Records. – Recorded on SJI since 1981 (Wells, 1986), on Singapore (first recorded in Bras Basah Park by C. Hails) since 23 Nov. 1983 (Wells, 1990), and had spread as far as Changi by Nov. 1985 (Hails, 1988). Declining in numbers (L & G, 1997).

Range. – Native in S China and Vietnam. Introduced in the Malay Pen.

Locality. – Bras Basah Park, BT, Changi Airport, ECP, KRP, Kusu Is, Marina E, Marine Parade, Seaside Park, SJI, Tg Rhu.

Habitat. – Scrub, gardens and parks.

Breeding. – Nest building in Mar. (SINAV 3-3). No recent breeding records.

Materials examined. – None.

323. Hill Myna

Gracula religiosa javana U/RB

Talking Myna, Grackle
Tiong Emas, Burung Tiong

Status. – Uncommon resident. Formerly very common in Singapore (Robinson, 1927; B & C, 1927; G-H, 1949a) and P Ubin and P Tekong (Chasen, 1924a).

Range. – Pen Thailand, Malay Pen, Singapore, Sumatra, Java, Bali and Borneo. Also on the Indian subcontinent, S China, the Lesser Sundas and Palawan.

Locality. – BBNP, BTNR, CC forest, Loyang, Pasir Panjang Hill, P Tekong, P Ubin SBG, SJI.

Habitat. – Found in small numbers in the forest canopy and open forests with isolated tall trees. Occasional sightings in parks and open country are probably of escaped birds, as it is a very popular cage bird (Hails, 1988).

Breeding. – Nest inspection observed in Jan., Mar. Nest building in Jan. Formerly nested in the SBG (Ridley, 1906).

Materials examined. – BM 4 (1 FF, 3 AA), RMBR 9 (5 FF, 3 MM, 1 AA).

FAMILY SITTIDAE

324. Velvet-fronted Nuthatch

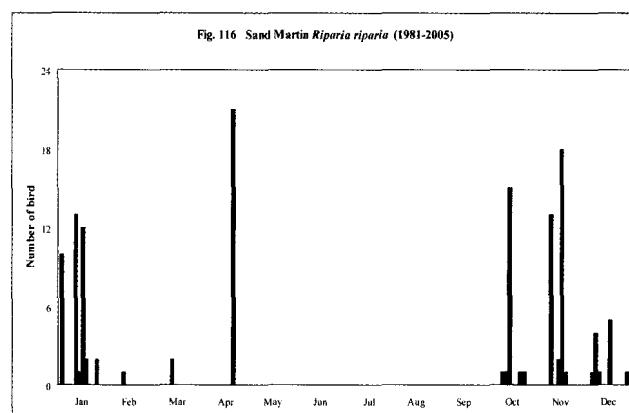
Sitta frontalis saturatior vR/NBV*Patuk Dahi Hitam***Status.** – Very rare non-breeding visitor.**Records.** – Recorded only once from BTNR, in Jul. 1996 – Oct. 1997 and 4 Jan. 1998. Said to be still present there on 6 Jul. 1999 (OBC Bull. 34).**Range.** – S Pen Thailand, Malay Pen, N Sumatra and Java. Other ssp. in Borneo and Palawan. Also on the Indian subcontinent.**Locality.** – BTNR.**Habitat.** – Forests.**Materials examined.** – None.

FAMILY HIRUNDINIDAE

325. Sand Martin

Riparia riparia ijimae U/WV PM*Bank Swallow**Layang-Layang Awan***Status.** – Uncommon winter visitor and passage migrant.**Records.** – First recorded in 1968 where up to eight birds were sighted at various parts of Singapore on 3 Feb. and 7 Dec. (Medway & Wells, 1970). One ringed at W Coast Rd on 10 Jan. 1968 and a few seen by RAFOS (Gregory, 1970).**Range.** – Breeds in Japan and Sakhalin; winters in the Malay Pen, Singapore, Borneo and the Philippines.**Locality.** – BSW, Changi, (Jurong), Kranji, Lor Mayang, NT Rd, Pgl, P Tekong, SBWR, Ser, Sg Seletar, Tg Murai, TM, Tuas and W coast.**Habitat.** – Marshes, grasslands, fields, ponds and coastal districts.**Migration.** – Main passage in Oct. – Nov., in Apr. See Fig. 116.**Early and late dates.** – 10 Oct. – 21 Apr.**Materials examined.** – None.

326. Barn Swallow

Hirundo rustica gutturalis C/WV PM*Common Swallow**Layang-Layang Hijrah*Fig. 116. Sand Martin, *Riparia riparia* (1981 – 2005).**Status.** – Common winter visitor and passage migrant.**Range.** – Breeds in the Holarctic region; winters in S America, Africa and SE Asia to Malay Pen, Singapore, Sumatra, Borneo, Java, Bali, Christmas Is and Cocos-Keeling Is.**Locality.** – Throughout Singapore, N Is, S Is.**Habitat.** – Feeds over all habitat types.**Migration.** – Recorded every month but most frequent from Aug. to Apr. Many first winter birds stay throughout summer (J & P, 1999).**Materials examined.** – BM 7 (2 FF, 5 MM), RMBR 6 (2 FF, 3 MM, 1 Imm), UWBM 1 (1 MM).

327. Pacific Swallow

Hirundo tahitica abbotti C/RB*Layang-Layang Pasifik***Status.** – Common resident.**Range.** – Malay Pen, Singapore, Sumatra (not S) and Borneo. Other ssp. on the Indian subcontinent, Pen Myanmar, Thailand, Java, S Sumatra, Australia and Polynesia.**Locality.** – Throughout Singapore, N Is, S Is.**Habitat.** – Found in all habitat types. Formerly a largely coastal bird, not usually found inland (Robinson, 1927) but has spread widely (G-H, 1949).**Breeding.** – Nest described by Spittle (1949). Clutch = 3. Incubation and fledging period = 36 days. Fledging = 18 days. Nest building observed in Jan., Apr., May., Jun. Eggs found in Mar., Jun. Chicks in Mar. – Sep.; Imm in Apr., Jun., Jul.**Materials examined.** – RMBR 15 (4 FF, 7 MM, 2 Imm, 2 AA), UWBM 1 (1 MM).

Locality. – Most common on P Ubin. Also recorded throughout Singapore: BBNP, Bt Mandai, BTNR, CC forest, Chestnut Drive, Eng Neo Ave, Gymkhana Ave, J Kedai, KB, King's Ave, Kranji Res, Lor Asrama, Lor Chuntum, Lor Gambas, Malcolm Park, MF, Poyan, SBG, (Senoko), Sentosa, Stephen Lee Rd, Sunset Way, Tagore Woods, (Tanglin), TBH, Toh Tuck Rd, (Ulu Sembawang), Woodlands.

Habitat. – Mangroves, coasts, open and scrub country, rubber estates and rural areas, particularly in the neighbourhood of the larger rivers above tidal waters.

Breeding. – Nest first recorded and described on 11 Feb. 1995, in P Ubin (SINAV 9-1). Nest building observed in Mar., Jun.; brooding in Feb., chicks found in Feb. and Mar. Imm were seen in Feb., Mar., Sep., Dec.

Materials examined. – RMBR 3 (1 FF, 2 MM).

331. Black-headed Bulbul

Pycnonotus atriceps atriceps R/RB

Merbah Siam

Status. – Rare resident.

Threats. – Nationally-threatened and endangered because of low numbers: estimated at 15 (Lim, 1989; 1992; 1994).

Range. – NE Indian subcontinent, Myanmar, Thailand, Malay Pen, Singapore, Sumatra, Borneo, Java and Bali. Another ssp. in Maratua Is (E Borneo).

Locality. – Restricted to the CC forest, also BTNR, [P Ubin (G-H, 1949)], SBG, SBWR. Sightings outside the C forests are probably the result of the cage bird trade.

Habitat. – Forest areas and secondary scrub.

Breeding. – No nest recorded but one pair of birds was seen, one individual with nest materials at Sime Rd on 19 Mar. 1987 (SINAV 1-3).

Materials examined. – RMBR 1 (1 MM).

332. Black-crested Bulbul

Pycnonotus melanicterus minor U/I RB

Yellow Bulbul

Merbah Jambul Hitam

Status. – Uncommon. Introduced ca. 1988.

Range. – Native to the Indian subcontinent, Yunnan and Myanmar, discontinuously to Borneo and Malay Pen.

Locality. – Confined to Bt Brown, BTNR, CC forests (Sime Rd, Upper Peirce Res.).

Habitat. – Forests.

Breeding. – Said to be recorded (LKS, pers. comm.) but no details are available.

Materials examined. – None.

333. Sooty-headed Bulbul

Pycnonotus aurigaster aurigaster, cafer R/I RB

Golden-vented Bulbul

Status. – Rare. Introduced.

Records. – Six (one collected) reported in suburban districts on 10 Nov. 1923 (Wilson, 1924), a few pairs established themselves in the Sepoy Lines area and Tanglin before the Second World War (G-H, 1949) but had not been reported since the Second World War (G-H, 1949a). Three adults reported near Kay Siang Rd on 5 Feb. 1949 and on 12 Jan. 1950 (G-H, 1950). No more records until one bird seen on Sentosa on 29 Jan. 1986 (Wells, 1990b). One (*P. a. cafer*) seen at Seaside Park on 21 Nov. 1988 (SR), again at Marina S on 5 Aug. 1989 (SR) (SINAV 3). One *P. a. aurigaster* seen at Changi C on 31 Aug. 1989 (SINAV 3). A small feral population (maximum of five birds seen) seem to be established at Tampines since 2003. Two birds seen at LH during ABC 2004 (AC, in litt.). Two birds photographed at Pgl, 12 Dec. 2006 (K. C. Tsang, in litt.).

Range. – Native to Myanmar, S China, discontinuously through SE Asia to Java. Introduced from Java to Singapore and Sumatra.

Locality. – Changi, (Kay Siang Rd, Marina S, Seaside Park), LH, Pgl, Tampines, (Tanglin).

Habitat. – Cultivated lowlands and gardens.

Breeding. – Three fully-fledged young found near Kay Siang Rd on 7 Jul. 1949. Another three fully-fledged young were seen on 19 Apr. 1950 in the same area but no nest was found (G-H, 1950; 1952). First nest found at Tampines on 18 Apr. 2003. Two eggs were reported on 2 May. 2003. A pair was found with food-alarm-calling to a nearby adult on 18 Jun. 2003 (J. Lim, pers. comm.; BirdingASIA 1).

Materials examined. – None. One specimen of the Javanese ssp., shot by Wilson (1924) and presented to RMBR was not found.

334. Grey-bellied Bulbul

Pycnonotus cyaniventris cyaniventris E

Merbah Perut Kelabu

Status. – Extinct. Former scarce resident (Robinson, 1928).

Records. – Last recorded by G-H (1949a) although Chasen (1923) did not find any in the 1920s. A few unconfirmed

sightings in the 1960s from the MacRitchie Res area (Gregory, 1970).

Range. – Pen Myanmar, Thailand, Malay Pen and Sumatra. Another ssp. in Borneo.

Habitat. – Formerly in open wooded country, occasionally in coastal regions (G-H, 1949).

Materials examined. – None.

335. Red-whiskered Bulbul

Pycnonotus jocosus erythrotis U/I RB

Merbah Telingah Merah, Merbah Jambul

Status. – Uncommon resident. Introduced in the 1910s, probably from cage escapees (G-H, 1950; M & W, 1976).

Records. – First recorded in 1912 in BTNR (two specimens collected, 6–7 Nov. 1912) and became common (Chasen 1922; Robinson, 1927; B & C, 1927). It appears to have established itself before the Second World War although no nesting was reported (G-H, 1949; 1952).

Range. – Native to the India subcontinent, the Andaman Is, the Nicobar Is, S China, Indochina and SE Asia to Malay Pen.

Locality. – Throughout Singapore: Bt Kallang, BTNR, Cavenagh Rd, CC forest, Fort Canning Park, Gymkhana Ave, HNP, the Istana, Japanese Garden, J Kedai, Kranji Dam, KRP, LH, Loyang, Marina E, Marina S, Marine Parade, Medway Park, MF, Pasir Panjang Hill, Pgl, PUBin, SBG, SBWR, Seaside Park, Sembawang, (Senoko), Sentosa, Ser, Simpang, SJI, Sunset Rd, Tuas, Yishun Park.

Habitat. – Locally common in open country, scrub, parks, gardens and rural areas.

Breeding. – First recorded on 22 Apr. 1988. Chicks found in May., Dec.

Materials examined. – RMBR 3 (2 FF, 1 MM).

336. Yellow-vented Bulbul

Pycnonotus goiavier personatus C/RB

Merbah Kapur

Status. – Common resident.

Range. – Pen Myanmar, S Vietnam, Thailand, Malay Pen, Singapore and Sumatra. Other ssp. in Borneo, Java, Bali, the Philippines and Lombok.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Mangroves, scrub, cultivation, plantations, gardens, parks but not the forest interior.

Breeding. – Nest described by Spittle (1949). Building = 3–8 days. Clutch = 2. Incubation = 13 days. Nest building seen in Feb., Mar., Jun., Jul. Eggs found in Jan.–Aug. Chicks found in Mar., May., Jun., Sep. Imm seen in Feb. through Aug.

Materials examined. – AMNH 1 (1 MM), BM 22 (9 FF, 11 MM, 2 AA), FMNH 2 (1 MM, 1 AA), RMBR 44 (14 FF, 28 MM, 2 AA), UWBM 1 (1 Imm AA). Specimens collected by W. L. Abbott in Oct. 1899 (Riley, 1938) were not found.

337. Olive-winged Bulbul

Pycnonotus plumosus plumosus C/RB

Olive Brown Bulbul, Large Olive Bulbul

Merbah Belukar

Status. – Common resident.

Records. – First recorded as the type specimen of *P. p. plumosus*, collected in Singapore by Blyth in 1845.

Range. – Malay Pen, Singapore, E Sumatra, Java. Other ssp. in Borneo and Is on E coast of Malay Pen and Palawan.

Locality. – BBNP, BTNR, CC forest, N Is, SBG, SBWR, (Sg Sembawang), S Is.

Habitat. – Mainly in secondary forests and edges of forests, but also in scrub, wooded rural areas, mangroves and plantations.

Breeding. – Nest building observed in Feb., May., Jun., Jul. Eggs found in Jul. Chicks in Aug. Imm seen in Apr., Jun. – Aug.

Materials examined. – RMBR 36 (12 FF, 19 MM, 5 AA), UWBM 1 (1 FF). Specimens collected by W. L. Abbott on 12 May. 1899 (Riley, 1938) were not found.

338. Cream-vented Bulbul

Pycnonotus simplex simplex U/RB

White-eyed Brown Bulbul

Merbah Mata Putih

Status. – Uncommon resident. Nationally near-threatened (Lim, 1998a). Formerly not uncommon (Chasen, 1924a; B & C, 1927).

Range. – Malay Pen, Singapore and Sumatra. Other ssp. in Borneo, Natuna Is, Anamba Is and Java.

Locality. – Confined to BTNR and CC forests, (P Tekong, Woodlands).

Habitat. – Only in old secondary forests.

Breeding. – Nest-building observed in Apr. Imm seen in Aug. – Oct.

Materials examined. – RMBR 4 (1 FF, 3 MM). Specimens collected by W. L. Abbott in May.1899 (Riley, 1938) and from P Tekong (Chasen, 1924a) were not found.

339. Red-eyed Bulbul

Pycnonotus brunneus brunneus R/RB

Red-eyed Brown Bulbul

Merbah Mata Merah

Status. – Rare resident.

Threats. – Nationally-vulnerable; unviable population of 30 – 40 (Lim, 1989; 1992). Formerly not uncommon in Singapore (B & C, 1927; Gregory, 1970).

Range. – Pen Myanmar, Thailand, Malay Pen, Singapore, Sumatra and Borneo. Another ssp. on Tioman Is and Anambas Is.

Locality. – Confined to BTNR and CC forests, [P Ubin (Wells, 1982; Hails, 1988), Labrador Park (Lim, 1989; 1992)].

Habitat. – Forests.

Breeding. – Nest building observed in Mar. Chicks in Jul. Imm in Jul.

Materials examined. – BM 2 (1 MM, 1 AA), RMBR 1 (1 MM). Specimen collected by W. L. Abbott on 17 May.1899 (Riley, 1938) was not found.

340. Spectacled Bulbul

Pycnonotus erythrophthalmos erythrophthalmos E

Lesser Brown Bulbul

Status. – Extinct. Formerly not uncommon resident (B & C, 1927).

Records. – A male collected on P Ubin on 22 Jul.1921 (RMBR). Last listed by G-H (1949a); less common than *P. brunneus* and *P. simplex*.

Range. – Pen Myanmar, Thailand, Malay Pen and Sumatra. Another ssp. in Borneo.

Habitat. – Formerly in all forests except mangroves.

Materials examined. – RMBR 1 (1 MM). Specimen collected in BTNR (B & C, 1927) was not found.

341. Yellow-bellied Bulbul

Alophoixus phaeocephalus phaeocephalus E

Crestless White-throated Bulbul

Status. – Extinct. Listed in previous bibliographical records but there were no recent records (Chasen, 1924; G-H, 1949a). Not listed by Robinson (1928).

Range. – Pen Myanmar, Thailand, Malay Pen, Sumatra and N Natuna Is. Other ssp. in Borneo.

Habitat. – Formerly in fairly thickly-wooded forests.

Materials examined. – None. Specimen taken in Singapore (G-H, 1949) was not found.

342. Buff-vented Bulbul

Iole olivacea olivacea R/R(B)

Crested Olive Bulbul

Merbah Riang

Status. – Rare resident.

Threats. – Nationally-endangered; had gone unreported for nearly five decades and was assumed to be extinct; greatly at risk because of its extremely low numbers (Lim, 1992; 1998a). Formerly not uncommon (Chasen, 1924; B & C, 1927).

Records. – A bird collected at BTNR on 26 Jun.1922 (RMBR). Few recent records: one bird seen at BTNR between 19 – 23 Dec.1990 (Lim, 1991) was the first recent sighting. One bird seen in a fruiting fig tree at BTNR on 24 Apr.1992, 26 Jul.1992 and 22 Oct.1992 (SINAV 6).

Range. – Malay Pen, Singapore, Sumatra and N Natuna Is. Other ssp. in Anambas, Borneo and Palawan.

Locality. – BTNR.

Habitat. – Forests. Formerly also found in open wooded areas, orchard and secondary forests (G-H, 1949a).

Breeding. – Not recorded.

Materials examined. – RMBR 1 (1 AA).

343. Streaked Bulbul

Ixos malaccensis malaccensis R/NBV

Merbah Lorek

Status. – Rare non-breeding visitor.

Records. – First record of a bird at BTNR on 31 Dec.1989 (SINAV 3-12; Lim, 1990) and two on 6 Jan.1990. A bird was caught in SBWR on 13 Nov.2002. Four birds in BTNR (SINAV 16-4). A single bird at BTNR on 28 Nov.2002 (OBC Bull. 38). A lone bird was seen at MCP in Feb.2005 (LKS, in litt.). A bird seen at the Jelutong Tower, MacRitchie Res on 26 Nov.2005 (LKS, in litt.).

Range. – Pen Myanmar, Thailand, Malay Pen, Singapore, Sumatra and Borneo. Other ssp. in the mountains of Malay Pen and Java.

Locality. – BTNR, MacRitchie Res, MCP, SBWR.

Habitat. – Forests.

Materials examined. – None.

344. Ashy Bulbul

Hemixos flavala U/NBV

Merbah Kelabu

Status. – Uncommon non-breeding visitor.

Records. – A submontane resident in Malay Pen (Robinson, 1928), but may undergo irruptions and lead to occurrences in Singapore (Hails, 1988). First recorded on SJI on 5 Apr. 1985 (Wells, 1990a) and on Sentosa on 23 Oct. 1986 (Wells, 1990b). First recorded on mainland: in BTNR on 31 Oct. 1987 (Wells, 1990b). Recorded once on board a ship off Singapore (M & W, 1976). A flock of birds seen at BTNR on 17 Oct. 2004 (Lim, 2004). A flock of seven birds observed at Sime Forest on 23 Oct. 2005 during the bird race (A. Low, in litt.).

Range. – Malay Pen, Singapore and Sumatra. Another ssp. in Borneo. In Himalayas and S China.

Locality. – BTNR, P Ubin, Sentosa, Sime Rd, SJI.

Habitat. – Scrub and forests.

Materials examined. – None.

FAMILY CISTICOLIDAE

345. Zitting Cisticola

Cisticola juncidis malaya C/RB

Streaked Fantail Warbler; Fantail Warbler; Rufous Fantail Warbler; Fan-tailed Cisticola; Streaked Cisticola
Burong Main Angin

Status. – Common resident. Formerly very plentiful, over 30 nests recorded in the Sime area (G-H, 1949).

Range. – Malay Pen, Singapore, Sumatra and W Java. Other ssp. in Africa, S Palaearctic region, S Asia and N Australia.

Locality. – Bedok, Changi, Marina E, N Is, Pgl, SBWR, (Senoko), Ser, S Is, TM, Tuas.

Habitat. – Restricted to open grassland, fields and reed beds, not in parks and gardens (Hails, 1988).

Breeding. – Nest described by Spittle (1949). Clutch = 2 – 3. Courtship observed in Dec. Nest building observed in Mar.,

May., Jun. Eggs in Mar. through Aug., chicks in Mar., Jul., Aug., Oct.

Materials examined. – BM 12 (4 FF, 8 MM), RMBR 8 (6 MM, 2 AA).

346. Yellow-bellied Prinia

Prinia flaviventris rafflesii C/RB

Yellow-bellied Wren-Warbler
Perenjak Kuning, Laki Padi

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra and Java. Other ssp. in Borneo, Pakistan, the Indian subcontinent and S China.

Locality. – Throughout Singapore, P Ubin, S Is.

Habitat. – Rural, marshy areas, grassland, reed beds and scrub vegetation.

Breeding. – Nest described by Spittle (1949). Clutch = 3. Incubation = 16 – 17 days. Nest building observed in Jan., May., Jul. Eggs in Jun., Aug. Chicks found in Jun. Imm seen in May., Jul.

Materials examined. – BM 8 (1 FF, 6 MM, 1 AA), RMBR 6 (4 FF, 2 MM). Specimen collected by W. L. Abbott on 8 Jul. 1900 was not found (Riley, 1938).

FAMILY ZOSTEROPIDAE

347. Oriental White-eye

Zosterops palpebrosus U/I RB

Mata Putih

Status. – Uncommon resident.

Records. – Escapees from the bird trade are commonly seen, the species being imported in large numbers, as early as 1930s (Chasen, 1935). Several records in the 1960s, mostly seen in wet scrub (Gregory, 1970; Tweedy, 1970; Johnson, 1973). Subject to local movements which are not understood (Ward, 1968). Disappearance in Singapore since the 1970s, believed to be due to progressive habitat loss, of both mangroves and forests (Lim, 1992). Intensive fieldwork in the 1980s had produced no more than a few sightings, probably were escapees, since it is a popular cage bird but the possibility of a small remnant population cannot be completely excluded (Hails, 1988). There are numerous reports of this species in various habitats since 1980s, but in view of the lack of documented breeding records, these have all been assumed to be escapees from the caged-bird trade (Lim, 1992). First confirmed breeding was reported by K. C. Tsang: two chicks were successfully reared in a garden at Laurel Woods

Ave. It is uncertain if this pair was from a remnant population or from introduced birds.

Range. – The Indian subcontinent, S China to Malay Pen, Riau Arch, Borneo, Java, the Philippines and the Lesser Sundas.

Locality. – Throughout Singapore, P Sudong, P Ubin, SJI.

Habitat. – Gardens, parks, forests, and secondary growth, formerly in mangroves and adjoining coastal areas. Formerly in mangrove areas along the coasts and in open-wooded localities, including large gardens (G-H, 1949a).

Breeding. – Juveniles collected on P Tekong in Apr.1923 (Chasen, 1924a). Also in Sime Rd area by G-H (1950). One nest found in Mar.2003 (Oliver Tan, pers. comm.) but is unconfirmed as no notes were taken. Another nest with attending parents was observed in Apr.2006 (Angie Ng, pers. comm.) but no notes were taken. First confirmed nest, with chicks was found in Jun.2006; nest-building observed again in Dec.2006 and eggs laid in Jan.2007 (K. C. Tsang, in litt.). Another pair successfully reared two young, 15 Mar. – 19 Apr.2007 (WLK, pers. obs.).

Materials examined. – RMBR 1 (1 AA), UWBM (1 AA). Specimens collected by Chasen (1924a; 1935) were not found.

FAMILY SYLVIIDAE

348. Lanceolated Warbler

Locustella lanceolata R/WV PM

Streaked Grasshopper Warbler
Cekup Jalur

Status. – Rare winter visitor and passage migrant.

Records. – A bird at P Tekong on 14 Jan.1987 (SINAV 1). Two birds seen at Kranji on 27 Sep.1987 and 14 Oct.1987 (SINAV 1). One at Pgl, 21 Oct.1990 (SINAV 4). A bird at Marina E on 21 Oct.1992 (SINAV 6). At Tuas, a bird was netted, 5 Nov.1994 and another seen on 19 Nov.1994 (Iora 1). A bird was seen at Marina E on 30 Jan.2000 (SINAV 14). Another heard at Marina E on 6 Dec.2003 (SINAV 17). Most recently one bird sighted at Pgl, 21 Dec.2005 (LKS, in litt.).

Range. – Breeds in E Russia, N China, Korea and Japan; winters in the Indian subcontinent, S China, SE Asia to Malay Pen, Singapore, Sumatra, Borneo and W Java.

Locality. – Kranji, Marina E, Pgl, P Tekong, Tuas.

Habitat. – Rank grass, reed beds, freshwater marshland and open scrub.

Migration. – See Fig. 119.

Early and late dates. – 27 Sep. – 21 Apr.

Materials examined. – None.

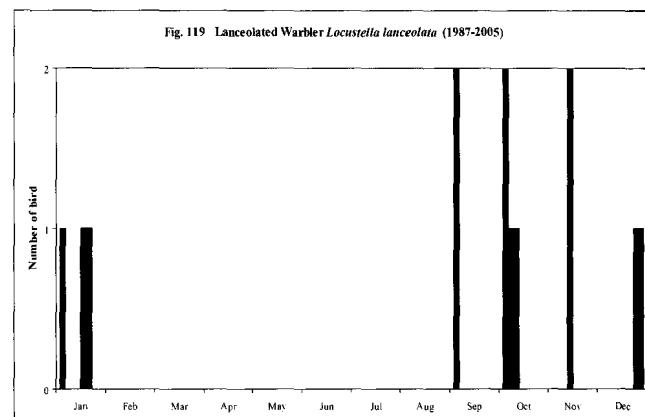


Fig. 119. Lanceolated Warbler, *Locustella lanceolata* (1987 – 2005).

349. Pallas's Warbler

Locustella certhiola U/WV PM

Pallas's Grasshopper Warbler, Rusty-rumped Warbler
Cekup Belakang Perang

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in E Russia, Siberia, Mongolia, N China and N Japan; winters in the Indian subcontinent, Sri Lanka, Myanmar, Thailand to Malay Pen and Singapore.

Locality. – Bt Batok Rd, Bedok, (CS), (Jurong River), Kranji, LH, Marina E, NT Lane, Pgl, Poyan, P Tekong (OBC Bull. 38), Seletar, (Senoko), Ser, Tuas.

Habitat. – In dense, low vegetation including reed beds, grasslands, marshes and scrub.

Migration. – See Fig. 120.

Early and late dates. – 25 Sep. – 13 May.

Materials examined. – None.

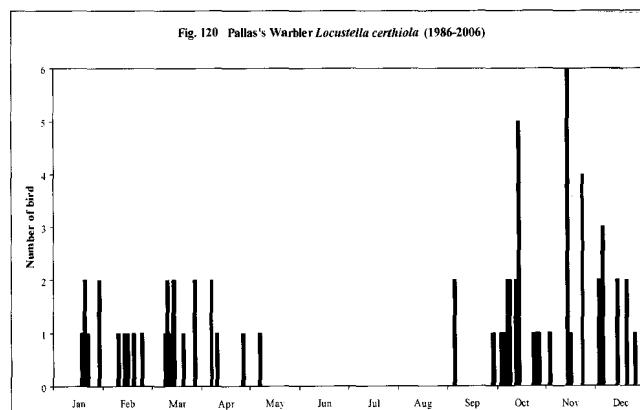


Fig. 120. Pallas's Warbler, *Locustella certhiola* (1986 – 2006).

350. Black-browed Reed-Warbler

Acrocephalus bistrigiceps U/WV

Cekup Paya Kecil

Status. – Uncommon winter visitor. Once considered rare (G-H, 1950). Its secretive habits suggests it might be often overlooked (Hails, 1988).

Records. – First recorded as an adult male taken on the edge of the wooded section of the NS catchment area on 4 Dec. 1949 (G-H, 1950).

Range. – Breeds in E Russia, N China, Korea and Japan; wintering in the NE Indian subcontinent, Myanmar, through SE Asia to Malay Pen and Singapore.

Locality. – Changi, (CS, Jurong), Kranji, KRP, LH, MCP, Pgl, Ser, Tuas.

Habitat. – Found in small numbers in grasslands, reed beds, scrub, mangroves and marshes.

Migration. – See Fig. 121.

Early and late dates. – 27 Sep. – 25 May.

Materials examined. – None. One formal record from NS, 4 Dec. 1949 (G-H, 1950, 1952b) was not found.

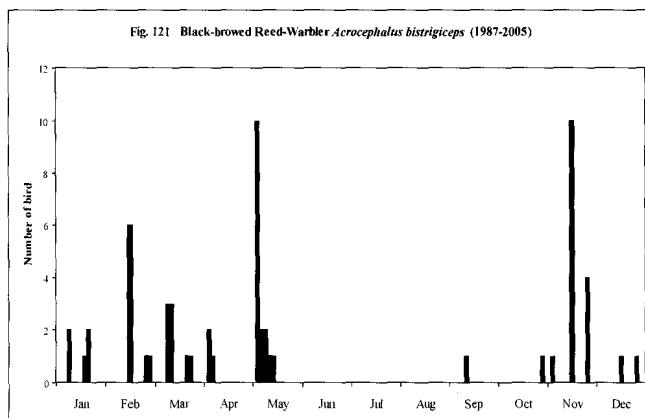


Fig. 121. Black-browed Reed-Warbler, *Acrocephalus bistrigiceps* (1987 – 2005).

351. Oriental Reed-Warbler
Acrocephalus orientalis C/WV PM

Cekup Paya Besar

Status. – Common winter visitor and passage migrant.

Range. – Breeds in E Russia, China, Korea and Japan; winters in NE Indian subcontinent, S China, Indochina, Malay Pen, Singapore, Sumatra, Borneo, Java, the Philippines and New Guinea.

Locality. – Throughout Singapore, N Is, S Is in suitable habitats including: BSW, (CS), KB, Kranji, LCK, LH, Lor Mayang, Marina E, Marina S, NT Lane, PR, Sarimbun, SBWR, Seaside Park, (Senoko), Ser, Sg Seletar, TM and Tuas.

Habitat. – Swampy areas, marshes, grasslands, reed beds, mangroves and scrub.

Migration. – See Fig. 122.

Early and late dates. – 20 Sep. – 26 May.

Materials examined. – BM 5 (5 AA), RMBR 4 (3 FF, 1 MM).

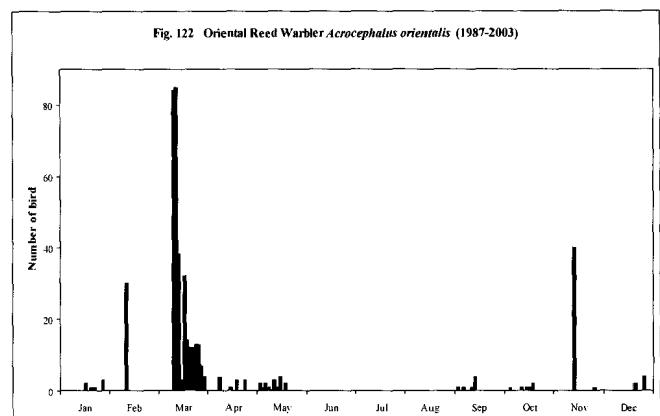


Fig. 122. Oriental Reed-Warbler, *Acrocephalus orientalis* (1987 – 2003).

352. Common Tailorbird

Orthotomus sutorius maculicollis C/RB

Long-tailed Tailorbird
Perenjak Pisang

Status. – Common resident.

Range. – Malay Pen and Singapore. Other ssp. on the Indian subcontinent, S China and SE Asia to Java. Not in Borneo.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Forest edges, gardens, scrub, cultivation, parks and open country.

Breeding. – Nest building in Jan. through Aug. Eggs found in Feb. through Aug. Chicks seen in Mar., Apr., Jul. Imm in Jan., Feb., Jun., Aug.

Materials examined. – BM 5 (4 FF, 1 MM), RMBR 3 (1 FF, 2 MM).

353. Dark-necked Tailorbird

Orthotomus atrogularis atrogularis C/RB

Black-necked Tailorbird
Perenjak Leher Hitam

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra, S Borneo and N Natuna Is. Other ssp. on the NE Indian subcontinent, Myanmar, Thailand, N Borneo, Tioman Is and Anamba Is.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Forests, dense scrub and secondary woodland. Seldom in parks and gardens in the absence of nearby dense undergrowth or scrub (Hails, 1988).

Breeding. – Nest building observed in May. Eggs found in Jan., May., chicks in May.; Imm from Mar. through Sep.

Materials examined. – BM 8 (2 FF, 6 MM), RMBR 17 (3 FF, 11 MM, 3 AA). Two males and two females collected by W. L. Abbott in Singapore, 14 – 25 May. 1899 (Riley, 1938) were not found.

354. Rufous-tailed Tailorbird

Orthotomus sericeus hesperius U/RB

Red-tailed Tailorbird

Perenjak Ekor Merah

Status. – Uncommon resident.

Range. – Pen Myanmar, Malay Pen and Sumatra. Other ssp. in Borneo, S Natuna Is and Palawan.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Forest edges, mangroves, scrub, secondary growth, plantations and cultivation. Rarely in dense gardens.

Breeding. – Incubation takes at least 10 days. Eggs and chicks found in Feb. Imm seen in Jun., Sep.

Materials examined. – BM 15 (2 FF, 12 MM, 1 AA), RMBR 8 (4 FF, 3 MM, 1 AA).

Note. – Erroneously listed as *O. ruficeps* prior to Oberholser (1932).

355. Ashy Tailorbird

Orthotomus ruficeps ruficeps C/RB

Red-headed Tailorbird

Perenjak Kelabu

Status. – Common resident.

Range. – Pen Myanmar, Thailand, Malay Pen, Sumatra, Java. Another ssp. in Borneo.

Locality. – Throughout Singapore, N Is, S Is in suitable habitats.

Habitat. – Most frequently in mangroves, sometimes in swampy forests and coastal scrub.

Breeding. – Nest described by Spittle (1949). Clutch = 2 – 4. Incubation takes at least 16 days. Fledging, 12 – 14 days. Eggs seen in May. Chicks found in Apr., Jun. Imm seen in Mar., May. – Nov.

Materials examined. – BM 6 (3 FF, 2 MM, 1 AA), RMBR 15 (7 FF, 8 MM).

356. Dusky Warbler

Phylloscopus fuscatus vR/PM

Cekup Daun Bakau

Status. – Very rare passage migrant.

Records. – Only two records: a bird was netted on 10 Feb. 1994, recaptured on 19 Feb. 1994 in an area of low scrub in Tuas, and retrapped again in the same location a week later (Kennerley, 1998; Iora 1). Another bird was netted at Tuas on 8 Jan. 1995 (P. Kennerley, in litt.).

Locality. – Tuas.

Habitat. – Open country scrub.

Materials examined. – None.

357. Inornate Warbler

Phylloscopus inornatus inornatus R/WV PM

Crowned Willow Warbler, Yellow-browed Warbler, Inornate Leaf Warbler

Cekup Daun Paruh Pendek

Status. – Rare winter visitor and passage migrant.

Records. – First record seen on 4 and 15 Mar. 1979 in Ulu Sembawang by LKS and LKC. Again at Hume Heights, 1984 (date unknown) by H. Buck (Hails, 1988). One seen at Seaside Park on 6 Jan. and 19 Jan. 1989 (SINAV 3-1). Two seen at Senoko on 20 and 27 Dec. 1992 (SINAV 6-4). One seen at Sime Rd on 25 Sep. 1994 (SINAV 8-4). One bird seen in a roadside tree in Bt Batok on 14 Mar. 2004 (Y DL, in litt.). One bird seen at NS on 27 Mar. 2005 (LKC, in litt.). Another bird seen at HNP on 24 Dec. 2005 (LKS, in litt.). One observed feeding in a mixed flock at HNP, 22 Dec. 2006 (YDL, in litt.).

Range. – Breeds in N Europe and the Himalayas; winters in the Indian subcontinent, S China, SE Asia to Malay Pen and Singapore.

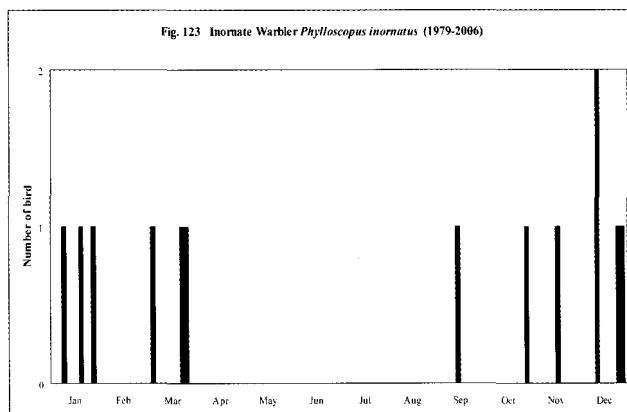
Locality. – BBNP, HNP, Hume Heights, Seaside Park, (Senoko), Sime Rd, (Ulu Sembawang).

Habitat. – Wooded area, scrub and gardens.

Migration. – See Fig. 123.

Early and late dates. – 25 Sep. – 27 Mar.

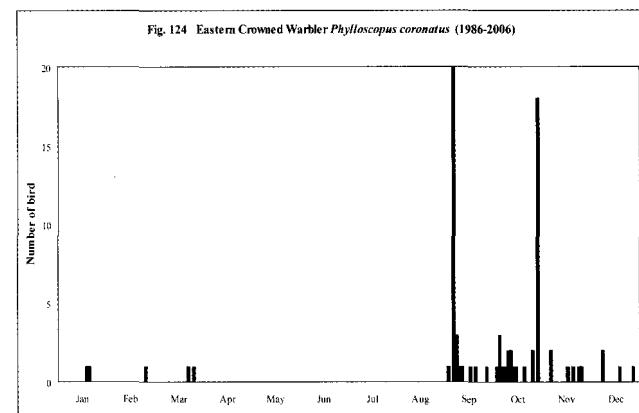
Materials examined. – None.

Fig. 123. Inornate Warbler, *Phylloscopus inornatus* (1979 – 2006).**358. Arctic Warbler***Phylloscopus borealis borealis* C/WV PM

Arctic Leaf Warbler

*Cekup Daun Artik***Status.** – Common winter visitor and passage migrant.**Range.** – Breeds in Siberia (*P. b. borealis*), Japan (*P. b. xanthodryas*); winters in S China and Myanmar to Malay Pen, Sumatra, Borneo, Java to Moluccas. Both ssp. have been recorded in Malay Pen, majority of the birds are *P. b. borealis*.**Locality.** – Throughout Singapore, N Is, S Is.**Habitat.** – Occurs widely in forests, mangroves, coastal areas, plantations, gardens and parks.**Early and late dates.** – 4 Jul. – 20 May.**Materials examined.** – RMBR 8 (1 FF, 3 MM, 4 AA).**359. Eastern Crowned Warbler***Phylloscopus coronatus coronatus* U/WV PM

Eastern Crowned Leaf Warbler

*Cekup Daun Tongkeng Kuning***Status.** – Uncommon winter visitor and passage migrant.**Records.** – First recorded as a formal specimen from P Ubin, 9 Nov. 1950 (RMBR). No further records until singles seen on P Sudong on 28 Sep. 1986 and Sime Rd on 19 Oct. 1986, and two on BTNR on 30 Oct. 1987 (Wells, 1990b). Occurs in small numbers every year but could have been largely overlooked (Hails, 1988).**Range.** – Breeds in E Russia, Siberia, N China, Korea and Japan; winters in SE Asia to Sumatra and Java.**Locality.** – BTNR, CC forest, HNP, PR, P Ubin, SBWR, Sg Sembawang, S Is, TBH.**Habitat.** – Forests, wooded country, scrub, plantations and gardens.**Migration.** – See Fig. 124.**Early and late dates.** – 3 Sep. – 28 Mar.**Materials examined.** – None.Fig. 124. Eastern Crowned Warbler, *Phylloscopus coronatus* (1986 – 2006).**360. White-crested Laughingthrush***Garrulax leucolophus* C/I RB*Rimba Jambul Putih***Status.** – Common resident. Introduced, most probably from Thailand. Feral populations, derived from cage escapees are well established throughout Singapore, at least since 1995.**Range.** – Native to the Himalayas and SW China S through SE Asia (except Malay Pen) to Sumatra.**Locality.** – BBW, BBNP, BTNR, ECP, Holland Woods, KRP, Labrador, MF, NT Lane, Poyan, SBG, Sunset Way.**Habitat.** – Wooded areas and secondary forest..**Breeding.** – Imm seen in Jul. First nest found in BBNP, 26 Mar. 2003 (SINAV 17-1), although it has been known to breed here as early as the mid-1990s. Brooding observed in Jul.**Materials examined.** – None.**361. Hwamei***Garrulax canorus* U/I RBMelodious Laughingthrush, Hwamei Laughingthrush
*Rimba Jambul Putih***Status.** – Uncommon resident. Introduced from escaped cage birds after 1980. A good songster, large numbers are trapped throughout its indigenous range for the caged bird trade. Numbers have declined through the years (LKS, pers. comm.) but still common in Sentosa (Ho Hua Chew, pers. comm.).

Range. – Native to C, S China to Hainan, Taiwan and N Indochina.

Locality. – BBNP, ECP, KRP, MF, NS Camp, Poyan, Prince George's Park, P Ubin, SBG, (Senoko), Sentosa, Sime Rd, SJI, Upper Peirce Res.

Habitat. – Forest edges, scrub, gardens and parks.

Breeding. – First record of an adult with juveniles on 28 Jun. 1986 (Wells, 1990b) and an independent juvenile 31 Jul. 1986 (Hails, 1988) and a hardly-independent Imm seen at a bus stop in Tg Pagar on Aug. 2000 (WLK, pers. obs.). Nest building in May. Chicks found in Aug. Breeding also recorded on Sentosa (J & P, 1999).

Materials examined. – RMBR 1 (1 AA).

362. White-chested Babbler

Trichastoma rostratum rostratum R/RB

Blyth's Jungle Babbler
Rimba Dada Putih

Status. – Rare resident. Formerly common in the mangrove belts (Robinson, 1927; G-H, 1949a; Gregory, 1970) and P Ubin (Chasen, 1924a; B & C, 1927). Now only a few individuals recorded in the remaining mangroves on the mainland and P Tekong.

Threats. – Globally near-threatened (Collar et al., 1994). Nationally-threatened and endangered due to its present fragmented range caused by habitat loss; estimated population of 20 (Lim, 1989; 1992; Lim et al., 1994). A small population exists in the swampy N portion of the CC area. While this is outside of the forest habitat, several sites hold this species but in a different habitat, the mangroves. Many of these sites are threatened by development projects (Lim, 1992).

Range. – Malay Pen, Singapore and Sumatra. Another ssp. in Borneo. Also in Pen Myanmar and Thailand.

Locality. – (Changi), BTNR, Loyang, Mandai, NS, (PR), P Tekong, (P Ubin), SBWR, Seletar Res, (Senoko), Sime Rd, Tg Irau, Turut Track, (Yishun).

Habitat. – Forests, mangroves and swamp forests.

Breeding. – Nest building observed in Apr.

Materials examined. – RMBR 11 (7 FF, 3 MM, 1 AA). Two males and one female collected by Abbott in May. 1899 (Riley, 1938) were not found.

363. Abbott's Babbler

Malacocincla abbotti olivacea C/RB

Abbott's Jungle Babbler
Rimba Riang

Status. – Common resident.

Range. – Malay Pen (S from Penang), Singapore and Sumatra. Other ssp. in Malaysia (N of Penang), Borneo. Also in the NE Indian subcontinent and Myanmar.

Locality. – BT cycling track, KAP, Kranji, KRP, MacRitchie, Old Holland Rd, (Pasir Panjang), P Ubin, SBG, SBWR, Sentosa.

Habitat. – Frequents secondary forests, forest edge, plantations, scrub, gardens and occasionally in mangrove edges.

Breeding. – Chicks found in Jun., Jul. Imm seen in Aug., Sep.

Materials examined. – BM 1 (1 FF), RMBR 4 (1 FF, 2 MM, 1 AA).

364. Short-tailed Babbler

Malacocincla malaccensis malaccensis U/RB

Short-tailed Jungle Babbler
Rimba Ekor Pendek

Status. – Uncommon resident.

Range. – Malay Pen, Singapore, Sumatra and N Natuna Is. Other ssp. in Borneo and Palawan.

Locality. – Confined to BTNR and CC forests, [formerly common in SBG (B & C, 1927)].

Habitat. – Restricted to the understorey of forests and swampy freshwater forests.

Breeding. – Nest building in Jan. Parents observed carrying food in May. Dependent juveniles in Aug.

Materials examined. – RMBR 1 (1 FF). Two males collected by W. L. Abbott in May. 1899 (Riley, 1938) were not found.

365. Black-capped Babbler

Pellorneum capistratum nigrocapitatum E

Black-capped Jungle Babbler

Status. – Extinct. Last recorded in 1899.

Records. – Two formal records collected by A. R. Wallace (BM) in 1856 which were considered doubtful by G-H (1949a). Abbott took an adult male on Singapore, 17 May. 1899 (Riley, 1938) which was overlooked by all authors. No other records.

Range. – Malay Pen and N Natuna Is. Other ssp. in Borneo. Also in Pen Myanmar and Thailand.

Habitat. – In Malaysia, a resident in forests to 670 m.

Materials examined. – BM 2 (2 MM).

366. Moustached Babbler*Malacopteron magnirostre magnirostre* vR/RB

Brown-headed Babbler

Rimba Bermisai

Status. – Very rare resident. Nationally-endangered (Lim, 1989; 1992).

Records. – Although mentioned by Chasen (1923) and Robinson (1927), it was assumed to have died out by 1949 (G-H, 1949a). G-H had overlooked four specimens collected from Singapore: one male on 14 May. 1904, another male on 24 Jun. 1904 and two females on 27 Sep. 1938 (RMBR). No further records until single birds were regularly sighted at Seletar on 22 Mar. – Aug. 1983, 7 Aug. 1986 and 10 Jun. 1987 (Wells, 1990; 1990b). There were even signs of breeding when a pair was seen with two Imm at Sime Rd on 31 May. 1984 (Wells, 1990a). A pair at Sime Rd on 10 May. 1986, which was later seen with two Imm on 18 May. 1986 (Wells, 1990b). Extensive searches since 1987 have failed to find further evidence of this species and it is feared that it may already be extinct (Lim, 1989; 1992).

Range. – Malay Pen, Singapore and Sumatra. Other ssp. in Anambas and Borneo. Also in Pen Myanmar and Thailand.

Locality. – Restricted to Seletar, Sime Rd.

Habitat. – Forests.

Breeding. – Juveniles and Imm seen in May.

Materials examined. – BM 1 (1 MM), RMBR 3 (2 FF, 1 MM).

367. Chestnut-winged Babbler*Stachyris erythropygma erythropygma* U/RB*Rimba Merbah Sampah*

Status. – Uncommon resident.

Threats. – Nationally-vulnerable due to small, localised populations (Lim, 1989; 1992; 1998).

Range. – Malay Pen, Singapore, S Sumatra and N Natuna Is. Other ssp. in Borneo, S Indochina, Pen Myanmar and Thailand.

Locality. – Confined to BTNR, CC forest.

Habitat. – Forests.

Breeding. – Nest building observed in Apr., Aug.

Materials examined. – BM 4 (2 FF, 2 MM). Specimen collected by W. L. Abbott in May. 1899 (Riley, 1938) was not found.

368. Striped Tit Babbler*Macronous gularis gularis* C/RB

Yellow-breasted Babbler

Rimba Berjalu

Status. – Common resident.

Range. – Malay Pen (S of Patani), Singapore and Sumatra. Other ssp. in Malay Pen (N of Penang), Anambas, N Natuna Is and Borneo. Also in Nepal, Yunnan, Indochina and Sulawesi.

Locality. – Throughout Singapore, N Is, S Is in suitable habitats.

Habitat. – Forests, plantations, scrub and occasionally in mangroves.

Breeding. – Clutch = 3. Nest building observed in Mar., Jun., Jul. Eggs in May., Imm seen in May., Jul., Aug.

Materials examined. – BM 8 (1 FF, 6 MM, 1 AA), RMBR 12 (7 FF, 3 MM, 2 AA). Specimens collected by W. L. Abbott in May 1899 (Riley, 1938) were not found.

FAMILY NECTARINIIDAE

369. Yellow-breasted Flowerpecker*Prionochilus maculatus maculatus* E

Status. – Extinct resident. Listed by Chasen (1923).

Records. – Nineteen individuals ringed and colour-photographed by RAFOS in 1969 (MAPS Report 1969; Gregory, 1970) cannot be confirmed. No records since.

Range. – Malay Pen, Sumatra and Borneo. Another ssp. in N Natuna Is. Also in Pen Myanmar.

Habitat. – Formerly in small numbers in thickly-wooded areas, forest edges and secondary forests (G-H, 1949a).

Materials examined. – None.

370. Thick-billed Flowerpecker*Dicaeum agile sordidum* R/NBV

Striped Flowerpecker

Sepah Puteri Kayangan

Status. – Rare non-breeding visitor.

Records. – Two records of an adult and an Imm on a fruiting fig at BTNR on 18–20 Dec. 1990 by SR and RFO (SINAV 4-4); the characteristic tail wagging behaviour was noted and used as a confirmation of this species (Wells, pers. comm.). One

bird was claimed in 1992 (Lim, in litt.) but no details were given. No records since, until one bird was seen at Sime Rd on 23 Oct. 2005 (various observers) and again on 31 Oct. 2005 (SR, in litt.). Up to eight birds sighted and photographed by various observers at BBNP between 17 – 22 Dec. 2005. One bird was still around on 30 Jan. 2006 (A. Low, in litt.).

Range. – Malay Pen, Riau Arch. Other ssp. in Java, Borneo, N Natuna Is and Palawan. Also on the Indian subcontinent.

Locality. – BBNP, BTNR and Sime Rd.

Habitat. – Forest.

Materials examined. – None.

371. Yellow-vented Flowerpecker

Dicaeum chrysorrheum chrysorrheum R/R(B)

Sepah Puteri Rimba

Status. – Rare resident.

Threats. – Nationally-endangered and threatened (Lim, 1998) by unviable population levels of 10 (Lim, 1992).

Records. – One male specimen collected at BT Rd on 8 Feb. 1879 (Hume Coll., BM). Another male collected by H. J. Kelsall, 21 Aug. 1892 (BM). Specimens were collected on P Ubin in the 1920s (Chasen 1924a) but they cannot be traced now. Last recorded by G-H (1949a). No further records since 1949 and believed to be extinct by Lim (1989) until a flock of three adults and a few Imm seen at Sime Forest between 15 and 17 Dec. 1989 (SINAV 3; Lim 1990); an adult between 18 and 20 Dec. 1990 and an Imm on 23 Dec. 1990 at BTNR, and one on 20 Dec. 1990 at Sime Rd (SINAV 4). Recently, one at BTNR on 25 Dec. 1997 (SINAV 11-4), three there on 4 Jan. 1998. Two more at Sime Forest on 11 Jan. 1998, the first records in seven years (OBC Bull. 27; SINAV 12-1). A bird seen on the fruiting fig in BTNR, 15 – 27 Feb. 2004 (LKS, 2004). A bird was seen at BBNP, 9 – 10 Jul. 2005 during the Mid-year Bird Census (LKS, in litt.). Two birds were seen in BBNP on 4 Dec. 2005 and were still there on 17 Dec. 2005 and 2 Jan. 2006 (various observers).

Range. – The Himalayas, Indochina, S China, SE Asia to Malay Pen, Sumatra, Java and Borneo.

Locality. – BBNP, BTNR, (P Ubin), Sime Rd.

Habitat. – Now confined to forests. Formerly found in small numbers in open scrub (G-H, 1949a) but more common on P Ubin (Chasen, 1924a).

Breeding. – Not confirmed but Imm were recorded.

Materials examined. – BM 2 (2 MM), RMBR 2 (1 MM, 1 AA).

372. Orange-bellied Flowerpecker

Dicaeum trigonostigma trigonostigma C/RB

Sepah Puteri Dada Oren

Status. – Common resident.

Range. – Malay Pen, Singapore, Anambas and Sumatra. Other ssp. in Borneo, N Natuna Is, Java, Bali and the Philippines. Also in NE India, Myanmar and Thailand.

Locality. – Throughout Singapore: BTNR, CC forest, Fort Canning Park, P Tekong, P Ubin, SBG.

Habitat. – Mainly seen in forests, secondary scrub, open areas and occasionally from nearby rural areas.

Breeding. – Brooding observed in Jun. Imm seen in Jan., May., Jul., Aug.

Materials examined. – BM 7 (2 FF, 5 MM), RMBR 17 (5 FF, 12 MM).

373. Plain Flowerpecker

Dicaeum concolor borneanum E

Status. – Extinct. Former rare resident.

Records. – The RMBR has two formal records from Singapore from Jul. 1893 and 15 Jan. 1931 (G-H, 1949a). No further records until one recent claim of two Imm at Sime Forest on 16 Dec. 1989 (SINAV 3) which was rejected by Lim (1990) based on lack of evidence.

Range. – Malay Pen, Sumatra and Borneo. Other ssp. in Java, Bali, the Indian subcontinent and S China.

Habitat. – Formerly in forests.

Materials examined. – None.

374. Scarlet-backed Flowerpecker

Dicaeum cruentatum ignitum C/RB

Sepah Puteri Merah

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra. Another ssp. in Borneo, S China and the Indian subcontinent.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Forest edges, plantations, gardens, scrub, parks, gardens and urban areas, occasionally in mangroves; not in deep jungle.

Breeding. – Nest building observed in Feb., Jun., Jul., Aug., Nov. Chicks seen in Feb. Imm seen in Apr., Sep., Oct., Nov., Dec.

Materials examined. – BM 4 (1 FF, 3 MM), RMBR 3 (3 FF).

375. Plain Sunbird

Anthreptes simplex simplex indeterminate/R(B)

Kelicap Kelabu

Status. – Indeterminate.

Records. – There is a skin from 1874, collected in Singapore (Salvadori, 1874) but there are no subsequent records and it was not listed by G-H (1949a). Several unconfirmed sight records from MacRitchie Res by RAFOS in the late-1960s (Gregory, 1970). One record of a male in Senoko on 25 Jan. 1986 (SINAV 1; Lim, 1989) was rejected as notes submitted indicated the descriptions do not match the species (Wells, pers. comm.). This area was unfortunately destroyed in Jul. 1990 in a land-clearing project and it is feared that the bird may have disappeared (Lim, 1992) or perhaps it may never have been there to begin with. No other records until an observation by Lau Jia Sheng (in litt.), whose notes suggested a Plain Sunbird pair at Sime Forest on 24 Jun. 2006; this record is still pending confirmation.

Range. – Pen Myanmar, Thailand, Malay Pen, Singapore, Sumatra and Borneo.

Habitat. – Forests and plantations.

Breeding. – Not recorded.

Materials examined. – None.

376. Brown-throated Sunbird

Anthreptes malaccensis malaccensis C/RB

Plain-throated Sunbird

Kelicap Mayang Kelapa

Status. – Common resident.

Range. – Myanmar, S Vietnam, Thailand, Malay Pen, Singapore, Sumatra, S Borneo, Java and Bali. Other ssp. in N Borneo, Natuna Is and the Philippines.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Coastal areas, coconut plantations, mangroves, gardens, scrub, secondary growth and forest edge.

Breeding. – Nest described by Spittle (1949). Clutch = 2. Nest building observed in Feb. through May. Eggs found in Feb., Apr., May. Brooding seen in May., Jun. Chicks found in Feb., Apr., Jun., Jul. Imm seen in Jun., Aug., Sep.

Materials examined. – BM 58 (21 FF, 37 MM), FMNH 2 (2 MM), RMBR 80 (51 FF, 29 MM), UWBM 3 (1 MM, 2 AA).

377. Purple-naped Sunbird

Hypogramma hypogrammicum macularia E

Status. – Extinct. Former common resident (Robinson, 1927; G-H, 1949a).

Records. – Three ringed by RAFOS in 1969 (MAPS Report 1969). Reported to be common in the late-1960s throughout the heavily-wooded areas (RAFOS 1968; 1970; Gregory, 1970). One unconfirmed sighting on P Tekong on 25 Jul. 1986 by S. Sutari (SINAV 1). A female seen and photographed on 6 Mar. 2004 at Sime Forest (Paul Huang, pers. comm.; BirdingASIA 2) could be a displacement from Johore.

Range. – Malay Pen. Other ssp. in Sumatra, Borneo and N Natuna Is. Also in Indochina.

Habitat. – Formerly in wooded areas and forests away from coasts.

Materials examined. – BM 2 (2 MM). Specimens collected on P Ubin by Chasen (1924a) were not found.

378. Purple-throated Sunbird

Nectarinia sperata brasiliiana C/RB

Van Hasselt's Sunbird

Kelicap Nibong

Status. – Common resident. Thought to be rare in the 1920s (B & C, 1927).

Records. – Birds wander outside forests during non-breeding season (L & G, 1997). Said to migrate S during winter (SR, pers. comm.). In Jan. 1987, flocks totalling 200 birds were flying from the direction of SJI, NW across Sentosa towards Singapore. SR notes near absence of this otherwise common bird on P Tekong during Oct. – Dec.; also that SJI and Sentosa normally do not support it, implying source of the movement to have been further S. There is, however, no literature regarding the migration of sunbirds. Further observation is necessary before any conclusions can be drawn.

Range. – Malay Pen, Singapore, Sumatra, Borneo and Java. Other ssp. in Natuna Is., Anambas, Bali and the Philippines. Also in the NE Indian subcontinent, Myanmar and S Vietnam.

Locality. – Throughout Singapore, N Is, S Is in suitable habitats: BBNP, BTNR, CC forests, Changi, MF.

Habitat. – Forests, forest edges, secondary scrub and plantations. Also in coastal districts and mangroves.

Breeding. – Nest building observed in Feb., May., Aug.

Materials examined. – BM 2 (2 MM), UWBM 1 (1 MM). Specimens collected by W. L. Abbott (Riley, 1938) and Chasen (1924a) on P Ubin were not found.

379. **Copper-throated Sunbird***Nectarinia calcostetha calcostetha* U/RB

Macklot's Sunbird
Kelicap Bakau

Status. – Uncommon resident. Formerly abundant (Robinson, 1927; G-H, 1949).

Range. – Pen Myanmar, S Thailand, S Vietnam, Malay Pen, Singapore, Sumatra, Borneo and Java. Another ssp. in Maratua Is and Natuna Is.

Locality. – Kranji, Loyang, PR, P Tekong, P Ubin, SBWR, (Sg Sembawang and Tg Katong [B & C, 1927]).

Habitat. – Confined to mangroves and coastal areas.

Breeding. – Clutch = 2. Nest-building = 28 days. Brooding = 16 days. Nest building observed in Jan., May. Eggs found in Feb., May. Chicks in Mar. through May., Jul.

Materials examined. – BM 38 (12 FF, 26 MM), FMNH 1 (1 MM), RMBR 7 (5 FF, 1 MM, 1 AA), UWBM 1 (1 MM).

380. **Olive-backed Sunbird***Nectarinia jugularis microleuca* C/RB

Yellow-breasted Sunbird
Kelicap Bukit

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra and Borneo. Also in Myanmar, S China, the Solomon Is and N Australia.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Forest edges, mangroves, scrub, secondary growth, gardens, parks and urban areas.

Breeding. – Nest described by Spittle (1949). Clutch = 2. Nest building observed from Jan. through Jun., Dec. Eggs found from Jan. – Sep. Chicks found in Jan. through Apr., Jun. Imm seen in Feb., Apr. through Aug.

Materials examined. – BM 42 (14 FF, 28 MM), RMBR 19 (3 FF, 16 MM), UWBM 1 (1 AA).

381. **Crimson Sunbird***Aethopyga siparaja siparaja* C/RB

Kelicap Sepah Raja

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra, Riau and Borneo. Another ssp. in N Natunas. Also on the Indian subcontinent, S China, the Philippines and Sulawesi.

Locality. – BTNR, CC forest, Mandai Orchid Garden, N Is, SBWR, SBG, S Is.

Habitat. – Forests, plantations, scrub, gardens, rural areas, coastal areas and coconut plantations (G-H, 1950).

Breeding. – Nest building observed in Apr., May. Brooding observed in May. Chicks found in Apr., Aug. Imm in Jun.

Materials examined. – BM 5 (5 MM).

382. **Little Spiderhunter***Arachnothera longirostra longirostra* C/RB

Kelicap Jantung Kecil

Status. – Common resident. Numbers have declined (LKS, pers. comm.).

Range. – Malay Pen, Singapore and Sumatra. Other ssp. in Borneo, Natuna Is, the Indian subcontinent and S China.

Locality. – BBNP, BTNR, CC forest, Poyan, P Ubin, SBG, (Ulu Sembawang).

Habitat. – Wooded areas, scrub on borders of cultivated areas and in forests.

Breeding. – Nest building in Feb. Eggs found in May. Imm in May.

Materials examined. – BM 4 (1 FF, 1 MM, 2 AA), RMBR 1 (1 AA), USMN 1 (1 MM), UWBM 1 (1 MM).

383. **Thick-billed Spiderhunter***Arachnothera crassirostris* R/R(B)

Kelicap Jantung Paruh Tebal

Status. – Rare resident.

Threats. – Nationally-endangered due to its extremely low numbers (Lim, 1992; 1998).

Records. – First recorded as a specimen collected by Chasen in Jurong on 28 Aug. 1920 (G-H, 1949a). There were a number of unverified sightings in the late-1960s from the MacRitchie area by RAFOS (Gregory, 1970). Presumed extinct (Lim, 1992) until one was seen in an abandoned orchard along Island Club Rd on 14 Nov. 1989 (SINAV 3-11; Lim 1990). Not recorded again until one was seen by various observers on 23 Oct. 2005 at Jelutong Tower, MacRitchie Res.

Range. – Pen Thailand, Malay Pen, Singapore, Sumatra and Borneo.

Locality. – Confined to CC forests, (Jurong).

Habitat. – Heavy forests and secondary growth.

Breeding. – Not recorded.

Materials examined. – None. Specimen collected by Chasen (in G-H, 1949a) was not found.

384. Spectacled Spiderhunter
Arachnothera flavigaster E

Status. – Extinct.

Records. – Collected on P Ubin, Aug. 1921 (Chasen, 1924a). No subsequent records.

Range. – Pen Thailand, Malay Pen, Sumatra and Borneo.

Habitat. – Formerly widely- but locally-distributed in secondary forests.

Materials examined. – None.

385. Yellow-eared Spiderhunter

Arachnothera chrysogenys chrysogenys R/R(B)

Kelicap Jantung Telinga Kuning

Status. – Rare resident.

Records. – Three specimens were collected in 1871 (Hume Coll., BM) another one in 1894 (Gould Coll., BM). There was no subsequent record and was thus not listed by G-H (1949a). Not further records until one Imm recorded at Sime Rd, 19 – 20 and 22 Oct. 1994 (SINAV 8; Kennerley, 1998a). Also sighted on P Ubin, 21 – 28 Feb., 1 – 15 Mar. 1998, where the bird was observed nest-building and nest-tending, but the nest had fallen on 15 Mar. 1998 (SINAV 12-1). Reported at P Ubin on 15 Dec. 1998 to Jun. 1999 (OBC Bull. 29; 30) and Seletar Forest in 1998/1999. An Imm at Mandai Orchid Garden on 15 Jul. 1999 (OBC Bull. 31) and 7 Mar. 2000 (SINAV 14-1). It is interesting to note that all recent sightings are of Imm, which could mean post-breeding dispersal from Malaysia (LKS, pers. comm.). An adult seen at P Ubin on 3 Feb. 2002 (OBC Bull. 36). A unconfirmed record of a bird at BTNR summit on 24 Dec. 2005 (LKS, in litt.). An adult seen at Rifle Range Rd on 3 Jan. 2006 (YDL, in litt.).

Range. – Pen Myanmar, Thailand, Malay Pen, Singapore, Sumatra, Borneo and Java.

Locality. – BTNR, Mandai, Orchid Garden, P Ubin, Rifle Range Rd, Sime Rd.

Habitat. – Forests and secondary scrub.

Breeding. – Not confirmed although nest building was observed (see **Records** above) and Imm seen.

Materials examined. – BM 4 (4 AA).

386. Grey-breasted Spiderhunter
Arachnothera affinis modesta E

Status. – Extinct. Former resident in the BT area (G-H, 1949).

Records. – Breeding recorded by G-H in Sime Rd on Jun. 1949 (G-H, 1949a). No further records.

Range. – Pen Myanmar, Thailand, Malay Pen, Sumatra and part of Borneo. Another ssp. in parts of Borneo, Java and Bali.

Locality. – (BT, SBG, Sime Rd).

Habitat. – Formerly in small numbers, mostly in secondary jungle and open wooded country.

Breeding. – Nesting recorded in Sime Rd area in Jun. 1949; Ridley (1898) also recorded nesting in SBG.

Materials examined. – None.

FAMILY PASSERIDAE

387. House Sparrow

Passer domesticus R/I RB

Ciak Rumah

Status. – Introduced. Rare and localised.

Records. – First observed in Jan. 1995 but no details were available (SINAV 11-3). A population of up to 100 was discovered in an open market area at Pasir Panjang in early Sep. 1997 by D. Thomson (SINAV 11-3). This is the first confirmed record of House Sparrow in Singapore. The origin of this population is unknown. It is most probable that the birds were stowaways on board a ship to Singapore as the site is next to the harbour. The population was still present in 2002. Also found on Jurong Is (SINAV 16-1).

Range. – Native to Africa, Eurasia; the Indian subcontinent and N China.

Locality. – Jurong Is, Pasir Panjang.

Habitat. – Urban habitats.

Breeding. – Mating observed in Feb. Fledglings and Imm seen in Sep.

Materials examined. – UWBM 2 (2 Imm).

388. Eurasian Tree Sparrow

Passer montanus malaccensis C/RB

Ciak Eurasia, Pipit Rumah

Status. – Common resident.

Records. – Robinson (1927) considered it as one of the earliest introductions early in the 19th century, but Ward (1968) argued that there is no evidence to suggest that it was not already associated with the earliest primitive settlements. It probably arrived in the Malay Pen with the early Arab or Portuguese traders in the 15th and 16th centuries, but may only have become well-established in Singapore when 19th-century buildings provided nest sites (Hails, 1988). Found as far as Raffles Lighthouse where a pair or two seemed to have established themselves (Chasen, 1924a).

Range. – Palaearctic, E Himalayas, SE Asia, Sulawesi and Lesser Sundas; recently established in Borneo, Brunei and Sandakan; introduced in N America, Australia, New Zealand and W Pacific Is.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Urban areas and open country.

Breeding. – Nest described by Spittle (1949). Clutch = 4. Mating observed in Jan., Mar., May., Aug., Dec. Nest building from Jan. – May., Jul. – Sep. Eggs found in May. Chicks in Apr. Imm seen in Mar.

Materials examined. – AMNH 2 (1 FF, 1 MM), BM 8 (2 FF, 6 MM), RMBR 6 (3 FF, 3 MM), UWBM 2 (1 FF, 1 MM).

389. Forest Wagtail

Dendronanthus indicus U/WV PM

Kedidi Hutan

Status. – Uncommon winter visitor and passage migrant.

Range. – Breeds in Siberia, E Russia, N China and Korea, occasionally in N Myanmar and Thailand; winters in India, Indo-China, in Sumatra, Borneo and Java.

Locality. – BBNP, Bedok, BTNR, CC forest, Changi C, Chestnut Ave, JKedai, Kranji, KRP, Loyang, MF, PR, PHantu, PUbin, SBWR, (Senoko), Sembawang Park, Sentosa, Tagore Woods, Woodlands.

Habitat. – Forests, mangroves, plantations and scrub. Wintering birds seem to be confined to forests (Robinson, 1927; Hails, 1988).

Migration. – See Fig. 125.

Early and late dates. – 13 Aug. – 30 Apr.

Materials examined. – BM 2 (2 AA), RMBR (1 MM).

390. White Wagtail

Motacilla alba ocularis, leucopsis R/WV

Pied Wagtail

Kedidi Hitam-Putih

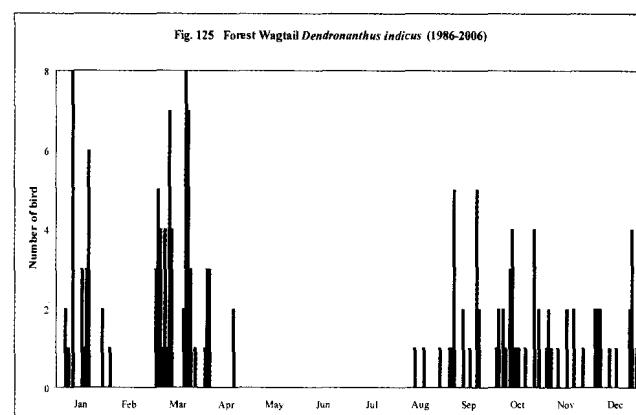


Fig. 125. Forest Wagtail *Dendronanthus indicus* (1986 – 2006).

Status. – Rare winter visitor.

Records. – First recorded at Jurong prawn ponds on 1 Dec. 1963 by J. C. Darnell & M. A. Webster (Medway & Wells, 1964). One seen at Clementi Rd Sewage Farm on 24 Mar. 1969 (Medway & Wells, 1970). At Ser, one on 3 Feb. 1980 and singles between 5 – 31 Dec. 1986 (Wells, 1986). One at Ser, 11 – 31 Dec. 1987 (SINAV 1-12). One at Ulu Pandan canal on 10 Apr. 1988 (SINAV 2-4). One at Pgl on 13 Jan. 1989. One at Senoko on 24 Jan. 1989 (SINAV 3-1), thought to be of the subspecies *M. a. leucopsis*. One at Ulu Pandan canal on 25 Dec. 1989 (SINAV 3-12). One *M. a. leucopsis* male seen at Tuas on 5 Feb. 1992 (SINAV 6). One male and one female seen at KB on 25 Jan. 1994; two males and one female seen at KB on 16 Jan. 1994 (AC, pers. comm.). One *M. a. leucopsis*, seen at Lower Seletar Dam on 8 Nov. 2003 (SINAV 17-4). One bird (*M. a. leucopsis*) seen at Simpang Grassland on 16 Nov. 2004 (SINAV 18-4). Up to three birds (two *M. a. leucopsis* and one *M. a. ocularis*) were seen at Pgl on 25 Dec. 2004 and 30 Dec. 2004 (SINAV 18-4).

Range. – Breeds in NE Siberia and Kamchatka; migrates S to equatorial SE Asia.

Locality. – Changi, (Clementi), KB, Lower Seletar Dam, Pgl, (Senoko), Ser, Sg Ulu Pandan, Simpang, Tuas.

Habitat. – Open grasslands and canals.

Migration. – Normally stays mainly N of the Sunda subregion (Wells, 1986). See Fig. 126.

Early and late dates. – 21 Oct. – 10 Apr.

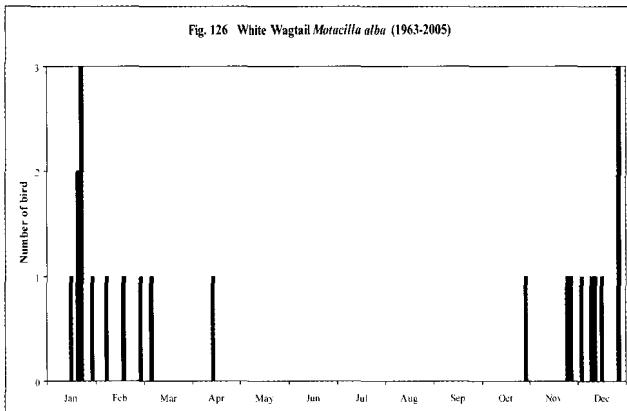
Materials examined. – None.

391. Citrine Wagtail

Motacilla citreola vR/WV

Yellow-hooded Wagtail, Yellow-headed Wagtail
Kedidi Kepala Kuning

Status. – Very rare winter visitor.

Fig. 126. White Wagtail, *Motacilla alba* (1963 – 2005).

Records. – First recorded at Pgl on 11 Mar. 1989 (SINAV 3; Lim 1997). A second record (photographed) between 12–18 Dec. 1994 at Tuas (SINAV 8; Iora 1). Two Imm at Ser on 4 Oct. 1998 is only the third record (SR in OBC Bull. 29).

Range. – W Asia, India and China; migrates S to Myanmar, NW and C Thailand.

Locality. – Pgl, Ser, Tuas.

Habitat. – Open country.

Early and late dates. – 4 Oct. – 11 Mar.

Materials examined. – None.

392. Yellow Wagtail

Motacilla flava simillima, taivana C/WV

Kedidi Kuning

Status. – Common winter visitor.

Range. – Breeds in the Palaearctic, Kamchatka and E Siberia; winters in Africa, Andaman Is, Malay Pen, Singapore, Sumatra, Borneo, Java and Christmas Is.

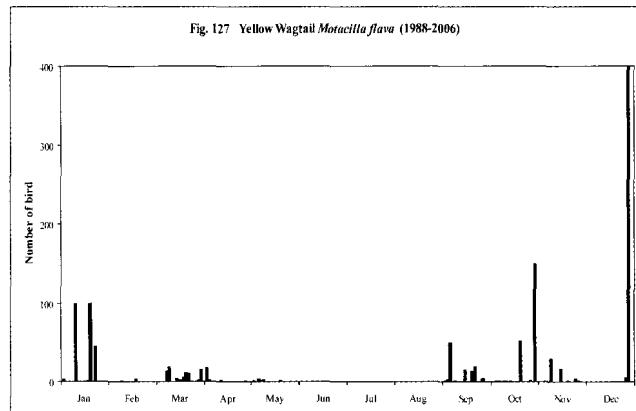
Locality. – Changi, Commonwealth, (CS, Jurong), KB, LH, Loyang, MCP, NT Crescent, Pgl, P Ubin, SBWR, (Senoko), Ser, Sg Seletar, SJI, Tengah Air Base, TM, Tuas, Turut Track, Yishun Ave.

Habitat. – Sludge beds, grasslands and open fields.

Migration. – Most records of birds in winter plumage and subspecies cannot be defined with confidence (M & W, 1976). See Fig. 127.

Early and late dates. – 1 Sep. – 12 May.

Materials examined. – BM 24 (12 FF, 11 MM, 1 AA), RMBR 11 (4 FF, 6 MM, 1 AA).

Fig. 127. Yellow Wagtail, *Motacilla flava* (1988 – 2006).

393. Grey Wagtail

Motacilla cinerea melanope U/WV PM

Kedidi Kepala Kelabu

Status. – Uncommon winter visitor and passage migrant. Formerly a common visitor (G-H, 1949a; RAFOS, 1968).

Range. – Breeds in the Palaearctic region; winters S to Africa, S and SE Asia to Malay Pen, Singapore, Sumatra, Borneo, Java and Bali to New Guinea.

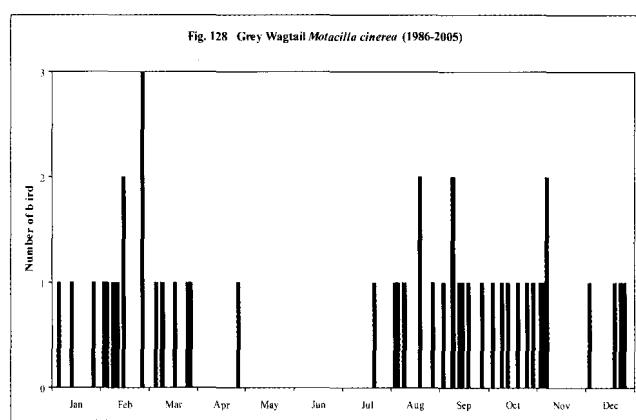
Locality. – BBNP, BBW, CC forest, Changi, Holland Woods, Kaki Bt Rd, Lor Chuan, Pgl, P Ubin, Rifle Range Rd, S Buona Vista, Ser, Tuas, Yishun.

Habitat. – Open country, forest edges and canals.

Migration. – See Fig. 128.

Early and late dates. – 18 Jul. – 23 Apr.

Materials examined. – None.

Fig. 128. Grey Wagtail, *Motacilla cinerea* (1986 – 2005).

394. Paddyfield Pipit

Anthus rufulus sinensis C/RB

Indian Pipit; Oriental Pipit; Richard's Pipit
Ciak Padang, Ciak Tanah, Pipit Padang

Status. – Common resident.

Range. – Malay Pen, Singapore, Sumatra, Java and Borneo. The species breeds in parts of Africa, Palaearctic, S and SE Asia, Australia and New Zealand; N populations migratory, winter in the Indian subcontinent, S China, SE Asia to Malaysia and Borneo.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Open fields, short grasslands, parks and golf courses.

Breeding. – Nest described by Spittle (1949). Clutch = 3. Incubation and fledging at least 24 days. Courtship observed in Apr., Dec. Nest building in Feb., Mar., May. Eggs in Mar. – Jun. Chicks found in Mar., Apr., Jul. Imm seen in Jun.

Materials examined. – BM 18 (10 FF, 4 MM, 4 AA), RMBR 5 (3 FF, 2 MM).

395. Red-throated Pipit

Anthus cervinus U/WV

Ciak Leher Merah

Status. – Uncommon winter visitor.

Records. – First recorded at Jurong on 7 Dec. 1963 by J. C. Darnell and M. A. Webster (Medway & Nisbet, 1965). Recent records: three at Tuas on 24 Feb. 1980 and at least 10 there on 12 Apr. 1980 (Wells, 1986); one at Ser on 20 Nov. 1983 (Wells, 1990); three to four seen at Tuas on 12 Apr. 1992 (SINAV 6-2), several at Tuas on 5 Nov. 1994 where they stayed till end of the year (Iora 1). Three seen at TM on 13 Feb. 2000 (SINAV 14-1). One seen at Changi on 4 Dec. and still there on 20 Dec. 2005 (various observers) and 1 Jan. 2006 (AN, in litt.).

Range. – Breeds in N Palaearctic from Scandinavia to Pacific; winters in Africa, N Indian subcontinent, SE Asia, Malaya, Borneo and Celebes.

Locality. – Changi, (Jurong), Marina E, Pgl, Ser, TM, Tuas.

Habitat. – Open country.

Migration. – See Fig. 129.

Early and late dates. – 5 Nov. – 12 Apr.

Materials examined. – None.

396. Baya Weaver

Ploceus philippinus infortunatus U/RB

Burung Tempua

Status. – Uncommon resident. Numbers have declined due to the loss of long grass areas.

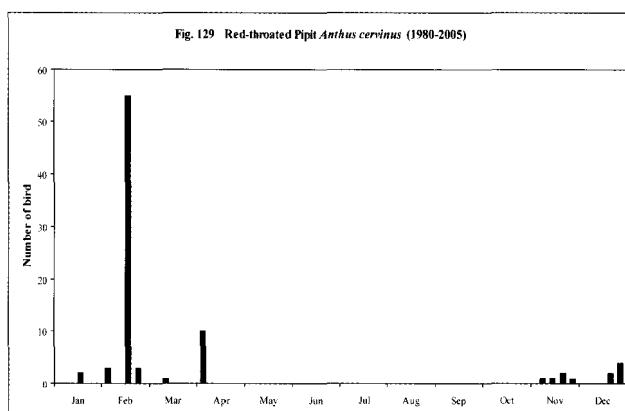


Fig. 129. Red-throated Pipit, *Anthus cervinus* (1980 – 2005).

Range. – The Indian subcontinent, through SE Asia to Malay Pen, Singapore, Sumatra and Java.

Locality. – BBW, Changi, (CS), Kranji, LCK, LH, Lor Mayang, NT Rd, P Ubin, SBWR, (Senoko), Ser, Sg China, Sg Seletar, Somapah, Ulu Pandan.

Habitat. – Mainly in rural areas, in the vicinity of long grass.

Breeding. – Nest building observed from Mar. – Aug. Brood in Apr., May. Chicks in Apr., Jun. Imm in May.

Materials examined. – BM 1 (1 AA), RMBR 2 (2 FF).

397. Streaked Weaver

Ploceus manyar R/I RB

Burung Tempua Lorek

Status. – Rare. Introduced.

Records. – One male seen in grassland at LH on 12 Apr. 1997, and five males and one female seen on 13 Apr. 1997 (SINAV 11) are the first confirmation of this species. A male seen at Marina E on 11 Oct. 2003 (SINAV 17-4). At LH, two birds seen on 16 May. 2004 and three birds on 4 Jul. 2004 (SINAV 18).

Locality. – LH, Marina E.

Habitat. – Long grass areas and rural habitats.

Breeding. – Nest building in Feb.

Materials examined. – None.

398. White-rumped Munia

Lonchura striata subsquamericollis R/RB

Pipit Tuli

Status. – Rare resident. Formerly common (Kelham, 1883; G-H, 1949a).

Threats. – Nationally-threatened by habitat loss and disturbance, unviable population levels of 15–50 (Lim, 1992; 1998a).

Range. – The Indian subcontinent and S China, through SE Asia to Malay Pen, Singapore and Sumatra.

Locality. – Mainly confined to P Tekong, P Ubin (Lim, 1989; 1992). Also recorded in BTNR, KB, KRP, MacRitchie Res, SBWR, (Senoko), Sentosa, Sime Rd, Stephen Lee Rd, Tanglin Golf Course, Tuas.

Habitat. – Forest edges, plantations and secondary forests lined with long grass.

Breeding. – First recorded by Kelham (1883): nest found near Tanglin, on 29 Jul. No recent breeding records until two birds seen carrying nesting material at Mandai on 24 May. 1992 (SINAV 6-2). One seen carrying nest material on 18 Aug. 1992 on P Ubin (SINAV 14-3).

Materials examined. – BM 11 (3 FF, 7 MM, 1 Imm). Specimens collected on P Ubin by Chasen (1924a) were not found.

399. Javan Munia

Lonchura leucogastroides C/I RB

Javanese Mannikin, Javanese White-bellied Munia
Pipit Jawa

Status. – Common resident. Introduced.

Records. – Introduced from Java ca. 1922, (Chasen, 1924; G-H, 1952). Commonly imported into Singapore as a cage bird; escaped birds occasionally form small colonies in various parts of the island (Chasen, 1924; G-H, 1949a). By 1924, it was recorded throughout Singapore (G-H, 1952).

Range. – Native to Java.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Grassland, cultivated land, gardens and parks.

Breeding. – Chasen (1924) reported nesting in the BT area in 1923. Mating observed in Jul. Nest building from Mar. – Sep. Brooding observed in Jul., Aug. Chicks found in May. – Jul., Sep., Oct. Imm seen in Sep.

Materials examined. – RMBR 1 (1 FF), UWBM 2 (2 AA).

400. Scaly-breasted Munia

Lonchura punctulata fretensis C/RB

Nutmeg Mannikin
Pipit Pinang

Status. – Common resident.

Records. – Collected extensively by Davison (Hume Coll., BM) in 1875.

Range. – Native to India, S China, discontinuously through SE Asia to Malay Pen, Singapore, Sumatra, Java, Lesser Sundas, Sulawesi and the Philippines.

Locality. – Throughout Singapore, N Is, S Is.

Habitat. – Grassland, cultivation, gardens, parks, scrub, secondary growth, golf courses and rural areas.

Breeding. – Nest described by Spittle (1949). Clutch = 4. Nest building from Jan. – Sep. Eggs found from Feb. – Sep. Brooding observed in Mar., Jun. Imm seen in Jul. – Oct.

Materials examined. – BM 38 (16 FF, 17 MM, 3 Imm, 2 AA), FMNH 1 (1 AA), RMBR 1 (1 FF).

401. Black-headed Munia

Lonchura malacca sinensis C/RB

Chestnut Munia
Pipit Rawa

Status. – Common resident.

Records. – Birds with buffy-white crown, face and nape, corresponding to the Javan ssp., *L. m. ferruginosa*, have been seen since late-1986 (K. Nee, LKS, R. Hale) and were presumably escaped cage-birds (Hails, 1988).

Range. – India, S China, discontinuously throughout SE Asia to Malay Pen, Singapore, Sumatra, Borneo, the Philippines and Celebes; introduced in Moluccas and W Pacific Is.

Locality. – BBW, Kranji, Marina E, N Is, NS, NT Lane, Pgl, SBWR, (Senoko), Ser, S Is, (Tampines), Toh Yi Drive.

Habitat. – Wasteland areas with long grass, scrub, fields and parks.

Breeding. – Clutch = 4. Hybrids of Javan and Black-headed Munia have been recorded throughout Singapore. Nest building observed in Mar., Apr., Jul. Eggs found in May., Jun. Imm seen in Sep.

Materials examined. – RMBR 8 (2 FF, 3 MM, 2 Imm, 1 AA).

402. White-headed Munia

Lonchura maja maja U/RB

Pipit Uban

Status. – Uncommon resident.

Range. – Malay Pen, Singapore, Sumatra, Java and Bali.

Locality. – Gilman Park, Kranji, LH, Lower Seletar Dam, N Is, Pgl, SBWR, , Ser, S Is, Ulu Pandan.

Habitat. – Grassland, fields, parks, golf course and overgrown reclaimed land.

Breeding. – Nest described by Spittle (1949). Clutch = 4 – 5. Nest building in Mar., Jul. Eggs found in Feb., Mar., Apr., Jul. Imm seen in Jul., Aug., Sep.

Materials examined. – BM 33 (20 FF, 11 MM, 1 Imm, 1 AA), RMBR 2 (2 AA).

403. Java Sparrow

Lonchura oryzivora R/I RB

Burung Jelatek

Status. – Rare. Introduced before the 1840s (M & W, 1976).

Records. – Formerly one of the commonest birds in Singapore and by 1924, had spread as far as P Ubin (Chasen, 1924). It has declined gradually from 1952 – 1968. It was apparently dependent on man for most of its food (spilled grain, food intended for poultry) and since this type of food is no longer available in quantity, it is unlikely that it will again be the prominent bird it was for a century or more (Ward, 1968). May soon become extinct (L & G, 1997). A few birds can still be seen at Ser, recorded mainly from 1986 – 1992 (SINAV 1 to 6).

Range. – Java and Bali. Introduced throughout Asia.

Locality. – Mainly in Ser. Also (Bedok), Paya Lebar Airport, Changi Airport, Pgl, (P Ubin, Senoko), Sentosa, SJI.

Habitat. – Open grassland.

Breeding. – Formerly recorded from Tanglin and SBG (Kelham, 1883; Ridley, 1898).

Materials examined. – BM 10 (5 MM, 4 FF, 1 AA).

FAMILY FRINGILLIDAE

404. Yellow-breasted Bunting

Emberiza aureola R/WV

White-shouldered Bunting, Golden Bunting
Pipit Dada Kuning

Status. – Rare winter visitor.

Records. – First recorded on 13 Nov. 1977 at BT golf course by RFO (Wells, 1983). Subsequent records of three birds at Jurong River on 25 Nov. 1978 and one at Ser on 10 Nov. 1979, three seen at Tuas on 12 Apr. 1980 (Wells, 1986). One seen in scrub on 27 Feb. 1986 and one female on 24 Mar. 1986 in Ser; another, a probably male seen at Marina E on 17 Nov. 1988 (Wells, 1990b). No further records.

Range. – Breeds in the N Palaearctic from Finland to Russia, Manchuria and Japan; winters in the E Indian subcontinent, SE Asia and S to Malay Pen.

Locality. – BT, (Jurong River), Marina E, Ser, Tuas.

Habitat. – Open grassland and scrub.

Migration. – Usually one to two annually (Hails, 1988), but very few records available.

Early and late dates. – 10 Nov. – 12 Apr.

Materials examined. – None.

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APPENDIX I – CHECKLIST OF BIRDS OF SINGAPORE

This list includes all birds (364 species) that are still found in the wild state in Singapore. The numbers follow the sequence in the **Species Accounts**.

FAMILY PHASIANIDAE

1. Blue-breasted Quail *Coturnix chinensis* U/RB
2. Red Junglefowl *Gallus gallus* U/RB

FAMILY DENDROCYGNIDAE

3. Wandering Whistling-duck *Dendrocygna arcuata* U/I RB
4. Lesser Whistling-duck *Dendrocygna javanica* U/RB

FAMILY ANATIDAE

5. Cotton Pygmy-goose *Nettapus coromandelianus* R/NBV
6. Eurasian Wigeon *Anas penelope* vR/A
7. Gadwall *Anas strepera* vR/A
8. Northern Shoveler *Anas clypeata* R/WV
9. Northern Pintail *Anas acuta* R/WV
10. Garganey *Anas querquedula* U/WV
11. Common Teal *Anas crecca* vR/A
12. Tufted Duck *Aythya fuligula* vR/A

FAMILY TURNICIDAE

13. Barred Buttonquail *Turnix suscitator* C/RB

FAMILY PICIDAE		
14. Sunda Pygmy Woodpecker <i>Dendrocopos moluccensis</i>	C/RB	
16. Rufous Woodpecker <i>Celeus brachyurus</i>	U/RB	
17. White-bellied Woodpecker <i>Dryocopus javensis</i>	R/R(B)	
18. Banded Woodpecker <i>Picus miniaceus</i>	C/RB	
21. Laced Woodpecker <i>Picus vittatus</i>	C/RB	
23. Common Flameback <i>Dinopium javanense</i>	C/RB	
29. Great Slaty Woodpecker <i>Mulleripicus pulverulentus</i>	vR/NBV	
FAMILY MEGALAIMIDAE		
30. Lineated Barbet <i>Megalaima lineata</i>	U/I RB	
31. Red-crowned Barbet <i>Megalaima rafflesii</i>	U/RB	
33. Coppersmith Barbet <i>Megalaima haemacephala</i>	C/RB	
FAMILY BUCEROTIDAE		
35. Oriental Pied Hornbill <i>Anthracoceros albirostris</i>	R/RB	
FAMILY CORACIIDAE		
39. Dollarbird <i>Eurystomus orientalis</i>	C/RB WV	
FAMILY ALCEDINIDAE		
40. Common Kingfisher <i>Alcedo atthis</i>	C/WV PM	
41. Blue-eared Kingfisher <i>Alcedo meninting</i>	R/R(B)	
42. Oriental Dwarf Kingfisher <i>Ceyx erithacus erithacus</i>	R/WV PM	
FAMILY HALCYONIDAE		
43. Stork-billed Kingfisher <i>Halcyon capensis</i>	U/RB	
44. Ruddy Kingfisher <i>Halcyon coromanda</i>	U/WV PM, R/RB	
45. White-throated Kingfisher <i>Halcyon smyrnensis</i>	C/RB	
46. Black-capped Kingfisher <i>Halcyon pileata</i>	U/WV PM	
47. Collared Kingfisher <i>Todiramphus chloris</i>	C/RB	
FAMILY MEROPIDAE		
49. Blue-throated Bee-eater <i>Merops viridis</i>	C/RB	
50. Blue-tailed Bee-eater <i>Merops philippinus</i>	C/WV PM	
FAMILY CUCULIDAE		
51. Chestnut-winged Cuckoo <i>Clamator coromandus</i>	U/WV PM	
52. Large Hawk Cuckoo <i>Hierococcyx sparverioides</i>	R/WV PM	
53. Malaysian Hawk Cuckoo <i>Hierococcyx fugax</i>	R/NBV	
54. Hodgson's Hawk Cuckoo <i>Hierococcyx nisicolor</i>	U/WV PM	
55. Indian Cuckoo <i>Cuculus micropterus</i>	C/WV PM	
56. Oriental Cuckoo <i>Cuculus saturatus</i>	R/WV PM	
57. Banded Bay Cuckoo <i>Cacomantis sonneratii</i>	U/RB	
58. Plaintive Cuckoo <i>Cacomantis merulinus</i>	U/RB	
59. Rusty-breasted Cuckoo <i>Cacomantis sepulcralis</i>	U/RB	
60. Little Bronze Cuckoo <i>Chrysococcyx minutillus</i>	C/RB	
61. Horsfield's Bronze Cuckoo <i>Chrysococcyx basalis</i>	R/WV	
62. Violet Cuckoo <i>Chrysococcyx xanthorhynchos</i>	U/RB WV	
63. Drongo Cuckoo <i>Surniculus lugubris</i>	U/RB WV	
64. Asian Koel <i>Eudynamys scolopacea</i>	C/RB WV	
66. Chestnut-bellied Malkoha <i>Phaenicophaeus sumatranus</i>	U/RB	
FAMILY CENTROPODIDAE		
67. Greater Coucal <i>Centropus sinensis</i>	U/RB	
68. Lesser Coucal <i>Centropus bengalensis</i>	C/RB	
FAMILY PSITTACIDAE		
69. Yellow-crested Cockatoo <i>Cacatua sulphurea</i>	U/I RB	
70. Tanimbar Cockatoo <i>Cacatua goffini</i>	C/I RB	
71. Blue-rumped Parrot <i>Psittinus cyanurus</i>	R/R(B)	
72. Blue-crowned Hanging Parrot <i>Loriculus galgulus</i>	U/R(B)	
73. Rose-ringed Parakeet <i>Psittacula krameri</i>	U/I RB	
74. Red-breasted Parakeet <i>Psittacula alexandri</i>	C/I RB	
75. Long-tailed Parakeet <i>Psittacula longicauda</i>	C/RB	
FAMILY APODIDAE		
76. Glossy Swiftlet <i>Collocalia esculenta</i>	R/R(B)	
77. Black-nest Swiftlet <i>Collocalia maxima</i>	C/RB	
78. Edible-nest Swiftlet <i>Collocalia fuciphaga</i>	C/RB	
79. Silver-rumped Needletail <i>Rhaphidura leucopygia</i>	R/NBV	
80. White-throated Needletail <i>Hirundapus caudacutus</i>	vR/PM	
81. Silver-backed Needletail <i>Hirundapus cochinchinensis</i>	U/WV PM	
82. Brown-backed Needletail <i>Hirundapus giganteus</i>	U/WV PM	
83. Asian Palm Swift <i>Cypsiurus balasiensis</i>	C/RB	
84. Fork-tailed Swift <i>Apus pacificus</i>	U/WV PM	
85. House Swift <i>Apus affinis</i>	C/RB	
FAMILY HEMIPROCNIDAE		
86. Grey-rumped Treecrest <i>Hemiprocne longipennis</i>	C/RB	
87. Whiskered Treecrest <i>Hemiprocne comata</i>	R/NBV	
FAMILY TYTONIDAE		
89. Barn Owl <i>Tyto alba</i>	U/RB	
FAMILY STRIGIDAE		
90. Oriental Scops Owl <i>Otus sunia</i>	R/WV PM	
91. Collared Scops Owl <i>Otus lempiji</i>	C/RB	
92. Barred Eagle Owl <i>Bubo sumatranus</i>	vR/NBV	
93. Buffy Fish Owl <i>Ketupa ketupu</i>	R/RB	
94. Spotted Wood Owl <i>Strix seloputo</i>	R/RB	
95. Brown Hawk Owl <i>Ninox scutulata</i>	C/RB	
96. Short-eared Owl <i>Asio flammeus</i>	R/A	
FAMILY EUROSTOPODIDAE		
97. Malaysian Eared Nightjar <i>Eurostopodus temminckii</i>	R/R(B)	
FAMILY CAPRIMULGIDAE		
98. Grey Nightjar <i>Caprimulgus indicus</i>	R/WV PM	
99. Large-tailed Nightjar <i>Caprimulgus macrurus</i>	C/RB	
100. Savanna Nightjar <i>Caprimulgus affinis</i>	U/RB	
FAMILY COLUMBIDAE		
101. Rock Pigeon <i>Columba livia</i>	C/I RB	
102. Spotted Dove <i>Streptopelia chinensis</i>	C/RB	
103. Red Collared Dove <i>Streptopelia tranquebarica</i>	C/I RB	
104. Emerald Dove <i>Chalcophaps indica</i>	U/RB	
105. Peaceful Dove <i>Geopelia striata</i>	C/RB	

106. Cinnamon-headed Green Pigeon <i>Treron fulvicollis</i>	R/NBV	158. Broad-billed Sandpiper <i>Limicola falcinellus</i>	U/WV PM
107. Little Green Pigeon <i>Treron olax</i>	R/R(B) NBV	159. Ruff <i>Philomachus pugnax</i>	U/WV
108. Pink-necked Green Pigeon <i>Treron vernans</i>	C/RB	160. Red-necked Phalarope <i>Phalaropus lobatus</i>	vR/A
109. Thick-billed Green Pigeon <i>Treron curvirostra</i>	U/RB		
110. Jambu Fruit Dove <i>Ptilinopus jambu</i>	U/NBV	FAMILY ROSTRATULIDAE	
111. Green Imperial Pigeon <i>Ducula aenea</i>	R/NBV	161. Greater Painted-snipe <i>Rostratula benghalensis</i>	R/RB
112. Pied Imperial Pigeon <i>Ducula bicolor</i>	R/NBV		
		FAMILY JACANIDAE	
FAMILY HELIORNITHIDAE		162. Pheasant-tailed Jacana <i>Hydrophasianus chirurgus</i>	R/WV
113. Masked Finfoot <i>Heliopais personata</i>	vR/NBV		
		FAMILY BURHINIDAE	
FAMILY RALLIDAE		163. Beach Thick-knee <i>Esacus magnirostris</i>	vR/R(B)
114. Red-legged Crake <i>Rallina fasciata</i>	U/RB WV		
115. Slaty-legged Crake <i>Rallina eurizonoides</i>	R/WV PM	FAMILY CHARADRIIDAE	
116. Slaty-breasted Rail <i>Gallirallus striatus</i>	C/RB	164. Black-winged Stilt <i>Himantopus himantopus</i>	U/WV PM
117. White-breasted Waterhen <i>Amaurornis phoenicurus</i>	C/RB, U/WV PM	165. Pacific Golden Plover <i>Pluvialis fulva</i>	C/WV PM
118. Baillon's Crake <i>Porzana pusilla</i>	U/WV PM	166. Grey Plover <i>Pluvialis squatarola</i>	U/WV PM
119. Ruddy-breasted Crake <i>Porzana fusca</i>	U/RB	167. Common Ringed Plover <i>Charadrius hiaticula</i>	U/WV PM
120. White-browed Crake <i>Porzana cinerea</i>	U/RB	168. Little Ringed Plover <i>Charadrius dubius</i>	C/WV PM
121. Watercock <i>Gallicrex cinerea</i>	U/WV PM	169. Kentish Plover <i>Charadrius alexandrinus</i>	U/WV PM
122. Purple Swamphen <i>Porphyrio porphyrio</i>	R/RB	170. Malaysian Plover <i>Charadrius peronii</i>	R/RB
123. Common Moorhen <i>Gallinula chloropus</i>	C/RB	171. Lesser Sand Plover <i>Charadrius mongolus</i>	C/WV PM
124. Common Coot <i>Fulica atra</i>	vR/A	172. Greater Sand Plover <i>Charadrius leschenaultii</i>	U/WV PM
		173. Oriental Plover <i>Charadrius veredus</i>	R/PM
FAMILY SCOLOPACIDAE		174. Red-wattled Lapwing <i>Vanellus indicus</i>	R/RB
125. Eurasian Woodcock <i>Scolopax rusticola</i>	vR/A		
126. Pintail Snipe <i>Gallinago stenura</i>	C/WV PM	FAMILY GLAREOLIDAE	
127. Swinhoe's Snipe <i>Gallinago megala</i>	R/WV PM	175. Oriental Pratincole <i>Glareola maldivarum</i>	U/WV PM
128. Common Snipe <i>Gallinago gallinago</i>	C/WV PM	176. Small Pratincole <i>Glareola lactea</i>	R/PM
129. Black-tailed Godwit <i>Limosa limosa</i>	C/WV PM		
130. Bar-tailed Godwit <i>Limosa lapponica</i>	U/WV PM	FAMILY LARIDAE	
131. Little Curlew <i>Numenius minutus</i>	vR/A	177. Brown-headed Gull <i>Larus brunnicephalus</i>	R/A
132. Whimbrel <i>Numenius phaeopus</i>	C/WV PM	178. Black-headed Gull <i>Larus ridibundus</i>	R/WV
133. Eurasian Curlew <i>Numenius arquata</i>	U/WV PM	179. Gull-billed Tern <i>Gelochelidon nilotica</i>	R/WV PM
134. Eastern Curlew <i>Numenius madagascariensis</i>	R/PM	180. Caspian Tern <i>Sterna caspia</i>	R/WV
135. Spotted Redshank <i>Tringa erythropus</i>	R/WV	181. Lesser Crested Tern <i>Sterna bengalensis</i>	C/WV
136. Common Redshank <i>Tringa totanus</i>	C/WV PM	182. Great Crested Tern <i>Sterna bergii</i>	C/WV
137. Marsh Sandpiper <i>Tringa stagnatilis</i>	C/WV PM	183. Roseate Tern <i>Sterna dougallii</i>	vR/A
138. Common Greenshank <i>Tringa nebularia</i>	C/WV PM	184. Black-naped Tern <i>Sterna sumatrana</i>	U/RB
139. Nordmann's Greenshank <i>Tringa guttifer</i>	vR/WV PM	185. Common Tern <i>Sterna hirundo</i>	U/WV PM
140. Green Sandpiper <i>Tringa ochropus</i>	R/WV	186. Little Tern <i>Sterna albifrons</i>	C/RB NBV, C/WV
141. Wood Sandpiper <i>Tringa glareola</i>	C/WV PM	187. Aleutian Tern <i>Sterna aleutica</i>	R/A
142. Terek Sandpiper <i>Xenus cinereus</i>	C/WV PM	188. Bridled Tern <i>Sterna anaethetus</i>	U/PM
143. Common Sandpiper <i>Actitis hypoleucos</i>	C/WV PM	189. Whiskered Tern <i>Chlidonias hybridus</i>	R/WV PM
144. Grey-tailed Tattler <i>Heteroscelus brevipes</i>	U/WV PM	190. White-winged Tern <i>Chlidonias leucopterus</i>	C/WV PM
145. Ruddy Turnstone <i>Arenaria interpres</i>	U/WV PM		
146. Asian Dowitcher <i>Limnodromus semipalmatus</i>	U/WV PM	FAMILY ACCIPITRIDAE	
147. Great Knot <i>Calidris tenuirostris</i>	U/PM	191. Osprey <i>Pandion haliaetus</i>	C/WV NBV
148. Red Knot <i>Calidris canutus</i>	vR/WV	192. Jerdon's Baza <i>Aviceda jerdoni</i>	vR/PM
149. Sanderling <i>Calidris alba</i>	U/WV	193. Black Baza <i>Aviceda leuphotes</i>	C/VW PM
150. Spoon-billed Sandpiper <i>Calidris pygmaea</i>	R/WV	194. Oriental Honey-buzzard <i>Pernis ptilorhyncus</i>	U/NBV, C/WV PM
151. Red-necked Stint <i>Calidris ruficollis</i>	C/WV PM	195. Bat Hawk <i>Macheiramphus alcinus</i>	R/NBV
152. Temminck's Stint <i>Calidris temminckii</i>	R/PM	196. Black-winged Kite <i>Elanus caeruleus</i>	C/RB
153. Long-toed Stint <i>Calidris subminuta</i>	U/WV PM	197. Black Kite <i>Milvus migrans</i>	U/WV
154. Pectoral Sandpiper <i>Calidris melanotos</i>	vR/A	198. Brahminy Kite <i>Haliastur indus</i>	C/RB
155. Sharp-tailed Sandpiper <i>Calidris acuminata</i>	R/PM	199. White-bellied Fish Eagle <i>Haliaeetus leucogaster</i>	C/RB
156. Dunlin <i>Calidris alpina</i>	R/PM		
157. Curlew Sandpiper <i>Calidris ferruginea</i>	C/WV PM		

200. Grey-headed Fish Eagle <i>Ichthyophaga ichthyaetus</i>	R/RB	FAMILY PELECANIDAE	
201. Himalayan Griffon <i>Gyps himalayensis</i>	R/A	246. Great White Pelican <i>Pelecanus onocrotalus</i>	vR/NBV
202. Short-toed Snake Eagle <i>Circaetus gallicus</i>	R/PW	FAMILY CICONIIDAE	
203. Crested Serpent Eagle <i>Spilornis cheela</i>	R/R(B)	247. Lesser Adjutant <i>Leptoptilos javanicus</i>	R/NBV
204. Eurasian Marsh Harrier <i>Circus aeruginosus</i>	U/WV PM	FAMILY FREGATIDAE	
205. Hen Harrier <i>Circus cyaneus</i>	R/WV	248. Lesser Frigatebird <i>Fregata ariel</i>	vR/NBV
206. Pied Harrier <i>Circus melanoleucos</i>	R/WV	249. Christmas Island Frigatebird <i>Fregata andrewsi</i>	vR/NBV
207. Crested Goshawk <i>Accipiter trivirgatus</i>	R/RB NBV	FAMILY PROCELLARIIDAE	
208. Chinese Sparrowhawk <i>Accipiter soloensis</i>	U/WV PM	250. Wedge-tailed Shearwater <i>Puffinus pacificus</i>	vR/A
209. Japanese Sparrowhawk <i>Accipiter gularis</i>	C/WV PM	251. Swinhoe's Storm-petrel <i>Oceanodroma monorhysis</i>	U/PM
210. Besra <i>Accipiter virgatus</i>	R/NBV	FAMILY PITTIDAE	
211. Grey-faced Buzzard <i>Butastur indicus</i>	U/WV PM	252. Hooded Pitta <i>Pitta sordida</i>	U/WV PM
212. Common Buzzard <i>Buteo buteo</i>	U/WV	254. Blue-winged Pitta <i>Pitta moluccensis</i>	U/WV PM
213. Greater Spotted Eagle <i>Aquila clanga</i>	R/WV	255. Mangrove Pitta <i>Pitta megarhyncha</i>	R/RB
214. Steppe Eagle <i>Aquila nipalensis</i>	R/WV	FAMILY PARDALOTIDAE	
215. Imperial Eagle <i>Aquila heliaca</i>	R/WV	261. Golden-bellied Gerygone <i>Gerygone sulphurea</i>	C/RB
216. Booted Eagle <i>Hieraetus pennatus</i>	R/PW	FAMILY IRENIDAE	
217. Rufous-bellied Eagle <i>Hieraetus kienerii</i>	R/WV PM	262. Asian Fairy Bluebird <i>Irena puella</i>	C/RB
218. Changeable Hawk Eagle <i>Spizaetus cirrhatus</i>	U/RB	263. Greater Green Leafbird <i>Chloropsis sonneratii</i>	R/R(B)
219. Blyth's Hawk Eagle <i>Spizaetus alboniger</i>	vR/NBV	264. Lesser Green Leafbird <i>Chloropsis cyanopogon</i>	U/R(B)
FAMILY FALCONIDAE		265. Blue-winged Leafbird <i>Chloropsis cochinchinensis</i>	C/R(B)
220. Black-thighed Falconet <i>Microhierax fringillarius</i>	vR/NBV	FAMILY LANIIDAE	
221. Lesser Kestrel <i>Falco naumanni</i>	R/A	266. Tiger Shrike <i>Lanius tigrinus</i>	C/WV PM
222. Common Kestrel <i>Falco tinnunculus</i>	R/WV	267. Brown Shrike <i>Lanius cristatus</i>	C/WV PM
223. Oriental Hobby <i>Falco severus</i>	R/A	268. Long-tailed Shrike <i>Lanius schach</i>	C/RB
224. Peregrine Falcon <i>Falco peregrinus</i>	U/WV PM	FAMILY CORVIDAE	
FAMILY PODICIPEDIDAE		269. Mangrove Whistler <i>Pachycephala grisola</i>	U/RB
225. Little Grebe <i>Tachybaptus ruficollis</i>	U/RB	270. House Crow <i>Corvus splendens</i>	C/I RB
FAMILY SULIDAE		271. Large-billed Crow <i>Corvus macrorhynchos</i>	C/RB
226. Brown Booby <i>Sula leucogaster</i>	vR/NBV	273. Black-naped Oriole <i>Oriolus chinensis</i>	C/RB, R/WV
FAMILY ARDEIDAE		275. Lesser Cuckoo-shrike <i>Coracina fimbriata</i>	R/R(B)
227. Little Egret <i>Egretta garzetta</i>	C/WV PM	276. Pied Triller <i>Lalage nigra</i>	C/RB
228. Chinese Egret <i>Egretta eulophotes</i>	U/WV	277. Ashy Minivet <i>Pericrocotus divaricatus</i>	C/WV PM
229. Pacific Reef Egret <i>Egretta sacra</i>	U/RB	279. Scarlet Minivet <i>Pericrocotus flammeus</i>	vR/R(B)
230. Grey Heron <i>Ardea cinerea</i>	C/RB	280. Pied Fantail <i>Rhipidura javanica</i>	C/RB
231. Great-billed Heron <i>Ardea sumatrana</i>	R/RB	281. Black Drongo <i>Dicrurus macrocercus</i>	U/WV PM
232. Purple Heron <i>Ardea purpurea</i>	C/RB	282. Ashy Drongo <i>Dicrurus leucophaeus</i>	R/WV NBV
233. Great Egret <i>Casmerodius albus</i>	C/WV	283. Crow-billed Drongo <i>Dicrurus annectans</i>	U/WV PM
234. Intermediate Egret <i>Mesophoyx intermedia</i>	U/WV	285. Greater Racket-tailed Drongo <i>Dicrurus paradiseus</i>	C/RB
235. Cattle Egret <i>Bubulcus ibis</i>	C/WV PM	286. Black-naped Monarch <i>Hypothymis azurea</i>	R/R(B)
236. Chinese Pond Heron <i>Ardeola bacchus</i>	U/WV	287. Asian Paradise-flycatcher <i>Terpsiphone paradisi</i>	C/PM, R/WV
237. Striated Heron <i>Butorides striatus</i>	C/RB, R/WV	288. Japanese Paradise-flycatcher <i>Terpsiphone atrocaudata</i>	R/PM
238. Black-crowned Night Heron <i>Nycticorax nycticorax</i>	U/RB	289. Common Iora <i>Aegithina tiphia</i>	C/RB
239. Malayan Night Heron <i>Gorsachius melanolophus</i>	R/WV PM	FAMILY MUSCICAPIDAE	
240. Yellow Bittern <i>Ixobrychus sinensis</i>	C/RB WV	294. White-throated Rock Thrush <i>Monticola gularis</i>	R/WV PM
241. Schrenck's Bittern <i>Ixobrychus eurhythmus</i>	U/WV PM	295. Blue Rock Thrush <i>Monticola solitarius</i>	R/PM
242. Cinnamon Bittern <i>Ixobrychus cinnamomeus</i>	C/R(B) WV		
243. Black Bittern <i>Dupetor flavigollis</i>	U/WV PM		
244. Great Bittern <i>Botaurus stellaris</i>	R/A		
FAMILY THREKIORNITHIDAE			
245. Glossy Ibis <i>Plegadis falcinellus</i>	R/A		

296. Orange-headed Thrush <i>Zoothera citrina</i>	R/WV	FAMILY CISTICOLIDAE	
297. Siberian Thrush <i>Zoothera sibirica</i>	R/PM	345. Zitting Cisticola <i>Cisticola juncidis</i>	C/RB
298. Eyebrowed Thrush <i>Turdus obscurus</i>	U/PM, R/WV	346. Yellow-bellied Prinia <i>Prinia flaviventris</i>	C/RB
299. Brown-chested Jungle Flycatcher <i>Rhinomyias brunneata</i>	R/WV PM		
300. Dark-sided Flycatcher <i>Muscicapa sibirica</i>	U/WV PM		
301. Asian Brown Flycatcher <i>Muscicapa dauurica</i>	C/WV PM	FAMILY ZOSTEROPIDAE	
302. Brown-streaked Flycatcher <i>Muscicapa williamsoni</i>	R/WV	347. Oriental White-eye <i>Zosterops palpebrosus</i>	U/I RB
303. Ferruginous Flycatcher <i>Muscicapa ferruginea</i>	U/WV		
304. Yellow-rumped Flycatcher <i>Ficedula zanthopygia</i>	C/WV PM	FAMILY SYLVIIDAE	
305. Narcissus Flycatcher <i>Ficedula narcissina</i>	R/PM	348. Lanceolated Warbler <i>Locustella lanceolata</i>	R/WV PM
306. Mugimaki Flycatcher <i>Ficedula mugimaki</i>	U/PM	349. Pallas's Warbler <i>Locustella certhiola</i>	U/WV PM
307. Blue-and-white Flycatcher <i>Cyanoptila cyanomelana</i>	R/PM	350. Black-browed Reed-Warbler <i>Acrocephalus bistrigiceps</i>	U/WV
308. Blue-throated Flycatcher <i>Cyornis rubeculoides</i>	vR/PM	351. Oriental Reed Warbler <i>Acrocephalus orientalis</i>	C/WV PM
309. Mangrove Blue Flycatcher <i>Cyornis rufigastra</i>	R/RB	352. Common Tailorbird <i>Orthotomus sutorius</i>	C/RB
310. Siberian Blue Robin <i>Luscinia cyan</i>	C/WV PM	353. Dark-necked Tailorbird <i>Orthotomus atrogularis</i>	C/RB
311. Oriental Magpie Robin <i>Copsychus saularis</i>	U/RB	354. Rufous-tailed Tailorbird <i>Orthotomus sericeus</i>	U/RB
312. White-rumped Shama <i>Copsychus malabaricus</i>	R/RB	355. Ashy Tailorbird <i>Orthotomus ruficeps</i>	C/RB
313. Common Stonechat <i>Saxicola torquata</i>	R/WV PM	356. Dusky Warbler <i>Phylloscopus fuscatus</i>	vR/PM
FAMILY STURNIDAE			
314. Asian Glossy Starling <i>Aplonis panayensis</i>	C/RB	357. Inornate Warbler <i>Phylloscopus inornatus</i>	R/WV PM
315. Purple-backed Starling <i>Sturnus sturninus</i>	C/WV PM	358. Arctic Warbler <i>Phylloscopus borealis</i>	C/WV PM
316. Chestnut-cheeked Starling <i>Sturnus philippensis</i>	vR/A	359. Eastern Crowned Warbler <i>Phylloscopus coronatus</i>	U/WV PM
317. White-shouldered Starling <i>Sturnus sinensis</i>	U/WV PM	360. White-crested Laughingthrush <i>Garrulax leucolophus</i>	C/I RB
318. Rosy Starling <i>Sturnus roseus</i>	R/A	361. Hwamei <i>Garrulax canorus</i>	U/I RB
319. Black-winged Starling <i>Sturnus melanopterus</i>	R/I RB	362. White-chested Babbler <i>Trichastoma rostratum</i>	R/RB
320. Common Myna <i>Acridotheres tristis</i>	C/RB	363. Abbott's Babbler <i>Malacocincla abbotti</i>	C/RB
321. Javan Myna <i>Acridotheres javanicus</i>	C/I RB	364. Short-tailed Babbler <i>Malacocincla malaccensis</i>	U/RB
322. Crested Myna <i>Acridotheres cristatellus</i>	R/I RB	366. Moustached Babbler <i>Malacocteron magnirostre</i>	
323. Hill Myna <i>Gracula religiosa</i>	U/RB		vR/RB
FAMILY SITTIDAE			
324. Velvet-fronted Nuthatch <i>Sitta frontalis</i>	vR/NBV	367. Chestnut-winged Babbler <i>Stachyris erythropytera</i>	U/RB
FAMILY HIRUNDINIDAE			
325. Sand Martin <i>Riparia riparia</i>	U/WV PM	368. Striped Tit Babbler <i>Macronous gularis</i>	C/RB
326. Barn Swallow <i>Hirundo rustica</i>	C/WV PM		
327. Pacific Swallow <i>Hirundo tahitica</i>	C/RB	FAMILY NECTARINIIDAE	
328. Red-rumped Swallow <i>Hirundo daurica</i>	U/WV PM	370. Thick-billed Flowerpecker <i>Dicaeum agile</i>	R/NBV
329. Asian House Martin <i>Delichon dasypus</i>	U/PM	371. Yellow-vented Flowerpecker <i>Dicaeum chrysorrheum</i>	R/R(B)
FAMILY PYCNONOTIDAE			
330. Straw-headed Bulbul <i>Pycnonotus zeylanicus</i>	U/RB	372. Orange-bellied Flowerpecker <i>Dicaeum trigonostigma</i>	C/RB
331. Black-headed Bulbul <i>Pycnonotus atriceps</i>	R/RB	374. Scarlet-backed Flowerpecker <i>Dicaeum cruentatum</i>	C/RB
332. Black-crested Bulbul <i>Pycnonotus melanoterus</i>	U/I RB	375. Plain Sunbird <i>Anthreptes simplex</i>	Indeterminate/R(B)
333. Sooty-headed Bulbul <i>Pycnonotus aurigaster</i>	R/I RB	376. Brown-throated Sunbird <i>Anthreptes malaccensis</i>	C/RB
335. Red-whiskered Bulbul <i>Pycnonotus jocosus</i>	U/I RB	378. Purple-throated Sunbird <i>Nectarinia sperata</i>	C/RB
336. Yellow-vented Bulbul <i>Pycnonotus goiavier</i>	C/RB	379. Copper-throated Sunbird <i>Nectarinia calcostetha</i>	U/RB
337. Olive-winged Bulbul <i>Pycnonotus plumosus</i>	C/RB	380. Olive-backed Sunbird <i>Nectarinia jugularis</i>	C/RB
338. Cream-vented Bulbul <i>Pycnonotus simplex</i>	U/RB	381. Crimson Sunbird <i>Aethopyga siparaja</i>	C/RB
339. Red-eyed Bulbul <i>Pycnonotus brunneus</i>	R/RB	382. Little Spiderhunter <i>Arachnothera longirostra</i>	C/RB
342. Buff-vented Bulbul <i>Iole olivacea</i>	R/R(B)	383. Thick-billed Spiderhunter <i>Arachnothera crassirostris</i>	R/R(B)
343. Streaked Bulbul <i>Ixos malaccensis</i>	R/NBV	385. Yellow-eared Spiderhunter <i>Arachnothera chrysogenys</i>	R/R(B)
344. Ashy Bulbul <i>Hemixos flavala</i>	U/NBV		
FAMILY PASSERIDAE			
387. House Sparrow <i>Passer domesticus</i>	R/I RB		
388. Eurasian Tree Sparrow <i>Passer montanus</i>	C/RB		
389. Forest Wagtail <i>Dendronanthus indicus</i>	U/WV PM		
390. White Wagtail <i>Motacilla alba</i>	R/WV		
391. Citrine Wagtail <i>Motacilla citreola</i>	vR/WV		
392. Yellow Wagtail <i>Motacilla flava</i>	C/WV		

393. Grey Wagtail <i>Motacilla cinerea</i>	U/WV PM	FAMILY CUCULIDAE
394. Paddyfield Pipit <i>Anthus rufulus</i>	C/RB	65. Black-bellied Malkoha <i>Phaenicophaeus diardi</i>
395. Red-throated Pipit <i>Anthus cervinus</i>	U/WV	
396. Baya Weaver <i>Ploceus philippinus</i>	U/RB	FAMILY TYTONIDAE
397. Streaked Weaver <i>Ploceus manyar</i>	R/I RB	88. Oriental Bay Owl <i>Phodilus badius</i>
398. White-rumped Munia <i>Lonchura striata</i>	R/RB	
399. Javan Munia <i>Lonchura leucogastroides</i>	C/I RB	FAMILY STRIGIDAE
400. Scaly-breasted Munia <i>Lonchura punctulata</i>	C/RB	92. Barred Eagle Owl <i>Bubo sumatranus</i>
401. Black-headed Munia <i>Lonchura malacca</i>	C/RB	
402. White-headed Munia <i>Lonchura maja</i>	U/RB	FAMILY CICONIIDAE
403. Java Sparrow <i>Lonchura oryzivora</i>	R/I RB	247. Lesser Adjutant <i>Leptoptilos javanicus</i>

FAMILY FRINGILLIDAE

404. Yellow-breasted Bunting <i>Emberiza aureola</i>	R/WV
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APPENDIX II – EXTINCT BIRDS

This list includes all birds (44 species) that were found in their wild state in Singapore but have not been recorded for more than 50 years. There are four species that have been recorded again either as a newly-established population [Oriental Pied Hornbill (*Anthracoceros albirostris*)], escapees from captivity or non-breeding visitors [Lesser Adjutant (*Leptoptilos javanicus*), Barred Eagle Owl (*Bubo sumatranus*)]. In the case of Oriental Dwarf Kingfisher (*Ceyx erithacus*), only the resident ssp. *C. e. rufidorsus* is extinct while the migrant ssp. *C. e. erithacus* is still recorded in the wild. The numbers follow the sequence in the **Species Accounts**.

FAMILY PICIDAE

15. Grey-capped Pygmy Woodpecker <i>Dendrocopos canicapillus</i>
19. Crimson-winged Woodpecker <i>Picus puniceus</i>
20. Checker-throated Woodpecker <i>Picus mentalis</i>
22. Olive-backed Woodpecker <i>Dinopium rafflesii</i>
24. Greater Flameback <i>Chrysocolaptes lucidus</i>
25. Orange-backed Woodpecker <i>Reinwardtipicus validus</i>
26. Buff-rumped Woodpecker <i>Meiglyptes tristis</i>
27. Buff-necked Woodpecker <i>Meiglyptes tukki</i>
28. Grey-and-buff Woodpecker <i>Hemicircus concretus</i>

FAMILY MEGALAIMIDAE

32. Blue-eared Barbet <i>Megalaima australis</i>
34. Brown Barbet <i>Caloramphus fuliginosus</i>

FAMILY BUCEROTIDAE

35. Oriental Pied Hornbill <i>Anthracoceros albirostris</i>
36. Rhinoceros Hornbill <i>Buceros rhinoceros</i>

FAMILY TROGONIDAE

37. Red-naped Tropicbird <i>Harpactes kasumba</i>
38. Diard's Tropicbird <i>Harpactes diardi</i>

FAMILY ALCEDINIDAE

42. Oriental Dwarf Kingfisher <i>Ceyx erithacus rufidorsa</i>

FAMILY HALCYONIDAE

48. Rufous-collared Kingfisher <i>Actenoides concretus</i>
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FAMILY CUCULIDAE
65. Black-bellied Malkoha <i>Phaenicophaeus diardi</i>
FAMILY TYTONIDAE
88. Oriental Bay Owl <i>Phodilus badius</i>
FAMILY STRIGIDAE
92. Barred Eagle Owl <i>Bubo sumatranus</i>
FAMILY CICONIIDAE
247. Lesser Adjutant <i>Leptoptilos javanicus</i>

FAMILY PITTIDAE

253. Garnet Pitta <i>Pitta granatina</i>
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FAMILY ERYLAIMIDAE

256. Dusky Broadbill <i>Corydon sumatranus</i>
257. Black-and-red Broadbill <i>Cymbirhynchus macrorhynchos</i>
258. Banded Broadbill <i>Eurylaimus javanicus</i>
259. Black-and-yellow Broadbill <i>Eurylaimus ochromalus</i>
260. Green Broadbill <i>Calyptomena viridis</i>

FAMILY CORVIDAE

272. Dark-throated Oriole <i>Oriolus xanthonotus</i>
274. Bar-bellied Cuckoo-shrike <i>Coracina striata</i>
278. Fiery Minivet <i>Pericrocotus igneus</i>
284. Bronzed Drongo <i>Dicrurus aeneus</i>
290. Green Iora <i>Aegithina viridissima</i>
291. Rufous-winged Philentoma <i>Philentoma pyrhopterum</i>
292. Maroon-breasted Philentoma <i>Philentoma velatum</i>
293. Large Woodshrike <i>Tephrodornis gularis</i>

FAMILY PYCNONOTIDAE

334. Grey-bellied Bulbul <i>Pycnonotus cyaniventris</i>
340. Spectacled Bulbul <i>Pycnonotus erythrophthalmos</i>
341. Yellow-bellied Bulbul <i>Alophoixus phaeocephalus</i>

FAMILY SYLVIIDAE

365. Black-capped Babbler <i>Pellorneum capistratum</i>

FAMILY NECTARINIIDAE

369. Yellow-breasted Flowerpecker <i>Prionochilus maculatus</i>
373. Plain Flowerpecker <i>Dicaeum concolor</i>
377. Purple-naped Sunbird <i>Hypogramma hypogrammicum</i>
384. Spectacled Spiderhunter <i>Arachnothera flavigaster</i>
386. Grey-breasted Spiderhunter <i>Arachnothera affinis</i>

APPENDIX III
– DOUBTFUL/UNCONFIRMED RECORDS

Some of these doubtful records are attributed to skins in the collections of British Museum of Natural History (BM). The skins are of doubtful provenance, mostly labeled "Singapore", with no other details. Many of them were collected by Blyth or Gould in the mid-1800s. As Singapore and Malacca were then part of the Straits Settlements, a lot of specimens were traded between these places. Blyth himself had never been in Singapore. It is most probable that these skins were wrongly-localised. Many of the old skins were purchased from traders, who themselves may not have

known the exact origins of their skins. Some of these records were possibly present in Singapore but have not been confirmed due to the lack of notes or the possibility that of these being escaped/released birds.

Black Partridge *Melanoperdix nigra*

Very doubtful if this bird ever occurred in a feral state in Singapore (Chasen, 1923; G-H, 1949a). There are a pair of skins (a male, a female) labelled "Singapore" (Davison Coll., BM) which are likely to have been imports (Chasen, 1923), perhaps from E Sumatra, whence this bird is still traded (Wells, 1999).

Crestless Fireback *Lophura erythrophthalma*

Very doubtful if this bird ever occurred in a feral state in Singapore. Nineteenth-century localisations 'Singapore' are probably erroneous (Chasen, 1923; R & C, 1936; G-H, 1949) or trade captives (Wells, 1999).

Malayan Peacock-Pheasant *Polyplectron malacense*

The Hume Coll. in the BM contains two specimens (one male, one Imm female) said to have been taken in Singapore in 1895, but these are almost certainly wrongly-localised (Chasen, 1923; R & C, 1936; G-H, 1949a).

Green Junglefowl *Gallus varius*

The only record is a male specimen of doubtful provenance, listed in BM Catalogue of Birds (Chasen, 1923; G-H, 1949a).

Yellow-legged Buttonquail *Turnix tanki*

Unconfirmed due to lack of detailed notes or evidence. One with a chick at Marina E claimed on 9 Feb. 1998 (RFO et al., 1999 in Wells, in press).

Rufous Piculet *Sasia abnormis*

Doubtful. Six ringed by RAFOS in 1969 were most likely wrongly-localised (MAPS 1969). One was seen digging on the underside of a branch in 1993 in J Kayu (S. Sreedharan, pers. comm.); cannot be confirmed due to lack of notes or evidence.

Lesser Yellow-naped Woodpecker *Picus chlorolophus*

Doubtful. One ringed by RAFOS in 1969 was probably wrongly-localised (MAPS Report 69).

Maroon Woodpecker *Blythipicus rubiginosus*

BM contains two juvenile specimens said to be collected from Singapore in 1895 (Lord Ellenborough and Gould Coll.) are certainly Malacca skins (Robinson, 1928; G-H, 1949a). It was never seen in Singapore (B & C, 1927). One unconfirmed record at Sime Forest on 11 Jan. 1998 (OBC Bull. 28, W. Peters in SINA 12-1) but no notes were available.

Yellow-crowned Barbet *Megalaima henricii*

BM and USMN contain old formal records from Singapore in 1871 (Hume Coll.) which were rejected due to doubtful provenance. Not recorded by Robinson (1928) or B & C (1927). It is unlikely that it ever occurred in Singapore in the wild (Wells, 1999).

Red-throated Barbet *Megalaima mystacophanous*

A specimen collected in 1871 (Hume Coll., BM) and an undated specimen are the only records for Singapore. These are of doubtful provenance. There were no subsequent records for Singapore (G-H, 1949a). The only recent record in Singapore is of a loner calling between 1 and 15 Mar. 1989 (SINA 3-1), indicating a possible new presence in BTNR; but in Singapore, the chance of an escape or release from captivity can never be ruled out (Wells, 1999). This record was rejected as there was no sighting (Lim, 1990).

Gold-whiskered Barbet *Megalaima chrysopogon*

Doubtful. One was heard calling at Fern Valley, BTNR on 30 Dec. 1989 and again on 13 Jan. 1990 (LKS in SINA 4). Rejected by Lim (1990) based on lack of evidence.

Blue-throated Barbet *Megalaima versicolor*

Specimens were said to be collected on P Ubin (Chasen, 1924a) but can no longer be found. As there are no other records, Chasen's records were probably erroneous as there are no records from Malaya (LKS, pers. comm.).

Common Hoopoe *Upupa epops*

Doubtful. Listed as a scarce migrant by SR (1998) but no details were available. Not listed by other authors.

Cinnamon-rumped Trogon *Harpactes orrhophaeus*

There are old records for Singapore, established by specimens in the BM Catalogue (Hume & Gould Coll.). Locality queried (G-H, 1949a).

Banded Kingfisher *Lacedo pulchella*

Three old specimens of unknown provenance (Hume Coll., BM), stated to be from Singapore are certainly Malacca trade skins (Robinson, 1928).

Sacred Kingfisher *Todiramphus sanctus*

Listed by SR (1998) as a scarce migrant and based on that, listed as vagrant by Robson (2000) but no details were available. It was not listed for Singapore by G-H (1949), M & W (1976) and Wells (1999). Rejected based on lack of evidence.

Helmeted Hornbill *Buceros vigil*

One undated specimen in USNM and listed in the BM Catalogue, said to be collected in Singapore in 1895 (G-H, 1949a; J & P, 1999) are particularly doubtful (Chasen, 1923; M & W, 1976). Rejected due to doubtful provenance. Not recorded in Singapore by Robinson (1928), G-H (1949).

Wrinkled Hornbill *Aceros corrugatus*

M & W (1976) referred to a skin labelled "obtained in the flesh", dated 20 Jan. 1941 as the only record from Singapore; this specimen cannot be traced now. Not recorded by Robinson (1928) and G-H (1949). Two recent occurrences by Hails (pers. obs.) were presumed to be escapees (Hails, 1988). Rejected due to lack of evidence.

Eurasian Cuckoo *Cuculus canorus*

Said to be taken in Singapore; listed in previous bibliographies but there are no other records (Chasen, 1923). The record

cannot be traced, and the bird was not admitted to the Singapore list (G-H, 1949a).

Asian Emerald Cuckoo *Chrysococcyx maculatus*

Unconfirmed. Listed as resident by SR (1998). Not listed by Lim (1999) although it is a probable winter visitor (L & G, 1997). A sighting of one Imm by SR was actually that of *Chrysococcyx xanthorhynchos* (Payne, pers. comm.). Rejected by Lim (1990) and Wells (pers. comm.) due to lack of evidence.

Chestnut-breasted Malkoha *Phaenicophaeus curvirostris*
Doubtful. Listed by G-H (1949a) as probably occurring in Singapore although there is no formal record. There were several unconfirmed records from RAFOS (1968) and thus listed for Singapore by M & W (1976). Probably a misidentification of *P. sumatranus* (Hails, 1988; Lim, 1990).

Raffles's Malkoha *Phaenicophaeus chlorophaeus*

Doubtful. Two formal records (1895) in BM, said to originate from Singapore, are of doubtful provenance; there are no reports of their presence in Singapore and it would seem that even if they did occur formerly they were no longer on the island (G-H, 1949a). Two female specimens in USNM, undated, said to have been collected from Singapore, are of no provenance. Several unconfirmed records from Singapore (Tweedy, 1970; RAFOS, 1968) were probably misidentified. One unconfirmed sighting of a bird in secondary scrub in P Sudong, 17 Jun. 1999 (John Lynn, pers. comm.) cannot be accepted due to insufficient notes (LKS, pers. comm.). Another unconfirmed sighting on P Tekong on 22 Mar. 2002 (YDL); no notes are available.

Red-billed Malkoha *Phaenicophaeus javanicus*

Two old records (Tweeddale and Gould Coll., BM) said to be collected from Singapore in 1895 are suspicious (Robinson, 1928). Rejected due to lack of provenance.

Waterfall Swift *Hydrochrous gigas*

Said to be seen over Tuas during the autumn migration period in 1995 and 1996, suggesting the possibility of S movement during post-breeding period (J & P, 1999) but there were no references cited or notes provided. A record reported from MacRitchie, 19 Nov. 2002 (OBC Bull. 38) cannot be confirmed. Not listed by any other authors. Rejected based on lack of evidence and notes.

Himalayan Swiftlet *Collocalia brevirostris*

Unconfirmed. Listed as uncommon passage migrant (SR, 1998); first observed in 1988, in hilly country. Active passage over Singapore, SE- to W-moving migrants as of 7 Oct., a large arrival on the W end of the island on 13 Oct. and activity noted to mid-Nov., including thousands crossing the S Arch. between 14 and 15 Nov. (RFO, 1992; 1993; SINAV 3 in Wells, 1999). Records of most likely this species over Ser, MF, BTNR, and TBH. None of these records were authenticated with notes. While it is likely that this swiftlet occurs in Singapore, more concrete proof such as a bird in the hand or a specimen [although King et al., (1975) considers this species to be safely separable in the field from the other *Collocalia* swiftlets] is needed before it can be accepted (LKS, pers. comm.).

Reddish Scops Owl *Otus rufescens*

Listed in previous bibliographies but not seen in recent years (Chasen, 1923). There was no other mention in literature. It is probably erroneous.

Gould's Frogmouth *Batrachostomus stellatus*

The only record was that of a specimen in BM (Gould Coll.), said to have come from Singapore in 1895 (G-H, 1949a), but it seems most unlikely that the bird was actually on the island (B & C, 1927). Rejected due to lack of provenance.

Jack Snipe *Lymnocryptes minimus*

“Two very small snipe” flushed from scrubland at Pgl on 13 Jan. 1989 (LKS and SR in SINAV 3-1) were probably this species. There are no confirmed records for Singapore and Malay Pen. Rejected based on lack of evidence.

Long-billed Dowitcher *Limnodromus scolopaceus*

Unconfirmed. Listed by SR (1998) and Robson (2000) as a coastal vagrant in Singapore. A sighting at a tidal prawn-rearing pond in NE Singapore on 21 Dec. 1991 by RFO was not confirmed to species level. Wells (1999) noted: “The Singapore bird was in more difficult winter plumage but bill twice the length of the head, uniformly grey, poorly demarcated breast, bold dark barring on the flanks and predominantly dark tail all err on the side of Long-billed, the more likely of the two”. The record cannot be confirmed due to lack of concrete evidence.

Stilt Sandpiper *Micropalama himantopus*

Unconfirmed. The first record of a bird was claimed at Ser on 8 Jun. 1986 by RFO (OBC Bull. 28) but no detailed notes were given: “only a glimpse of the bird, no notes taken from observer” (Wells, pers. comm.). Another record of one juvenile seen at SBWR on 1 Feb. 1998 by SR (OBC Bull. 28) but no notes were available. Based on these two unauthenticated records, it is listed as a vagrant in Singapore (Robson, 2000). Not listed by other authors. Rejected based on lack of evidence (Lim, 1999; 2003).

Long-billed Plover *Charadrius placidus*

Rejected. The first bird claimed was seen and photographed at Changi on 24 Feb. 1990 by V. Konrad (SINAV 11-4; Konrad, 2005) but the record was later retracted by Konrad as the bird concerned has now been determined to be a Kentish Plover (Leader, 2006). An adult was claimed at Changi on 17 – 19 Nov. 1999 (OBC Bull. 31) but cannot be confirmed as no details were given. A bird photographed on 26 Dec. 2005 at Changi (David Tan, in litt.) was later confirmed to be that of a juvenile or non-breeding *Charadrius dubius* (Nick Lethaby, pers. comm.).

Grey-headed Lapwing *Vanellus cinereus*

Unconfirmed. First recorded between 15 Sep. and 20 Dec. 1981 at Kranji (Senoko, in error) by RFO but no notes or photograph were taken (Wells, 1986). There were no other records. Normally winters no further S than N Indo-China but strays have reached Borneo (Smythies, 1981), Luzon and Sulawesi (White & Bruce, 1986). Rejected based on lack of evidence or notes.

Parasitic Jaeger *Stercorarius parasiticus*

A possible sighting at the E end of Singapore Strait on 4 Feb. 1982 could have been this species but the sighting could not be confirmed (Wells, 1990; See account on *S. pomarinus*). First claimed on 25 Sep. 1988 at SBWR: "a photograph showing a very blurred image of a skua was taken by SR and never confirmed" (SINAV 2; Wells, pers. comm.). An unconfirmed record of a subadult claimed at TM in Nov. 1996 (OBC Bull. 25). Rejected due to lack of concrete evidence and notes.

Pomarine Jaeger *Stercorarius pomarinus*

Twelve skuas were seen resting on the water at the E end of Singapore Strait on 4 Feb. 1982 (D. M. Simpson). They were thought to be *S. pomarinus* but *S. parasiticus* could not be positively-excluded (Wells, 1990). Well (pers. comm.) apparently received the records submitted by the observers and seemed to be undecided about the identity of these skuas and contradicted himself over the existence of *S. parasiticus* and *S. pomarinus* in Singapore. Also two unidentified skuas were flying N off P Tekong, on Apr. 1986 (J. B. Sigurdsson in Hails, 1988). Migrates through the Philippines and winters off N New Guinea, where *S. parasiticus* also occurs and was collected from Halmahera (White & Bruce, 1986). A pale morph individual seen off TM in Apr. 1996 (J & P, 1999) but the sighting was not verified. Not listed by Lim (1999). Rejected based on lack of evidence and notes (Wells, pers. comm.).

Heuglin's Gull *Larus heuglini*

Unconfirmed. Not listed by (Lim, 1999). One recorded at Changi on 7 Jan. 1986 by Ching K. A. and C. Hails (BR 1986-87), occurring after 10 days of strong NE Monsoon winds, "could not be identified with certainty but most closely matched *L. fuscus* of the N. Russian race *L. heuglini* and *L. shistisagus* has the nearer distribution and cannot be discounted. Both would be well south of their normal range" (Hails, 1988). Later, Wells (1999) reported that this species was: "Identified by elimination: the grey-backed populations of Lesser Black-backed Gull, of far-West Eurasia, migrate mainly southwestwards, hence are geographically remote, while adult far-NE Asian Slaty-backed Gull *L. schistisagus* shows an unusual broad white trailing edge to the wing and has legs and feet consistently pink." Rejected due to lack of concrete evidence.

Black Tern *Chlidonias niger*

Listed by SR (1998) without supporting evidence. Not listed by G-H (1949), M & W (1976), J & P (1999), Lim (1999). Rejected based on lack of evidence (Wells, pers. comm.).

Lesser Fish Eagle *Ichthyophaga humilis*

There are only two formal records for Singapore in BM, collected as a type of *I. h. nanus* by Blyth in 1842 and Strickland in 1845 (G-H, 1949a). Rejected based on lack of provenance.

White-tailed Eagle *Haliaeetus albicilla*

One possible sighting of an Imm at Lower Seletar Dam on 13 Mar. 1999 (SINAV 13-1) cannot be confirmed due to lack of detailed notes (LKS, pers. comm.).

White-rumped Vulture *Gyps bengalensis*

Doubtful. Robinson (1927) refers to old visual records from Singapore in the 19th century which were probably erroneous.

Red-headed Vulture *Sarcogyps calvus*

Robinson (1927) refers to several (presumably formal) records in the past in Singapore. Not listed by G-H (1949). Listed as vagrant in Singapore (M & W, 1976) without any reference. No specimens can be traced. Rejected due to lack of evidence.

Shikra *Accipiter badius poliopsis*

RMBR contains a mounted specimen said to have been taken in Singapore on 13 Dec. 1891; the localisation of the specimen is doubtful (Chasen, 1923; G-H, 1949; 1949a). Not listed by Lim (1999). Two reportedly seen at Marina S on 2 Nov. 1996 (OBC Bull. 25). Two in SBG on 6 Nov. 1997 (OBC Bull. 28). An Imm at Marina S on 14 Nov. 1998 (OBC Bull. 29). A female over SJI on 23 Sep. 2001 (RFO, SR in OBC Bull. 35). None of the recent records were verified with detailed notes. Rejected based on lack of evidence and notes (Wells, pers. comm.).

Eurasian Hobby *Falco subbuteo*

One record of a juvenile at P Ubin on 15 Mar. 1998 by SR (OBC Bull. 28). One juvenile at SBNP on 9 Feb. 1999 by SR (OBC Bull. 30). One juvenile seen on P Ubin (LKS) on 19 Jul. 2002 (SINAV 16-3). Not listed by G-H (1949), M & W (1976), SR (1998), Lim (1999) or Wells (1999). All records rejected by Wells (pers. comm.) as this species is often confused with resident populations of Peregrine Falcon. No notes were available.

Javan Pond Heron *Ardeola speciosa*

Status uncertain. There was formerly a specimen of this bird in the Berlin Museum which was said to have come from Singapore, but the provenance is doubtful (Gibson-Hill 1949). One bird in breeding plumage was photographed at SBWR on 22 Oct. 1994 by RFO (pers. comm.), seen from 4 – 29 Oct. 1994 (RFO & Loh, 1999 in Wells, in press). Another bird was photographed at SBWR, 29 Mar. 2003 (AN, in litt.). Two birds in breeding plumage seen at SBWR, 7 – 11 Apr. 2004 (LKS, 2004). Native to C Thailand, S Indochina, W, C Indonesia and the Philippines, this species is mainly sedentary, with some local movements [e.g., fairly regular in S Sumatra where not known to breed (del Hoyo et al., 1992)]. Wells (pers. comm.) believed it to be a genuine wild bird, a migrant from the S. However, it cannot be ruled out that it might be an escapee from the zoo, which has some free-flying specimens (WLK, pers. obs.).

Tropic-Bird *Phaethon* sp.

Two unidentified tropic birds were seen flying W off Seletar on 11 Dec. 1963 (BR 1964). These could have been *P. aethereus* (known in Malaysia), *P. lepturus* or *P. rubricauda*. The latter two both breed on Christmas Is, Indian Ocean (Wells, 1964). The record cannot be confirmed.

Spot-billed Pelican *Pelecanus philippensis*

Recorded in Singapore based on a specimen which seems to have disappeared (Chasen, 1923). Not listed by G-H (1949). Listed as a vagrant in Singapore (M & W, 1976) but no details

were given. A specimen is listed in USMN catalogue but it has no provenance. Rejected due to lack of evidence. One lone bird was spotted at Seletar Res, Kranji Res & SBWR at several timings. It is highly possible that this was a free-ranging bird from the Zoo (AN, in litt.).

Great Frigatebird *Fregata minor*

One adult female seen flying over the Johore Strait between P Ubin and P Tekong on 23 Jul. 1994 by SR (SINAV 8-4) was not confirmed (LKS, pers. comm.). Not yet recorded from Singapore waters (Wells, 1999). Rejected due to lack of evidence.

Streaked Shearwater *Calonectris leucomelas*

Unconfirmed sight records from the Singapore Strait in Oct. and Nov., year not given (Hails, 1988). Not listed by other authors. Rejected due to lack of details and notes.

Crested Jay *Platycnemis galericulata*

The USMN contains an undated specimen said to be collected from Singapore. It is most likely of the wrong locality and thus is rejected.

Black Magpie *Platysmurus leucopterus*

Listed by G-H (1949a) as a resident, based on a visual record of his own from SJL. Kelham (1883) failed to find it in Singapore despite being familiar with it from Johore, and no other authors have listed it for Singapore (B & C, 1927). It seems likely that the G-H record was in error (Hails, 1988).

Slender-billed Crow *Corvus enca*

A single unconfirmed sighting in mangroves and disturbed land near Sg Poyan, 24 Feb. 1979 (H. Buck in Hails, 1988). Not listed by other authors. Rejected based on lack of evidence.

Black-winged Flycatcher-shrike *Hemipus hirundinaceus*

Doubtful in Singapore (Robinson, 1927). An old skin of unconfirmed provenance (BM Catalogue, in G-H, 1949). Several unverified records from the late-1960s (RAFOS 1968; Tweedy, 1970). Not listed by other authors. Rejected due to lack of evidence.

Great Iora *Aegithina lafresnayei*

Unconfirmed. Only one record: a bird claimed to have been ringed at Jurong in the 1960s (RAFOS 1968; 1970), but the ringing record can no longer be located. An unconfirmed sighting in overgrown rubber estates on the W coast, 2 Jul. 1978 by P. Bristow & H. Buck (Hails, 1988) is most unlikely as this is a bird normally found in heavy jungle in submontane regions. Not listed by G-H (1949), M & W (1976). Rejected due to lack of evidence.

Grey-streaked Flycatcher *Muscicapa griseisticta*

One seen in Poyan on 21 Apr. 1991 (Iora 1; L & G, 1997) but no notes were available. Listed by J & P (1999) as a vagrant without detailed notes. Considered doubtful by Wells (pers. comm.), who warned about confusion with variable individuals of Asian Brown Flycatcher and Dark-sided Flycatcher.

Jungle Myna *Acridotheres fuscus*

Said to be a fairly common resident in some areas on the outskirts of town (G-H, 1949a; 1950d). Possibly confused with *A. javanicus* or *A. cristatellus* (M & W, 1976).

Chestnut-tailed Starling *Sturnus malabaricus*

A male specimen collected from Singapore on 10 Oct. 1891 (FMNH) was probably wrongly-localised.

Sultan Tit *Melanochlora sultanea*

One seen at BBNP on 5 and 26 Nov. 1989 by Tan M. L.; one seen in the company of Ashy Minivets at BBNP on 2 Dec. 1989 by Tan M. L. and Yeo S. H. (SINAV 3). Rejected by Lim (1989) based on lack of evidence.

Black-and-white Bulbul *Pycnonotus melanoleucus*

There is one formal specimen in the BM Catalogue, purchased in 1895; provenance is doubtful. There was no subsequent record and was thus rejected by G-H (1950). One recent record claimed by RFO on 1 Nov. 1976 but no notes were taken; another claimed at SBG by a group of visiting birders (ENGGANG 1-5 in Wells, in press) on 30 Mar. 1988; they probably saw a Magpie Robin (Wells, pers. comm.). Rejected based on lack of evidence (Wells, pers. comm.).

Puff-backed Bulbul *Pycnonotus eutilotus*

First recorded as a type specimen collected in 1836 by Jardine and Selby in Singapore. No subsequent records (Chasen, 1923) and was thus rejected due to lack of records (G-H, 1949a). There were unconfirmed records in NS on 17 Apr. 1988, 27 Jan. 1989 and 9 Jul. 1989 (SINAV 2; 3) but these are rejected due to lack of evidence. Not listed by Lim (1999).

Grey-cheeked Bulbul *Alophoixus bres*

Listed by M & W (1976) from Singapore on the strength of sightings reported in the 1960s, when it is said to be common in heavily-wooded areas (RAFOS 1968). There is no evidence that it occurs in Singapore (Wells, 1990a). Probably misidentified (Lim, 1990) and thus rejected.

Hairy-backed Bulbul *Tricholestes criniger*

Said to be recorded on a few occasions in the MacRitchie Res area (RAFOS 1970) but no details are available. Rejected due to lack of evidence.

Pale-legged Leaf Warbler *Phylloscopus tenellipes*

Unconfirmed. One bird seen on 9 Dec. 1990 in BTNR by LKC cannot be confirmed (LKS, pers. comm.). Another unconfirmed record of a bird at MacRitchie Res on 13 Nov. 2004 (Lim, 2004; SINAV 18-4). Rejected due to lack of evidence.

Two-barred Warbler *Phylloscopus plumbeitarsus*

One bird claimed at Changi on 17–19 Nov. 2000 by SR and RFO without supporting evidence (OBC Bull. 32).

Golden-spectacled Warbler *Seicercus burkii*

One seen in a *Casuarina* at Changi C on 17 Oct. 1988 was claimed as the first record for Singapore (SINAV 2-10). This is a montane Sino-Himalayan species and is resident in Burma and Indochina. In winter, it migrates to the lowland plains S

to Thailand. Vagrant in Hong Kong. Status unconfirmed due to lack of more detailed information.

Sooty-capped Babbler *Malacopteron affine*

Only recorded as the type specimen of *M. a. affine*, collected by Blyth in 1842 in Singapore was probably wrongly-localised. Observed in field observations but no specimens could be obtained (Chasen, 1925). There were no other records found (G-H, 1949). Rejected based on lack of evidence.

Grey-breasted Babbler *Malacopteron albogulare*

Only recorded as the type specimen *M. a. albogulare*, collected by Blyth in Singapore in 1844, which was doubtful (G-H, 1949). There are no other records from Singapore. Rejected based on lack of evidence.

Striped Wren Babbler *Kenopia striata*

Only recorded as the type specimen, collected by Blyth in 1842, which may be wrongly-localised (G-H, 1949). There are no other records from Singapore. Rejected based on lack of evidence.

Large Wren Babbler *Napohera macrodactyla*

No records except for a 19th-century skin of doubtful provenance in BM. Rejected based on lack of evidence.

Black-throated Babbler *Stachyris nigricollis*

There is an old type specimen of *S. n. erythronotus* collected in 1842 by Blyth (Blyth 1849 in Chasen, 1923) which is mostly likely wrongly-localised and a second record from Singapore collected on 13 Feb. 1837 (Gould Coll., in BM). There are no other records (Chasen, 1923). Rejected due to lack of provenance.

Chestnut-rumped Babbler *Stachyris maculata*

There is a type specimen *S. m. pectoralis* collected by Blyth in 1842 but no exact topotypes from Singapore were examined (Chasen, 1935; BM Catalogue, Gould Coll., in G-H, 1949). There are no other records from Singapore (Chasen, 1923). Rejected due to lack of provenance.

Fluffy-backed Tit Babbler *Macronous ptilosus*

One formal record collected in 1854 (in G-H, 1949a). There are no further records (Chasen, 1923). Rejected due to lack of provenance.

Brown Fulvetta *Alcippe brunneicauda*

The type specimen of *A. b. cinerea* said to be collected from Singapore in 1844 by Blyth is doubtful (Robinson, 1927; G-H, 1949). Rejected due to lack of provenance.

Scarlet-breasted Flowerpecker *Prionochilus thoracicus*

Not listed by G-H (1949); several were claimed to have been netted and ringed in Singapore in the 1960s (RAFOS 1968; 1970), but examination of the old ringing records shows that all were ringed in Malaysia (Hails, 1988). Probably misidentified (Lim, 1990).

Red-throated Sunbird *Anthreptes rhodolaema*

Hume had a purchased skin said to originate from Singapore, about which he had doubts (Hume, 1879), and which was

not accepted in subsequent lists (Chasen, 1923; G-H, 1949a). Some recent sightings at Tuas (3 Oct. 1976) and the CC forest (Mandai, 29 May 1987) need to be confirmed (Hails, 1988). Rejected due to lack of evidence.

Ruby-cheeked Sunbird *Anthreptes singalensis*

Robinson (1927) says that it is possibly present in Singapore and the adjacent islands. Chasen (1923) listed it for Singapore based on previous lists by earlier authors, but had not seen a specimen. There were no more recent references to it in these areas (G-H, 1949). One unconfirmed sighting at NS forest on 1 Aug. 1989 by SR (SINAV 3). Another at P Ubin on 23 Jun. 1990 (SR) and 22 Jul. 1990 (LKC in SINAV 4). All records were rejected by Lim (1990) based on lack of evidence. One record at SBNP, 14 Jan. 1998 (OBC Bull. 28) cannot be confirmed.

Richard's Pipit *Anthus richardi*

Listed by SR (1998) as rare winter visitor, without any supporting evidence. Not listed by Chasen (1935), G-H (1949), M & W (1976) and Lim (1999). Rejected due to lack of evidence.

Black-headed Bunting *Emberiza melanocephala*

Unconfirmed. Listed by SR (1998); no details were available. One bird seen at TM in Nov. 1995 by Ed Hagen (in litt.); notes were sent to Wells (pers. comm.) for confirmation.

APPENDIX IV – ESCAPEES IN SINGAPORE

Due to the popularity of caged birds in the region and in Singapore, it is inevitable that there are many exotic birds have escaped from cages or have been released by their owners. Many species are released as free-flying birds in the Zoo, bird parks, theme parks such as Sentosa, the Botanical Garden and even one nature reserve. During certain festivals, Buddhists temples also release hundreds or even thousands of birds, usually munias or doves. Some escapees have attempted to breed but the populations were not viable. This list is by no means exhaustive.

FAMILY PHASIANIDAE

Crested Partridge *Rollulus rouloul*

A male seen at Upper KR Rd on 26 Sep. 1987 (SINAV 1).

Great Argus *Argusianus argus*

A solitary male heard and seen regularly in NS forest on 11 Feb. 1994 was an escapee from the Zoo.

Indian Peafowl *Pavo cristatus*

Introduced at least since 1987 on Sentosa but remains semi-feral only. Free roaming in JBP and Zoo. Breeding first recorded in 1988.

Green Peafowl *Pavo muticus*

Introduced at least since 1987 on Sentosa. Free roaming in JBP and Zoo. Breeding first recorded in 1990.

Golden Pheasant *Chrysolophus pictus*

One photographed in a garden in Tanglin in Oct. 2005 (J. Lynn, in litt.).

FAMILY ANATIDAE

White-faced Whistling Duck *Dendrocygna viduata*
One bird photographed at Marina S, 24 Nov.2003 (Henry Yeo, in litt.).

Mute Swan *Cygnus olor*
Regularly seen at SBG.

Black Swan *Cygnus atratus*
Regularly seen at SBG.

Radjah Shelduck *Tadorna radjah*
Introduced into SBG since at least Nov.2002.

Mandarin Duck *Aix galericulata*
One seen at SBWR on 9 May.1991. Introduced into SBG; a pair seen in the Eco-Lake since 2005.

Mallard *Anas platyrhynchos*
Introduced into SBG.

FAMILY BUCEROTIDAE

Black Hornbill *Anthracoceros malayanus*
One to two birds seen regularly at Seletar in 1986 – 1987. Also seen regularly at NS in 1987 – 1998. A pair at Mt Pleasant throughout Jun.1990. One at NS, 26 Oct.2003 (Yeo Suay Hwee, in litt.).

Great Hornbill *Buceros bicornis*
Seen from 1986 onwards, regular at SBG and Sentosa.

Bushy-crested Hornbill *Anorrhinus galeritus*
One at Dover Rd on 9 Aug.1986. One seen at Gilman Park between 21 Jun.1987 and 30 Jul.1987 (SINAV 1). Two at Ulu Pandan between 18 Jan. and 17 Jul.1988; one at Pasir Panjang Hill on 24 May.1988 (SINAV 2).

White-crowned Hornbill *Aceros comatus*
A male seen at SBG on 31 Jan.1987 (SINAV 1).

Southern Ground Hornbill

Bucorvus cafer
One bird at WCP, confirmed by JBP as their escapee, photographed near Rifle Range Rd on 5 Jul.2003 (Paul Huang, in litt.) and 14 – 15 Jul.2003 (Terry Kaan, in litt.).

FAMILY PHOENICULIDAE

Green Wood-Hoopoe *Phoeniculus purpureus*
Seen in Simpang grassland on 19 Sep.2004 (SINAV 18-3). A pair was seen on Jurong Hill, 4 Dec.2004 (SINAV 18-4); also seen at Gymkhana Ave (A. Owyong, in litt.)

FAMILY CERYLIDAE

Pied Kingfisher *Ceryle rudis*
One bird seen on 18 Sep.1994 at Sg Ser (Iora 1). One female seen hunting at Pgl on 18 Sep.1994 (Iora 1).

FAMILY MEROPIDAE

Rainbow Bee-eater *Merops ornatus*
Four to five birds seen on 8 Oct.2004 and two birds on 11 Oct.2004 (SINAV 18-4); these birds were most likely escapees from JBP.

FAMILY PSITTACIDAE

Violet-necked Lory *Eos squamata*
Escapees from JBP.

Red Lory

Eos bornea
Escapees from JBP since 1987. Commonly seen in Bt Tinggi Rd, CCK, Chancery Hill, Eunos, Gangsa Rd, Loyang, Malcolm Park, Mandai, Old Holland Rd, P Ubin, SBG, (Senoko), Sentosa, Sime Rd, Woodleigh Park, Yishun (SINAV 1 to 4, 6, Iora 1).

Black-capped Lory

Lorius lory
One seen at SBG on 2 Sep.2000 (SINAV 14-3).

Rainbow Lorikeet

Trichoglossus haematodus
Commonly escapees from JBP since 1986. Regularly recorded in BTNR, CC forest, Chancery Hill, Japanese Garden, KRP, Linden Drive, Lor Sesuai, Loyang, P Sakeng, P Ubin, SBG, Sunrise Drive, Woodlands. No confirmed nesting records.

Palm Cockatoo

Probosciger aterrimus
Escapees from JBP since 1987. Seen in King's Ave, KRP, Pasir Panjang Hill, Pender Rd, Prince George's Park, TM, Zehnder Rd.

Sulphur-crested Cockatoo

Cacatua galerita
Regular at Loyang, P Ubin, Sentosa.

Citron-crested Cockatoo

Cacatua sulphurea citrinocristata
First seen at SBG on 23 Oct.1988 (SINAV 2). Another bird seen at the Istana on 20 Sep.1997 (SINAV 11-3).

Salmon-crested Cockatoo

Cacatua moluccensis
Regular at Sentosa since 1987. Also seen in Telok Blangah.

Little Corella

Cacatua sanguinea
Four seen at Linden Drive on 29 Jan.1987 and three at Seletar on 21 Feb.1987 (SINAV 1).

Great-billed Parrot

Tanygnathus megalorynchos
Regular at Sentosa since 1986. Also recorded from Holland Woods, KRP, SJI.

Eclectus Parrot

Eclectus roratus
One seen at Pasir Panjang Hill on 24 Jul.1987 and one on P Ubin on 3 Oct.1987 (SINAV 1). A female seen inside a tree cavity at Cavenagh Rd on 22 Jul.2004, was presumably attempting to nest (SINAV 18-4). Also seen in NS, Prince George's Park and SBG.

Budgerigar

Melopsittacus undulatus
Common escapee. Recorded in Holland Village, LH, Marina E, Prince George's Park, (Senoko), Yishun.

Vernal Hanging Parrot

Loriculus vernalis
One male seen at MacRitchie Res on 16 Oct.1997 (SINAV 11-4). Also recorded in SBG. One seen on 18 Apr.2004 at Gymkhana Ave (A. Owyong, in litt.). One recorded at NS on 1 Jul.2006 (YDL, in litt.).

Grey-headed Parakeet *Psittacula finschii*

Recorded on P Tekong in 1986. One seen at Changi N on 25 Oct.1992 (SINAV 6-4).

Blossom-headed Parakeet *Psittacula roseata*

Recorded since 1987 from Bedok, LCK, Loyang, P Ubin, SBWR.

Grey Parrot *Psittacus erithacus*

Recorded at KRP (Lamont, 1998).

Black Parrot *Coracopsis nigra*

One seen at SBWR on 15 Mar.1991.

Green-winged Macaw *Ara chloroptera*

Escapee from JBP.

Blue-and-yellow Macaw *Ara ararauna*

One with badly-tattered wings seen in flight over Fern Valley, BTNR in 13 Jan.1989 (SINAV 3).

Blue-fronted Amazon *Amazona aestiva*

Escapee from JBP. Two seen perched on a tree at Loyang on 20 May.1987 (SINAV 1).

Red-lored Amazon *Amazona autumnalis*

Escapee from JBP.

Yellow-faced Amazon *Amazona xanthops*

A male and two females seen in a *Casuarina* at Changi on 20 Jan.1988 (SINAV 2).

Yellow-naped Amazon *Amazona orchocephala*

Three escapees from JBP found breeding well in JBP vicinity. One seen at KRP (Lamont, 1998).

Gang-gang Cockatoo *Callocephalon fimbriatus*

A male seen flying over MF on 12 Sep.1988 (SINAV 2).

Peach-faced Lovebird *Agapornis roseicollis*

One seen on the rooftop of flats at Pasir Panjang Hill on 21 Oct.1987 (SINAV 1).

Red-masked Conure *Aratinga erythrogenys*

One observed feeding in a coral tree at Labrador Park on 26 Sep.1987 (SINAV 1).

Green-cheeked Conure *Pyrrhura molinae*

Two birds seen at Changi on 19 and 24 Jan.1999 (SINAV 13-1).

Patagonian Conure *Cyanoliseus patagonus*

Recorded at TM in 1988 and 2000 (SINAV 2, 14). One seen at Changi in Dec.1999 (AN, in litt.). Also seen at MacRitchie Res, Sime Rd.

FAMILY MUSOPHAGIDAE

Fischer's Turaco *Tauraco fischeri*

Recorded on 3 Apr.2005 at Jurong Hill.

Knysna Turaco *Tauraco corythaix*

One was recorded at KRP, 16 Mar.2003 (AC).

FAMILY COLUMBIDAE

Eurasian Collared-Dove *Streptopelia decaocto*

One seen perching on a fence near Sg Kangkar on 5 Aug.1988 (SINAV 2). Also recorded in Casuarina Rd, Pgl, P Ubin.

Diamond Dove *Geopelia cuneata*

One on P Ubin on 19 Jun. and former Senoko area on 3 Sep.1988 (SINAV 2).

FAMILY CHARADRIIDAE

Yellow-wattled Lapwing *Vanellus malabaricus*

One seen at Kranji marshes on 13 Nov.2000 (SINAV 14-4).

Masked Lapwing *Vanellus miles*

Escapees from JBP and Zoo. Four seen at the dam area of Lower Peirce Res on 3 – 9 Sep.1994 (Iora 1). Breeding recorded; an adult seen guarding three eggs at Seletar Country Club, 24 Nov.2004 (SINAV 18-4). A juvenile was photographed with an adult in the Zoo on Jun.2006 (K.C. Tsang, in litt.).

FAMILY LARIDAE

Silver Gull *Larus novaehollandiae*

Three at Pandan River on 14 Jul.1986, most likely from the five birds from the JBP's over-populated aviaries, intentionally released along Singapore's coastlines (SINAV 1).

FAMILY ARDEIDAE

Western Reef Egret *Egretta gularis*

One seen at Marina E on 19 Sep.1988 is probably an escapee (SINAV 2). One seen at Pgl on 23 Oct.1988 (SINAV 2). One in breeding plumage seen at former Senoko area on 20 Mar.1994 (Iora 1).

Indian Pond Heron *Ardeola grayii*

Free-flying birds are released in the Zoo's compounds. One bird in breeding plumage seen at former Senoko area on 20 Mar.1994 (Iora 1).

Rufous Night Heron *Nycticorax caledonicus*

A solitary bird found at Sentosa on 4 Mar.1987 (SINAV 1). A subadult seen at former Yishun Herony on 22 Jan.1989 and 2 Apr.1989 (SINAV 3).

FAMILY PHOENICOPTERIDAE

Greater Flamingo *Phoenicopterus ruber*

One feeding in the shallows of Poyan River on 22 – 24 Jan.1988 (SINAV 2) is almost certainly an escapee from JBP.

FAMILY THRESKIORNITHIDAE

Black-headed Ibis *Threskiornis melanocephalus*

Introduced from JBP as free-flying birds. Regularly seen at SBWR since the late 1980s.

Sacred Ibis *Threskiornis aethiopicus*

Introduced as free-flying birds from the JBP, released at least since May.1988. Nesting in JBP. Regularly seen at LCK, Pgl, SBWR.

Glossy Ibis *Plegadis falcinellus*

One seen flying over Sime Rd, 4 Oct.1992 (SINAV 6).

FAMILY CICONIIDAE

Stork *Ciconia* sp.

A stork, provisionally-identified as White-necked Stork, *Ciconia episcopus*, was seen at Seletar Res, 28 Jan.1972 (Wells, 1975). It was probably an escapee from the Zoo or JBP.

Milky Stork *Mycteria cinerea*

Introduced by the Zoo as free-flying birds since 1987, now breeding at the Zoo. Regular at Mandai, SBWR, Seletar, Sg KB, Woodlands.

Painted Stork *Mycteria leucocephala*

Introduced by the Zoo as free-flying birds, now breeding freely at the Zoo, since at least Mar.1987. Regular at Mandai, SBWR, Seletar Res, (Senoko), Upper Peirce Res.

Lesser Adjutant *Leptoptilos javanicus*

Escapee from JBP and Zoo. A wing-clipped individual seen at Pgl on 22 Jun.1986 (SINAV 1).

Great Cormorant *Phalacrocorax carbo*

Escapees from the JBP. One seen at Changi in Dec.1999 (AN, in litt.). Two birds seen at Upper Seletar Res on 11 Jul.2004 (SINAV 18-4). Regular at Kranji Res since Dec.1999; up to 10 birds seen on 31 Oct.2004 and 11 birds on 20 Nov.2004 (SINAV 18-4).

Little Cormorant *Phalacrocorax niger*

An adult seen at SBWR (RFO in Wells, in press). One at Kranji Dam since Jan.2001.

Brown Pelican *Pelecanus occidentalis*

Escapees from JBP. Regularly seen in Tuas since 1997, Jurong Is, Jurong area.

Dalmatian Pelican *Pelecanus crispus*

Escapees from JBP, seen at Tuas since 1992 (SINAV 6).

Australian Pelican *Pelecanus conspicillatus*

Escapees from the Zoo. One bird seen at Upper Seletar Res since 1997 (SINAV 12-1).

FAMILY IRENIDAE

Golden-fronted Leafbird *Chloropsis aurifrons*

Escapee from bird shops or JBP. One male seen at SJI in 1986 (SINAV 1). Also recorded in Loyang, KRP, Sime Rd.

Orange-bellied Leafbird *Chloropsis hardwickii*

One male at BTNR on 16 and 19 Dec.1990 (SINAV 4).

FAMILY CORVIDAE

Black Magpie *Platysmurus leucopterus*

One heard at MacRitchie on 5 Jan.1998, a bird present there since 1993 and may be a genuine arrival from Johore (SR in OBC Bull. 28). The record cannot be confirmed as it is based on calls alone. Probably misidentified (LKS, pers. comm.).

Green Magpie *Cissa chinensis*

Escapees from bird shops or JBP. One at Labrador Park on 10 Oct.1986 (SINAV 1). One at BBNP in Mar.1995 and 16 Aug.1997 (SINAV 9; 11). Also recorded in SBWR.

Blue Magpie *Urocissa erythrorhyncha*

Escapees from JBP. Regularly seen at SBWR since 1987, with a few breeding records. The SBWR population seems to have died out. Also recorded in KRP (Lamont, 1998); a total of six seen that on 6 Sep.2004 (Paul Huang, in litt.). Also recorded from MF (SINAV 14).

Azure-winged Magpie *Cyanopica cyano*

One seen at Chestnut Ave on 15 Jan.1995 (SINAV 9-1).

Rufous Treepie *Dendrocitta vagabunda*

Escapees from JBP since 1986. Recorded in Bt Kallang, Kranji, Marina S, Pasir Panjang Hill, P Ubin, Yishun C.

Racket-tailed Treepie *Crypsirina temia*

Recorded at SBWR in the late-1980s.

Black-billed Magpie *Pica pica*

Two seen at Woodlands Park on 26 Mar. and four birds on 27 Mar.1992 (SINAV 6). One seen at CCK on 11 May.1992 (SINAV 6). Up to 11 birds seen near Woodlands Town Park in 1999 – 2000 (Yeo Suay Hwee, in litt.)

FAMILY STURNIDAE

Asian Pied Starling *Sturnus contra*

Three seen flying over CCK on 7 Nov.1987 (SINAV 1). One at Sarimbun Scout Camp on 19 Mar.1989 and one seen at Kranji Res on 30 Dec.1989 (SINAV 3).

Brahminy Starling *Temenuchus pagodarum*

Singles at KRP recorded by Gregory-Smith in Oct.1971. Based on notes sent to him, it was identified as a Rosy Starling but re-examination of the notes by Wells (pers. comm.) identified it as a Brahminy Starling. Also claimed at Geylang River on 7 Nov.1998 (Ollington & Loh, 1999; Wells, in press) without supporting evidence. Possible escapees from JBP or bird shops, which sometimes import this bird.

Black-collared Starling *Sturnus nigriceps*

First confirmed record of this escapee seen at Padang Jeringau on 11 Apr.1997 and one seen at Kallang Ave on 28 Jul.1997 (SINAV 11). One seen at Jurong Park, along Jurong River, 19 Jul. and 13 Sep.2000 (SINAV 14). One seen carrying nesting materials outside SBWR on 25 Jul.2001 (S. Sreedharan, pers. comm.). Now regular at Kranji Dam. It is uncertain if this population is viable.

Vinous-breasted Starling *Sturnus burmannicus*

First seen at Sunset Way in 1984. One bird photographed at Changi on 24 Aug.2003 (Paul Huang, in litt.). Also recorded in Clementi Rd, Lower Seletar Dam, P Ubin, Seletar Expressway, Tampines, TM, Yishun.

Bank Myna *Acridotheres ginginianus*

First observed on 30 May.1986 in Siglap (SINAV 1). A pair at Seaside Park from 1986 – 1990. Possible nesting was observed

for the first time when one was seen carrying nesting materials on 25 Apr.1987 and 19 Mar.1988 (SINAV 1, 2). However breeding attempts seem unsuccessful.

Collared Myna *Acridotheres albocinctus*

Three birds first seen on 8 – 10 Apr.1987 at Tg Rhu and one at Seaside Park, 29 May.1987 (SINAV 1).

Golden Myna *Mino anais*

One immature on SJI on 23 Dec.1990 (SINAV 4).

Coleto *Sarcops calvus*

First seen on Sentosa on 6 Mar.1987 and one observed feeding on a fig tree on in Apr.1988 at KRP (SINAV 1, 2); possibly escapees from the bird trade.

FAMILY PYCNONOTIDAE

Light-vented Bulbul *Pycnonotus sinensis*

Two birds (ssp. *P. s. formosae*) seen near Kallang Airport on 8 Apr.1949 (F. G. H. Allen); subsequently seen throughout the month (G-H, 1949; 1949a), probably escapees from the bird trade. No other records until one of nominate ssp. seen on 20 Feb.1987 at Upper Peirce Res (SINAV 1).

FAMILY MUSCICAPIDAE

Dusky Thrush *Turdus naumanni*

Recorded by G-H (1952) but no details are available.

FAMILY ZOSTEROPIDAE

Chestnut-flanked White-eye *Zosterops erythropleurus*

One seen with a flock of Oriental White-eyes at KRP, 12 Oct.1994 (Lamont, 1998).

Japanese White-eye *Zosterops japonicus*

Introduced as early as 1928; formal records in RMBR. Breeding recorded in KRP (Lamont, 1998) but no details are available. Also seen in Kranji, MF. This species is easily confused with Oriental White-eye and records need to be treated with much caution (Wells, pers. comm.). Breeding recorded by K. C. Tsang (in litt.) in Feb.2007. It is not sure if this population is viable.

FAMILY SYLVIIDAE

Masked Laughingthrush *Garrulax perspicillatus*

One, probably of this species, was seen at Old Holland Rd towards dusk on 8 May.1989 (SINAV 3).

Greater Necklaced Laughingthrush *Garrulax pectoralis*

First recorded in Mar.1979 at Peirce Res (Wells, 1984). At MF, a flock seen on 26 Oct.1987 (SINAV 1) and another flock of five to six birds on 21 Jan.2005 (Heng Fuhai, in litt.). Also recorded from KRP, Prince George's Park, TBH. Breeding said to be recorded in KRP (Lamont, 1998) but no details are available.

Black-throated Laughingthrush *Garrulax chinensis*

One seen at Seletar Res on 19 Mar.1989 (SINAV 3). Recorded at KRP (Lamont, 1998) and on TBH on 14 Mar.1998 (SINAV 12). One photographed at MF on 24 May.2003 (Cheah Ui Leong, in litt.).

Silver-eared Mesia *Leiothrix argentauris*

A single bird seen at Upper Peirce on 9 Mar.1987 (SINAV 1) and one at Loyang on 22 Jul.1988 (SINAV 2).

Red-billed Leiothrix *Leiothrix lutea*

One seen at Sembong Rd on 11 May.1987 (SINAV 1). A bird at Hougang Ave 5 on 18 Apr.2004 (SINAV 18-2).

FAMILY PASSERIDAE

Red Avadavat *Amandava amandava*

Introduced since the 1880s. Hume (1880) recorded it as plentiful but there were no signs of breeding (G-H, 1949a; 1952). Recently, a flock of two males and four females in grassland at Ser on 27 Aug.1987 (SINAV 1). A pair seen in grassland at Tuas on 5 Jun.1988 (SINAV 2). One female seen at Ser on 9 Aug., two seen in Sep.1988 (SINAV 2). Also recorded in Changi, Pgl, Marina E, (Tengah).

Indian Silverbill *Lonchura malabarica*

A flock of eight seen, Sep. – Nov. 2005 at Changi reclaimed land (AN, in litt.).

Pin-tailed Whydahs *Vidua macroura*

Six birds seen at Ser in 1986 (SINAV 1), regulars there ever since. Also recorded from Pgl and TM.

Golden Bishop *Euplectes afer*

Recorded from TM: two males in breeding plumage seen on 28 Oct.2000 (SINAV 14) and a male in breeding plumage on 16 Sep.2001 (SINAV 15).

Black-throated Tit *Aegithalos concinnus*

Two to three seen on 9 – 10 May.1992 at MacRitchie Res (SINAV 6-2).

Zebra Finch *Taeniopygia guttata*

One male seen along Geylang Rd on 8 Jul.2003 (SINAV 17-3) is the first record of this common cagebird from Australia. Another bird was seen and photographed in Chinese Gardens on 15 Jan.2005 (Tang Hung Bun, in litt.).

European Goldfinch *Carduelis carduelis*

First recorded at NT Rd, 1 Apr.2004 (SINAV 18-2).

APPENDIX V – LIST OF THREATENED SPECIES

- **Endangered** refers to a species of which populations have been reduced to such a critical level that it is considered to be in imminent danger of extinction.
- **Threatened** refers to a species of which the populations have been greatly reduced or have been extirpated so that it may soon become endangered.
- **Vulnerable** refers to a species of which, though still present and even numerous in existing protected areas or elsewhere, is declining due to its susceptibility to current threats. If present levels of direct or indirect disturbances are maintained, the species could enter the “threatened” category.
- **Indeterminate** refers to a species which might be “Endangered”, “Threatened” or “Vulnerable” but of

which insufficient information on status or habitat requirements exists.

Endangered

1. White-bellied Woodpecker *Dryocopus javensis*
2. Blue-eared Kingfisher *Alcedo meninting*
3. Ruddy Kingfisher *Halcyon coromanda*
4. Blue-rumped Parrot *Psittinus cyanurus*
5. Glossy Swiftlet *Collocalia esculenta*
6. Buffy Fish-owl *Ketupa ketupu*
7. Little Green-pigeon *Treron olax*
8. Beach Thick-knee *Esacus magnirostris*
9. Grey-headed Fish-eagle *Ichthyophaga ichthyaetus*
10. Crested Serpent-eagle *Spilornis cheela*
11. Crested Goshawk *Accipiter trivirgatus*
12. Black-thighed Falconet *Microhierax fringillarius*
13. Little Grebe *Tachybaptus ruficollis*
14. Great-billed Heron *Ardea sumatrana*
15. Mangrove Pitta *Pitta megarhyncha*
16. Greater Green Leafbird *Chloropsis sonneratii*
17. Lesser Green Leafbird *Chloropsis cyanopogon*
18. Lesser Cuckooshrike *Coracina fimbriata*
19. Scarlet Minivet *Pericrocotus flammeus*
20. Black-naped Monarch *Hypothymis azurea*
21. Mangrove Blue-flycatcher *Cyornis ruficauda*
22. White-rumped Shama *Copsychus malabaricus*
23. Black-headed Bulbul *Pycnonotus atriceps*
24. Buff-vented Bulbul *Iole olivacea*
25. White-chested Babbler *Trichastoma rostratum*
26. Moustached Babbler *Malacopteron magnirostre*
27. Yellow-vented Flowerpecker *Dicaeum chrysorrheum*
28. Thick-billed Spiderhunter *Arachnothera crassirostris*
29. Yellow-eared Spiderhunter *Arachnothera chrysogenys*

Threatened

30. Lesser Whistling-Duck *Dendrocygna javanica*
31. Oriental Pied Hornbill *Anthracoceros albirostris*
32. Blue-crowned Hanging Parrot *Loriculus galgulus*
33. Spotted Wood-Owl *Strix seloputo*
34. Thick-billed Green-Pigeon *Treron curvirostra*
35. Red-legged Crake *Rallina fasciata*
36. Changeable Hawk-Eagle *Spizaetus cirrhatus*
37. Black-crowned Night-Heron *Nycticorax nycticorax*
38. White-rumped Munia *Lonchura striata*

Vulnerable

39. Red Junglefowl *Gallus gallus*
40. Violet Cuckoo *Chrysococcyx xanthorhynchus*
41. Drongo Cuckoo *Surniculus lugubris*
42. Malaysian Eared-Nightjar *Eurostopodus temminckii*
43. Greater Painted-snipe *Rostratula benghalensis*
44. Black-naped Tern *Sterna sumatrana*
45. Little Tern *Sterna albifrons*
46. Grey Heron *Ardea cinerea*
47. Mangrove Whistler *Pachycephala grisola*
48. Oriental Magpie-robin *Copsychus saularis*
49. Straw-headed Bulbul *Pycnonotus zeylanicus*
50. Red-eyed Bulbul *Pycnonotus brunneus*
51. Chestnut-winged Babbler *Stachyris erythropytera*

Indeterminate

52. Rusty-breasted Cuckoo *Cacomantis sepulcralis*
53. Malaysian Plover *Charadrius peronii*
54. Red-wattled Lapwing *Vanellus indicus*

APPENDIX VI – List of globally-threatened species

The following list of globally-threatened species is based on the *Birdlife International Red Data Book* (Collar et al., 2001).

Globally-threatened: when a species is facing high risk of extinction in the wild in the near future.

1. Nordmann's Greenshank *Tringa guttifer*
2. Christmas Island Frigatebird *Fregata andrewsi*

Globally vulnerable: when a species is facing a high risk of extinction in the wild in the medium-term future.

1. Chinese Egret *Egretta eulophotes*
2. Masked Finfoot *Heliopais personata*
3. Spoon-billed Sandpiper *Calidris pygmeus*
4. Greater Spotted Eagle *Aquila clanga*
5. Imperial Eagle *Aquila heliaca*
6. Lesser Adjutant *Leptoptilos javanicus*
7. Brown-chested Jungle Flycatcher *Rhinomyias brunneata*
8. Straw-headed Bulbul *Pycnonotus zeylanicus*

Globally near-threatened: when a species is close to qualifying for vulnerable status.

1. Red-crowned Barbet *Megalaima rafflesii*
2. Chestnut-bellied Malkoha *Phaenicophaeus sumatranus*
3. Blue-rumped Parrot *Psittinus cyanurus*
4. Long-tailed Parakeet *Psittacula longicauda*
5. Cinnamon-headed Green Pigeon *Treron fulvicollis*
6. Jambu Fruit Dove *Ptilinopus jambu*
7. Eastern Curlew *Numenius madagascariensis*
8. Asian Dowitcher *Limnodromus semipalmatus*
9. Beach Thick-Knee *Esacus magnirostris*
10. Malaysian Plover *Charadrius peronii*
11. Grey-headed Fish Eagle *Ichthyophaga ichthyaetus*
12. Mangrove Pitta *Pitta megarhyncha*
13. Lesser Green Leafbird *Chloropsis cyanopogon*
14. Japanese Paradise-flycatcher *Terpsiphone atrocaudata*
15. Buff-vented Bulbul *Iole olivacea*
16. Streaked Bulbul *Ixos malaccensis*
17. White-chested Babbler *Trichastoma rostratum*
18. Short-tailed Babbler *Malacocincla malaccensis*