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Biodiversity Record: Observations of some urban birds feeding on mango fruit

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Subjects: Tanimbar corella, Cacatua goffiniana (Aves: Psittaciformes: Cacatuidae);

Coconut lorikeet, *Trichoglossus haematodus* (Aves: Psittaciformes: Psittaculidae); Blue-crowned hanging parrot, *Loriculus galgulus* (Aves: Psittaciformes: Psittaculidae); Yellow-vented bulbul, *Pycnonotus goiavier* (Aves: Psistaciformes: Pycnonotidae);

Black-naped oriole, *Oriolus chinensis* (Aves: Passeriformes: Oriolidae); Mango, *Mangifera indica* (Tracheophyta: Sapindales: Anacardiaceae).

Subjects identified by: Muhammad Nasry.

Location, date and time: Singapore Island, 123 and 125 Bukit Merah Lane 1; 4 May 2022, 0930–1230 hrs and 1300–1500 hrs; 5 May 2022, 1100–1230 hrs; 7 May 2022, 1030–1130 hrs; 11 May 2022, 1130–1200 hrs; 3 June 2022, 1000–1130 hrs; 9 June 2022, 1500–1630 hrs.

Habitat: Urban parkland.

Observer: Muhammad Nasry.

Observations: Six visits (from 4 May to 9 June) were made to the area to observe birds and other conspicuous small animals feeding on the fruits of the cultivated mango. The specific order in which the birds fed on the mango, which regularly repeated, was particularly noteworthy. All of the fruits seen on the trees during this period were green and apparently unripe.

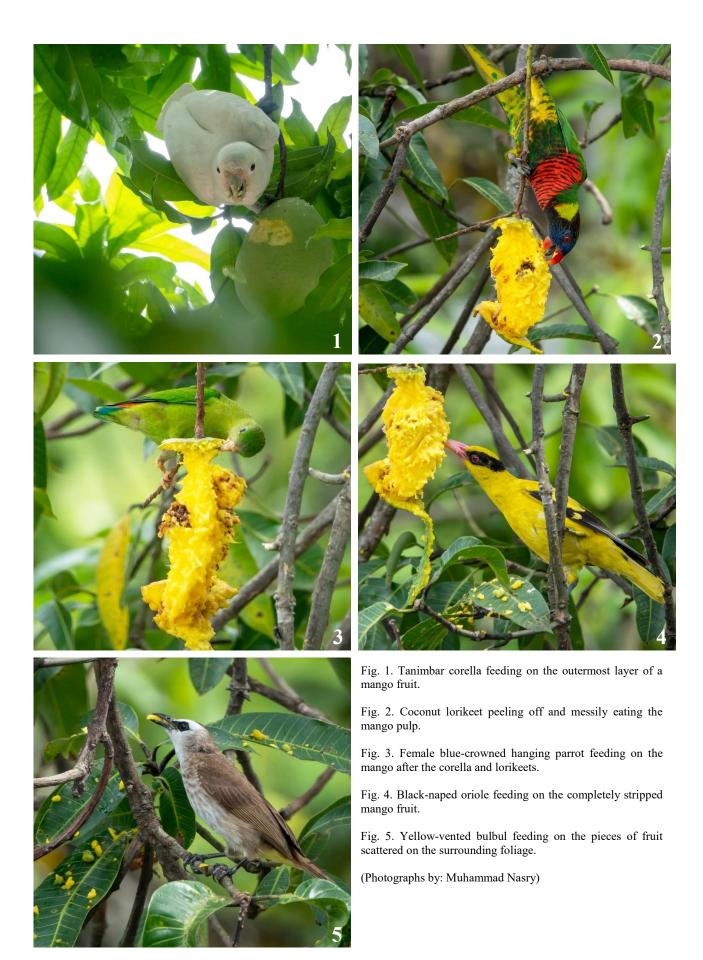
Tanimbar corellas were the first to attack the fruits. They seemed to prefer feeding on the outermost layer of the mango fruit (Fig. 1). On occasion, they would reach deeper into the fruit, but more often they would move on to the next mango relatively quickly without finishing much of it.

Next came the coconut lorikeets which usually peeled off whatever normally remained of the fruit skin (Fig. 2). In addition, they ripped apart much of the fruit pulp while feeding, often scattering bits of shredded pulp on surrounding leaves and branches. Some of these pieces also fell to the ground. These coconut lorikeets often travelled in pairs, and one would occasionally share a fruit with its partner. Disputes sometimes broke out between pairs over the mangoes; on one occasion one member of a pair vocalised and chased an intruding pair while its partner continued to feed on the mango fruit, after which the two switched roles. A maximum of three pairs were observed at any one time.

Blue-crowned hanging parrots were observed feeding on the fruit, usually only after the coconut lorikeets or the Tanimbar corellas had left (Fig. 3). A male and female were observed feeding at the site, but never at the same time. Unlike the other two parrot species, they were typically silent. The black-naped oriole (Fig. 4) and yellow-vented bulbul (Fig. 5) fed directly from the pulp of the mangoes that had been opened and fully exposed by the lorikeets, and on the shredded bits of mango scattered on the surrounding foliage.

In addition, there were intermittent visits by the olive-backed sunbird (*Cinnyris jugularis*), the brown-throated sunbird (*Anthreptes malacensis*), the plantain squirrel (*Callosciurus notatus*), and the chocolate pansy butterfly (*Junonia iphita*). These animals also fed directly on the pulp of the opened mangoes and the shredded bits scattered in the immediate vicinity.

Other birds, such as scarlet-backed flowerpecker (*Dicaeum cruentatum*), Javan myna (*Acridotheres javanicus*), common myna (*Acridotheres tristis*), common hill myna (*Gracula religiosa*), as well as the painted jezebel (*Delias hyperete*) and grass yellow (*Eurema* sp.) butterflies were observed in the area. However, they did not participate in feeding on the mango fruits, be it directly or indirectly.



Remarks: Previous publications on avian species introduced to Singapore discussed some of the more destructive aspects of their local presence, such as a 2012 review of introduced parrots (Neo, 2012). The review pointed to potential competition with native birds for similar resources such as food and nesting spaces, direct mobbing of native bird species and generally destructive behaviour (e.g., feeding on unripe fruit of native plants) which could negatively impact native flora. However, it also acknowledged that these were only possibilities due to the lack of empirical evidence to determine invasiveness and underscored the importance of future studies to understand how these parrots play into the greater ecosystem.

This set of observations may suggest a potential ecological role fulfilled by the Tanimbar corella and coconut lorikeet, both alien species, by opening up a food source for several native species, avian or otherwise. In particular, the blue-crowned hanging parrot was observed feeding only after the interior of the fruits were exposed by the introduced parrots. It is possible that to the hanging parrot, waiting for larger birds with stronger beaks to break open the fruit may be more efficient than expending effort to do the same with its relatively small beak. Similarly, birds with smaller beaks such as the oriole and the bulbul also benefit from the messy feeding behaviour of the larger parrots. They either pick from opened fruits, or consume the shredded pieces that were scattered about the vicinity.

Competition could be a possible reason for the order in which the parrots arrived at a fruit, given that the corellas are the largest, and hanging-parrots the smallest. However, mangoes of approximately the same colour (and hence, assumed ripeness) were abundant and so there was minimal need for competition. Many of these mangoes were ignored by the hanging parrots in favour of the ones that had been torn open by the larger parrot species.

Literature cited:

Neo ML (2012) A review of three alien parrots in Singapore. Nature in Singapore, 5: 241–248.