

## MARINE FISHES RECORDED FROM THE ANAMBAS AND NATUNA ISLANDS, SOUTH CHINA SEA

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**ABSTRACT.** – Four hundred and thirty species of fish from marine localities in the Anambas and Natuna groups of islands in the South China Sea were recorded between 11<sup>th</sup> and 22<sup>nd</sup> Mar 2002. Two hundred and seventy three species are represented by collections, while 157 species were recorded only by visual census. Among these, seven species are recorded for the first time in the South China Sea.

**KEY WORDS.** – Biodiversity, marine fishes, Anambas, Natuna, islands, South China Sea, new records.

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### INTRODUCTION

The South China Sea is dotted with numerous islands. Among which are the Anambas and Natuna Archipelago, two separate groups of islands on the Sunda Shelf between the Malay Peninsula and Borneo, within the political boundaries of Indonesia (Fig. 1). The biodiversity of both the Anambas and Natuna Islands are poorly studied. A recent expedition to these islands was organised by the Raffles Museum of Biodiversity Research of the National University of Singapore and the Lembaga Ilmu Pengatahuan Indonesia (Indonesian Institute of Sciences). It brought together scientists from the region surrounding the South China Sea, including Indonesia, Singapore, Malaysia, Thailand, the Philippines, Vietnam, China and Chinese-Taipei and set them out to document the diversity of selected groups of organisms found on and around the Anambas and Natuna islands. This ten-day expedition, named 'Expedition Anambas', was carried out on board the Indonesian research vessel, the Baruna Jaya VIII from the 11<sup>th</sup> to the 22<sup>nd</sup> of March, 2002. The present report is an inventory of the marine fish species recorded during the expedition.

The 'marine fishes' in the present report refers to fish species that are found in the sea. This includes species collected and/or observed in offshore transects worked over by trawl, and in inshore bays, coral reef, coral rubble and sandflats (see Appendix 1, Fig. 1). Tidal drainages, river mouths and mangroves are excluded, but fishes observed and/or collected from such 'inland' localities are referred to in Tan & Lim (2004) (in the present volume). However, the species found in both marine and inland localities, are included in both reports.

Four hundred and thirty species of fish are recorded from marine localities during Expedition Anambas 2002. Two hundred and seventy three species are represented by collections, while 157 species were recorded only by visual census. They make up around 12% of over 3365 fish species recorded from the South China Sea (see Randall & Lim, 2000). Among these, seven species (marked with an asterisk) are recorded for the first time in the South China Sea. A ten-day expedition can barely scratch the surface of the immense fish diversity that can be expected from the Anambas and Natuna Archipelago. The present report is not intended to be a complete faunal list of the islands as it is based only on

species recorded during the present expedition. Species not listed in Randall & Lim (2000) do not necessarily constitute the first records from the South China Sea (see Remarks for individual species).

## MATERIALS AND METHODS

Collection methods for marine fishes during Expedition Anambas include the use of hand-nets, rectangular-frame push nets, cast nets, a 2 m and 25 m beach seines with fine mesh, in the littoral areas. Divers used quinaldine (a fish anaesthetic) and hand-nets to obtain species from among coral heads. Some fish were caught with hook-and-line, while others caught by local fisher-folk were purchased from local markets. A trawl with 1.5 x 2 m mouth was used to sample organisms in the water column and sea-floor. Visual census was also carried out by the dive team at every dive site. See Appendix 1 and Fig. 1 for the list, position, and description of marine survey sites.

Specimens were fixed in 10% formalin solution for about one week before being transferred to 75% ethanol for long-term preservation. 'Material examined' refer to specimens collected, and the total number is indicated within brackets alongside the site number. Materials will be deposited at the following institutions: The Raffles Museum of Biodiversity Research, National University of Singapore, Singapore; Research and Development Centre for Biology, The Indonesian Institute of Sciences, Cibinong, Indonesia; and The National Museum of Marine Biology and Aquarium at Checheng, Pingtung County, Taiwan R.O.C. Where the species is recorded by visual census, the respective sites are listed under 'Observed at'. Classification and nomenclature largely follow that in Randall & Lim (2000) and the FAO identification guides by Carpenter & Niem (1998, 1999a, b, 2001a, b).

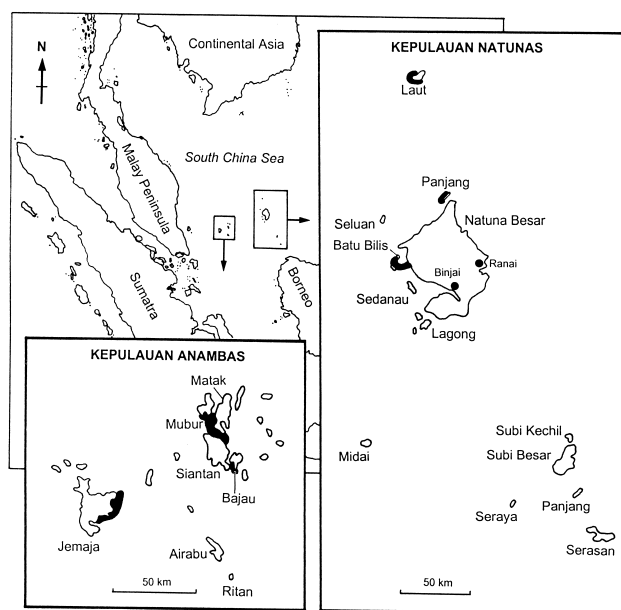


Fig. 1. Map of the Anambas and Natuna islands showing approximate clusters of marine localities (in black patches) visited during Expedition Anambas 2002.

## LIST OF FISHES

### CLASS ELASMOBRANCHII

#### Order **Orectolobiformes**

Family **Hemiscylliidae** (bamboo sharks)

*Chiloscyllium punctatum* Müller & Henle

*Material examined.* – Anambas - TM (1).

#### Order **Carchariniformes**

Family **Scyliorhinidae** (cat sharks)

*Atelomycterus marmoratus* (Bennett)

*Material examined.* – Anambas - T6 (1).

#### Order **Rajiformes**

Family **Dasyatidae** (stingrays)

*Taeniura lymma* (Forsskål)

*Observed at.* – D.

*Taeniura meyeri* Müller & Henle

*Observed at.* – D.

### CLASS ACTINOPTERYGII

#### Order **Anguilliformes**

Family **Muraenidae** (morays)

*Gymnomuraena zebra* (Shaw)

*Material examined.* – Anambas - D4 (1).

*Gymnothorax flavimarginatus* (Rüppell)

*Observed at.* – Anambas - D5-6.

*Gymnothorax javanicus* (Bleeker)

*Observed at.* – Anambas - D3-4.

#### Order **Clupeiformes**

Family **Clupeidae** (herrings and relatives)

*Sardinella fimbriata* (Valenciennes)

*Material examined.* – Anambas - PS (5).

*Spratelloides delicatulus* (Bennett)

*Material examined.* – Anambas - Z6 (11), Z13 (2).

Family **Pristigasteridae**

*Ilisha melastoma* (Bloch & Schneider)

*Material examined.* – Natuna - T8 (1).

#### Order **Aulopiformes**

Family **Synodontidae** (lizardfishes)

*Saurida gracilis* Quoy & Gaimard

*Observed at.* – D.

*Saurida tumbil* (Bloch)

*Material examined.* – Anambas - T6 (1).

*Saurida undosquamis* (Richardson)

*Material examined.* – Anambas - T1 (1).

*Synodus tectus* Cressey

*Material examined.* – Anambas - T1 (1), T6 (2).

*Synodus variegatus* (Lacepède)

*Material examined.* – Anambas - D4 (1).

*Observed at.* – Anambas - D2, D3-4, D14.

*Trachinocephalus myops* (Bloch & Schneider)

*Material examined.* – Anambas - T1 (1), T4 (7).

#### Order **Ophidiiformes**

Family **Ophidiidae** (cuskeels)

*Sirembo jerdoni* (Day)

*Material examined.* – Anambas - T6 (1).

*Remarks.* – This species is not listed by Nielsen (in Randall & Lim, 2000: 596), but could have been misidentified as *Sirembo marmoratum* (= *Lepophidium marmoratum*). According to Nielsen et al. (1999: 89), *Lepophidium marmoratum* (Goode & Bean) is restricted to the tropical western Atlantic, and *Sirembo*

*jerdoni* is recorded from the Gulf of Thailand, which is within the boundaries of the South China Sea as defined by Randall & Lim (2000: 571-572). *Sirembo jerdoni* differs from its congeners in having three or four broad blackish oblique bars on its head and fore part of its body that connect over the predorsum and head.

Order **Gobiesociformes**

Family **Gobiesocidae** (clingfishes)

*Diademichthys lineatus* (Sauvage)  
*Material examined.* – Anambas - D6 (1).  
*Observed at.* – Anambas - D5-6.

Order **Beryciformes**

Family **Holocentridae** (squirrelfishes and soldierfishes)

*Myripristis kuntzei* Valenciennes  
*Observed at.* – Anambas - D2, D5-6; Natuna - D9, D10-11, D13.  
*Myripristis murdjan* (Forsskål)  
*Material examined.* – Natuna - Z10 (1).  
*Neoniphon sammara* (Forsskål)  
*Observed at.* – D.  
*Sargocentron caudimaculatum* (Rüppell)  
*Observed at.* – Natuna - D10-11, D13.  
*Sargocentron praslin* (Lacepède)  
*Material examined.* – Natuna - Z10 (2).  
*Sargocentron punctatissimum* (Cuvier)  
*Material examined.* – Natuna - Z10 (1).  
*Sargocentron rubrum* (Forsskål)  
*Observed at.* – D.  
*Sargocentron spiniferum* (Forsskål)  
*Observed at.* – Natuna - D9.  
*Sargocentron violaceum* (Bleeker)  
*Observed at.* – D.

Order **Gasterosteiformes**

Family **Pegasidae** (seamoths)

*Pegasus laternarius* Cuvier  
*Material examined.* – Anambas - T4 (2).

Order **Syngnathiformes**

Family **Centriscidae** (shrimpfishes)

*Aeoliscus strigatus* (Günther)  
*Observed at.* – Anambas - D8.

Family **Fistulariidae** (cornetfishes)

*Fistularia commersonii* Rüppell  
*Material examined.* – Natuna - D10 (1), T8 (1).  
*Observed at.* – Natuna - D10-11.  
*Fistularia petimba* Lacepède  
*Material examined.* – Anambas - T6 (1).

Family **Syngnathidae** (seahorses and pipefishes)

*Hippocampus spinosissimus* Weber  
*Material examined.* – Anambas - T6 (1).

Order **Scorpaeniformes**

Family **Scorpaenidae** (scorpionfishes)

*Apistus carinatus* (Bloch)  
*Material examined.* – Anambas - T6 (1).  
*Brachypterois serrulatus* (Richardson)  
*Material examined.* – Anambas - T6 (2).  
*Dendrochirus zebra* (Quoy & Gaimard)  
*Material examined.* – Anambas - D6 (1); Natuna - Z12 (1).  
*Observed at.* – Anambas - D7-8.  
*Inimicus didactylus* (Pallas)  
*Material examined.* – Anambas - T4 (2), Natuna - T8 (2).  
*Minous trachycephalus* (Bleeker)  
*Material examined.* – Anambas - T4 (1).

*Parascorpaena picta* (Kuhl & van Hasselt)  
*Material examined.* – Anambas - D8 (1).

Family **Pterois russellii** Bennett

*Material examined.* – Anambas - T1 (1).  
*Richardsonichthys leucogaster* (Richardson)  
*Material examined.* – Anambas - T1 (2), T4 (4).  
*Scorpaenopsis possi* Randall & Eschmeyer  
*Material examined.* – Natuna - D11 (1).  
*Synanceia verrucosa* Bloch & Schneider  
*Material examined.* – Anambas - Z3 (2).

Family **Dactylopteridae** (helmet gurnards)

*Dactyloptena gilberti* Snyder  
*Material examined.* – Anambas - T1 (1).

Family **Platycephalidae** (flatheads)

*Inegocia japonica* (Tilesius)  
*Material examined.* – Natuna - T8 (1).  
*Onigocia macrolepis* (Bleeker)  
*Material examined.* – Anambas - T3 (2), T4 (2).  
*Rogadius patriciae* Knapp  
*Material examined.* – Anambas - T3 (3).

Order **Perciformes**

Family **Ambassidae** (glass perchlets)

*Ambassis urotaenia* Bleeker  
*Material examined.* – Natuna - Z19 (9).

Family **Serranidae** (groupers and relatives)

*Aethaloperca rogae* (Forsskål)  
*Material examined.* – Anambas - TM (1); Natuna - D12 (1).  
*Observed at.* – Anambas - D3-4.  
*Anyperodon leucogrammicus* (Valenciennes)  
*Observed at.* – Anambas - D14.  
*Cephalopholis argus* Bloch & Schneider  
*Observed at.* – D.  
*Cephalopholis boenak* (Bloch)  
*Material examined.* – Anambas - D4 (1), TM (3).  
*Observed at.* – Anambas - D1, D2, D3-4.  
*Cephalopholis cyanostigma* (Valenciennes)  
*Material examined.* – Anambas - TM (2), Z13 (1).  
*Observed at.* – Anambas - D1, D2, D3-4, D5-6, D7-8; Natuna - D10-11, D12.  
*Cephalopholis microprium* (Bleeker)  
*Observed at.* – Anambas - D2, D7-8, D14; Natuna - D10-11.  
*Cephalopholis sonnerati* (Valenciennes)  
*Material examined.* – Anambas - TM (1).  
*Cephalopholis urodeta* (Forster)  
*Observed at.* – D.  
*Cromileptes altivelis* (Valenciennes)  
*Observed at.* – Natuna - D10-11.  
*Diploprion bifasciatum* Cuvier  
*Material examined.* – Anambas - D4 (1).  
*Observed at.* – Anambas - D3-4, D5-6, D14.  
*Epinephelus areolatus* (Forsskål)  
*Material examined.* – Anambas - TM (2); Natuna - T8 (1).  
*Epinephelus corallicola* (Valenciennes)  
*Material examined.* – Natuna - D11 (1).  
*Epinephelus fasciatus* (Forsskål)  
*Material examined.* – Anambas - TM (1).  
*Epinephelus fuscoguttatus* (Forsskål)  
*Observed at.* – Anambas - D14.  
*Epinephelus lanceolatus* (Bloch)  
*Observed at.* – Anambas - D14.  
*Epinephelus latifasciatus* (Temminck & Schlegel)  
*Material examined.* – Anambas - TM (1).  
*Epinephelus merra* Bloch  
*Observed at.* – D.

- Epinephelus ongus* (Bloch)  
*Material examined.* – Anambas - D14 (1), TM (2).  
*Observed at.* – Anambas - D14.
- Epinephelus polyphkadion* (Bleeker)  
*Material examined.* – Anambas - TM (1).
- Epinephelus quoyanus* (Valenciennes)  
*Material examined.* – Natuna - Z12 (2).
- Plectropomus areolatus* (Rüppell)  
*Observed at.* – Natuna - D10-11.
- Plectropomus maculatus* (Bloch)  
*Material examined.* – Anambas – TM (1); Natuna - D12 (1).  
*Observed at.* – Anambas - D3-4, D14.
- Variola louti* (Forsskål)  
*Material examined.* – Anambas - TM (1).
- Family Pseudochromidae** (dottybacks and eel-blennies)
- Labracinus cyclophthalmus* (Müller & Troschel)  
*Observed at.* – Anambas – D2, D14.
- Pseudochromis diadema* Lubbock & Randall  
*Material examined.* – Anambas - D7 (1), D14 (1).  
*Observed at.* – Anambas - D1, D3-4, D5-6.
- Pseudochromis fuscus* Müller & Troschel  
*Observed at.* – Natuna - D12.
- Pseudoplesiops rosae* Schultz  
*Material examined.* – Natuna - Z9 (1).
- Family Plesiopidae**
- Plesiops coeruleolineatus* Rüppell  
*Material examined.* – Anambas - D4 (1).
- Family Terapontidae** (grunters)
- Pelates quadrilineatus* (Bloch)  
*Material examined.* – Anambas - T6 (4).
- Terapon theraps* (Cuvier)  
*Material examined.* – Anambas - T1 (1), T6 (3); Natuna - T8 (2).
- Family Priacanthidae** (bigeyes)
- Priacanthus tayenus* Richardson  
*Material examined.* – Anambas - T6 (2).
- Family Apogonidae** (cardinalfishes)
- Apogon angustatus* (Smith & Radcliffe)  
*Observed at.* – Anambas - D14.
- Apogon aureus* (Lacepède)  
*Observed at.* – Anambas - D3-4; Natuna - D9.
- Apogon bandanensis* Bleeker  
*Observed at.* – Anambas - D14.
- Apogon chrysotaenia* Bleeker  
*Material examined.* – Anambas - D4 (1), D6 (1).
- Apogon compressus* (Smith & Radcliffe)  
*Observed at.* – Anambas - D1, D7-8, D14.
- Apogon cookii* Macleay  
*Material examined.* – Anambas - D14 (1); Natuna - Z9 (2).  
*Observed at.* – Anambas - D1, D3-4, D5-6.
- Apogon cyanosoma* Bleeker  
*Material examined.* – Natuna - D12 (1).  
*Observed at.* – Anambas - D1, D3-4; Natuna - D10-11, D12.
- Apogon ellioti* Day  
*Material examined.* – Anambas - T1 (16), T4 (10), T6 (6).
- Apogon fraenatus* Valenciennes  
*Observed at.* – Anambas - D3-4.
- Apogon kiensis* Jordan & Snyder  
*Material examined.* – Anambas - T1 (3), T4 (2), T6 (1); Natuna - T8 (4).
- Apogon lateralis* Valenciennes  
*Material examined.* – Anambas - Z3 (7).
- Apogon leptacanthus* Bleeker  
*Observed at.* – Anambas - D1.
- Apogon trimaculatus* Cuvier  
*Material examined.* – Anambas - D5 (1).  
*Observed at.* – Anambas - D5-6.
- Apogonichthys ocellatus* (Weber)  
*Material examined.* – Anambas - T1 (1), T4 (1).
- Archamia fucata* (Cantor)  
*Material examined.* – Anambas - T3 (1), T6 (1).
- Archamia macroptera* (Cuvier)  
*Material examined.* – Natuna - T8 (1).
- Archamia zosterophora* (Bleeker)  
*Observed at.* – Anambas - D1, D3-4, D7-8.
- Cheilodipterus artus* Smith  
*Material examined.* – Anambas - D3 (1).  
*Observed at.* – Anambas - D2.
- Cheilodipterus macrodon* (Lacepède)  
*Material examined.* – Anambas - T3 (3).  
*Observed at.* – Anambas - D1, D2, D3-4, D14; Natuna - D9, D13.
- Cheilodipterus quinquelineatus* Cuvier  
*Material examined.* – Natuna - D9 (2).  
*Observed at.* – Anambas - D1, D2, D5-6, D7-8, D14; Natuna - D9, D12.
- Rhabdamia gracilis* (Bleeker)  
*Observed at.* – Natuna - D12.
- Siphamia versicolor* (Smith & Radcliffe)  
*Material examined.* – Anambas - D6 (1).
- Sphaeramia nematoptera* (Bleeker)  
*Observed at.* – Anambas - D14.
- Sphaeramia orbicularis* (Cuvier)  
*Observed at.* – Anambas - D14.
- Family Sillaginidae** (sand-whitings)
- Sillago aeolus* Jordan & Evermann  
*Material examined.* – Natuna - Z12 (3).
- Sillago sihama* (Forsskål)  
*Material examined.* – Anambas - Z6 (1); Natuna - Z12 (2).
- Family Carangidae** (trevallies and relatives)
- Atule mate* (Cuvier)  
*Material examined.* – Anambas - TM (1).
- Carangoides bajad* (Forsskål)  
*Observed at.* – Natuna - D10-11, D12.
- Carangoides caeruleopinnatus* (Rüppell)  
*Material examined.* – Anambas - TM (1).
- Carangoides ferdau* (Forsskål)  
*Observed at.* – Anambas - D2, D3-4.
- Carangoides fulvoguttatus* (Forsskål)  
*Material examined.* – Anambas - TM (1).
- Carangoides hedlandensis* (Whitley)  
*Material examined.* – Anambas - TM (1).
- Carangoides plagiotaenia* Bleeker  
*Material examined.* – Anambas – TM (2); Natuna - D9 (1).
- Caranx melampygus* Cuvier  
*Observed at.* – Natuna - D10-11.
- Decapterus russelli* (Rüppell)  
*Material examined.* – Anambas - TM (2).
- Megalaspis cordyla* (Linnaeus)  
*Material examined.* – Anambas - TM (2).
- Selar boops* (Cuvier)  
*Material examined.* – Anambas - TM (2).
- Selaroides leptolepis* (Cuvier)  
*Material examined.* – Anambas - T3 (3), T6 (3).
- Family Leiognathidae** (ponyfishes)
- Leiognathus bindus* (Valenciennes)  
*Material examined.* – Natuna - T8 (1).

- Leiognathus leuciscus* (Günther)  
Material examined. – Natuna - T8 (3).
- Secutor indicus* Monkolprasit  
Material examined. – Natuna - T8 (1).
- Secutor ruconius* (Hamilton)  
Material examined. – Natuna - T8 (1).
- Family **Lutjanidae** (snappers)
- Lutjanus argentimaculatus* (Forsskål)  
Observed at. – Anambas - D14.
- Lutjanus bohar* (Forsskål)  
Observed at. – D.
- Lutjanus carponotatus* (Richardson)  
Observed at. – Anambas - D2, D3-4, D5-6, D14.
- Lutjanus decussatus* (Cuvier)  
Material examined. – Anambas - TM (3); Natuna - D10 (1).  
Observed at. – Anambas - D1, D2, D3-4, D5-6, D7-8, D14;  
Natuna - D9, D10-11, D12, D13.
- Lutjanus fulviflamma* (Forsskål)  
Material examined. – Anambas - Z3 (1); Natuna - Z11 (1).
- Lutjanus fulvus* (Schneider)  
Observed at. – D.
- Lutjanus johnii* (Bloch)  
Observed at. – D.
- Lutjanus quinquelineatus* Bloch  
Material examined. – Anambas - TM (3).  
Observed at. – Anambas - D3-4; Natuna - D9.
- Lutjanus russelli* (Bleeker)  
Observed at. – D3-4.
- Lutjanus sebae* (Cuvier)  
Material examined. – Anambas - TM (2).  
Observed at. – Anambas - D14.
- Lutjanus vitta* (Quoy & Gaimard)  
Material examined. – Anambas - TM (1).
- Pinjalo pinjalo* (Bleeker)  
Material examined. – Anambas - TM (1).
- Symphoricthys spilurus* (Günther)  
Observed at. – Natuna - D9.
- Symphorus nematophorus* (Bleeker)  
Observed at. – Anambas - D14.
- Family **Caesionidae** (fusiliers)
- Caesio caeruleaurea* Lacepède  
Material examined. – Natuna - D10 (1).  
Observed at. – Anambas - D3-4, D14; Natuna - D9.
- Caesio cuning* (Bloch)  
Material examined. – Anambas - TM (1).
- Caesio lunaris* Cuvier  
Observed at. – Anambas - D1.
- Caesio teres* Seale  
Observed at. – Anambas - D3-4, D14; Natuna - D9, D13.
- Pterocaesio chrysozona* (Cuvier)  
Material examined. – Anambas - T3 (3), T6 (7).  
Observed at. – Anambas - D3-4, D5-6.
- Pterocaesio digramma* (Bleeker)  
Material examined. – Anambas - TM (1).  
Observed at. – Anambas - D3-4, D14; Natuna - D9.
- Pterocaesio trilineata* Carpenter  
Observed at. – D.
- Family **Gerreidae** (mojarra)
- Gerres macracanthus* Bleeker  
Material examined. – Natuna - T8 (3).
- Gerres oyena* (Forsskål)  
Material examined. – Anambas - Z13 (1); Natuna - T8 (1), Z8 (5), Z12 (20).
- Family **Haemulidae** (sweetlips and grunts)
- Diagramma pictum* (Thunberg)  
Material examined. – Natuna - T8 (1).
- Plectorhinchus chrysotaenia* (Bleeker)  
Observed at. – D10-11.
- Plectorhinchus chaetodonoides* Lacepède  
Material examined. – Natuna - D10 (1).  
Observed at. – Anambas - D5-6; Natuna - D9, D12.
- Plectorhinchus lessonii* (Cuvier)  
Material examined. – Natuna - D10 (1).  
Observed at. – Natuna - D10-11.
- Family **Lethrinidae** (pigface breams)
- Gymnocranius elongatus* Senta  
Material examined. – Anambas - TM (2).
- Lethrinus atkinsoni* Seale  
Material examined. – Anambas - TM (1), Z3 (1).
- Lethrinus harak* (Forsskål)  
Observed at. – Anambas - D7-8.
- Lethrinus lentjan* (Lacepède)  
Material examined. – Anambas - TM (1).
- Lethrinus microdon* Valenciennes  
Material examined. – Anambas - TM (1).
- Lethrinus olivaceus* Valenciennes  
Observed at. – Natuna - D10-11.
- Lethrinus semicinctus* Valenciennes  
Material examined. – Anambas - TM (1).
- Family **Nemipteridae** (threadfin breams and spinecheeks)
- Nemipterus furcosus* (Valenciennes)  
Material examined. – Anambas - TM (3).
- Nemipterus zysron* (Bleeker)  
Material examined. – Anambas - T1 (1), T6 (6).
- Pentapodus caninus* (Cuvier)  
Material examined. – Anambas - TM (3).  
Observed at. – Natuna - D9, D10-11.
- Pentapodus setosus* (Valenciennes)  
Material examined. – Anambas - T1 (1), T4 (1).  
Observed at. – Anambas - D1.
- Pentapodus trivittatus* (Bloch)  
Observed at. – Anambas - D5-6.
- Scolopsis affinis* Peters  
Observed at. – Anambas - D3-4, D5-6.
- Scolopsis bilineatus* (Bloch)  
Material examined. – Anambas - D2 (2), D4 (1), D6 (1).  
Observed at. – Anambas - D2, D3-4, D7-8, D14; Natuna - D10-11, D12, D13.
- Scolopsis ciliatus* (Lacepède)  
Observed at. – Anambas - D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D12, D13.
- Scolopsis lineatus* Quoy & Gaimard  
Observed at. – Anambas - D7-8, D14; Natuna - D10-11.
- Scolopsis margaritifera* (Cuvier)  
Material examined. – Anambas - D2 (1), D4 (4), D6 (1), TB (1); Natuna - D10 (1).  
Observed at. – Anambas - D3-4, D5-6, D7-8, D14; Natuna - D10-11.
- Scolopsis monogramma* (Kuhl & van Hasselt)  
Material examined. – Anambas - TM (2).  
Observed at. – Anambas - D5-6.
- Scolopsis taeniopterus* (Kuhl & van Hasselt)  
Material examined. – Anambas - T1 (1).
- Family **Mullidae** (goatfishes)
- Mulloidichthys flavolineatus* (Lacepède)  
Observed at. – D.
- Mulloidichthys vanicolensis* (Valenciennes)  
Material examined. – Anambas - T1 (1); Natuna - Z12 (1).

- Parupeneus barberinoides* (Bleeker)  
Material examined. – Natuna - Z12 (2).
- Parupeneus barberinus* (Lacepède)  
Material examined. – Anambas - D4 (1), TM (3).  
Observed at. – Anambas - D1, D3-4, D7-8; Natuna - D12.
- Parupeneus crassilabris* (Valenciennes)  
Observed at. – Natuna - D9, D10-11.  
Remarks. – Listed by Randall (in Randall & Lim, 2000: 622) as *P. bifasciatus* (Lacepède). Randall & Myers (2002: 432) consider *P. bifasciatus* a synonym of *P. trifasciatus* (Lacepède), an Indian Ocean endemic; and that *P. crassilabris* is the species found in the South China Sea.
- Parupeneus cyclostomus* (Lacepède)  
Observed at. – Natuna - D9, D10-11.
- Parupeneus indicus* (Shaw)  
Observed at. – Natuna - D10-11.
- Parupeneus janseni* (Bleeker)  
Material examined. – Anambas - T6 (1), TM (1).
- Parupeneus multifasciatus* (Quoy & Gaimard)  
Material examined. – Anambas – TM (2); Natuna - D9 (1).  
Observed at. – Natuna - D9, D10-11.
- Upeneus sulphureus* Cuvier  
Material examined. – Anambas - T6 (3).
- Upeneus tragula* Richardson  
Material examined. – Natuna - Z12 (2).  
Observed at. – Anambas - D2, D5-6; Natuna - D9.
- Family **Pempheridae** (sweepers)  
*Pempheris oualensis* Cuvier  
Material examined. – Natuna - D10 (1), Z10 (1).  
*Pempheris vanicolensis* Cuvier  
Observed at. – Natuna - D9.
- Family **Kyphosidae** (sea-chubs)  
*Kyphosus cinerascens* (Forsskål)  
Material examined. – Anambas - TM (1); Natuna - Z10 (1).  
*Kyphosus vaigiensis* (Quoy & Gaimard)  
Observed at. – Natuna - D9, D10-11.
- Family **Chaetodontidae** (butterflyfishes)  
*Chaetodon adiergastos* Seale  
Material examined. – Natuna - D10 (1).  
Observed at. – Anambas - D1; Natuna - D10-11.  
*Chaetodon auriga* Forsskål  
Observed at. – Anambas - D3-4; Natuna - D10-11.  
*Chaetodon baronessa* Cuvier  
Material examined. – Anambas - D4 (2), D6 (1), D8 (1).  
Observed at. – Anambas - D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D13.  
*Chaetodon lineolatus* Cuvier  
Observed at. – D.  
*Chaetodon lunula* (Lacepède)  
Observed at. – Anambas - D1.  
*Chaetodon lunulatus* Quoy & Gaimard  
Material examined. – Natuna - D9 (2).  
Observed at. – Anambas - D2; Natuna - D10-11, D12, D13.  
Remarks. – Although listed by Pyle (in Randall & Lim, 2000: 623) with its sibling species, *Chaetodon trifasciatus* Park, the latter is an Indian Ocean endemic, and does not occur in the South China Sea (see Allen et al., 1998: 109-110; Kuiter, 2002a: 23).  
*Chaetodon melannotus* Bloch & Schneider  
Observed at. – Natuna - D9.  
*Chaetodon octofasciatus* Bloch  
Material examined. – Anambas - D4 (2), D8 (2).  
Observed at. – Anambas - D1, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D13.
- Chaetodon rafflesi* Bennett  
Observed at. – Natuna - D10.
- Chaetodon speculum* Cuvier  
Observed at. – Natuna - D10-11.
- Chaetodon trifascialis* Quoy & Gaimard  
Material examined. – Anambas - D4 (1).  
Observed at. – Natuna - D10-11.
- Chelmon rostratus* (Linnaeus)  
Material examined. – Natuna - D9 (2).  
Observed at. – Anambas - D5-6; Natuna - D9, D10-11.
- Coradion chrysozonus* (Cuvier)  
Observed at. – Natuna - D10-11.
- Heniochus acuminatus* (Linnaeus)  
Observed at. – Anambas - D14.
- Heniochus chrysostomus* Cuvier  
Observed at. – D.
- Heniochus singularius* Smith & Radcliffe  
Observed at. – Anambas - D7-8.
- Heniochus varius* (Cuvier)  
Material examined. – Natuna - D10 (1).  
Observed at. – Natuna - D9.
- Family **Pomacanthidae** (angelfishes)  
*Chaetodontoplus mesoleucus* (Bloch)  
Material examined. – Anambas - D4 (2).  
Observed at. – Anambas - D1, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11.  
*Centropyge bispinosa* (Günther)  
Observed at. – D.  
*Centropyge nox* (Bleeker)  
Observed at. – D.  
*Centropyge tibicen* (Cuvier)  
Observed at. – D.  
*Centropyge vrolikii* (Bleeker)  
Observed at. – Anambas - D5-6; Natuna - D10-11, D12.
- Pomacanthus sexstriatus* (Cuvier)  
Material examined. – Natuna - D9 (1).  
Observed at. – Natuna - D9, D10-11.
- Pomacanthus xanthometopon* (Bleeker)  
Material examined. – Natuna - D10 (1).  
Observed at. – Anambas - D3-4.
- Pygoplites diacanthus* (Boddaert)  
Observed at. – Anambas - D3-4; Natuna - D9, D10-11.
- Family **Mugilidae** (mulletts)  
*Ellochelon vaigiensis* (Quoy & Gaimard)  
Material examined. – Anambas – Z13 (1); Natuna - Z12 (4).  
*Oedalechilus labiosus* (Valenciennes)  
Material examined. – Anambas – Z13 (2); Natuna - Z10 (7).
- Family **Pomacentridae** (damsel-fishes)  
*Abudefduf notatus* (Day)  
Observed at. – Anambas - D7-8.  
*Abudefduf septemfasciatus* (Cuvier)  
Material examined. – Natuna - Z9 (4), Z10 (1).  
*Abudefduf sexfasciatus* (Lacepède)  
Observed at. – Anambas - D3-4, D5-6, D7-8, D14; Natuna - D13.  
*Abudefduf sordidus* (Forsskål)  
Material examined. – Natuna - Z10 (4).  
Observed at. – Anambas - D7-8.  
*Abudefduf vaigiensis* (Quoy & Gaimard)  
Material examined. – Natuna - Z9 (2).  
Observed at. – Anambas - D5-6, D7-8, D14; Natuna - D9, D10-11, D13.  
*Amblyglyphidodon aureus* (Cuvier)  
Observed at. – Anambas - D3-4; Natuna - D10-11, D12, D13.

- Amblyglyphidodon curacao* (Bloch)  
Material examined. – Anambas - D4 (2), D8 (1); Natuna - D10 (1).  
Observed at. – Anambas - D1, D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Amblyglyphidodon leucogaster* (Bleeker)  
Material examined. – Natuna - D10 (2).  
Observed at. – Anambas - D1, D3-4, D5-6, D7-8; Natuna - D10-11, D13.
- Amblyglyphidodon ternatensis* (Bleeker)  
Observed at. – D.
- Amphiprion clarkii* (Bennett)  
Material examined. – Natuna - D12 (1).  
Observed at. – Anambas - D3-4, D5-6; Natuna - D12.
- Amphiprion frenatus* Brevoort  
Material examined. – Anambas - D4 (1), D6 (2).  
Observed at. – Anambas - D3-4.
- Amphiprion ocellaris* Cuvier  
Material examined. – Anambas - D1 (4), Z1 (1), Z3 (1), Z5 (5); Natuna - D9 (2), Z12 (2).  
Observed at. – Anambas - D1, D2, D3-4; Natuna - D9.
- Amphiprion perideraion* Bleeker  
Material examined. – Natuna - D9 (4).  
Observed at. – Natuna - D9.
- Cheiloprion labiatus* (Day)  
Observed at. – Anambas - D3-4, D14; Natuna - D9, D12.
- Chromis atripectoralis* Welander & Schultz  
Material examined. – Anambas - D4 (3).  
Observed at. – Anambas - D1, D2; Natuna - D9, D12.
- Chromis atripes* Fowler & Bean  
Observed at. – D.
- Chromis delta* Randall \*  
Observed at. – Natuna - D10-11.
- Chromis ovatiformis* Fowler  
Observed at. – Natuna - D13.
- Chromis retrofasciata* Weber  
Observed at. – Natuna - D12.
- Chromis ternatensis* (Bleeker)  
Observed at. – D.
- Chromis weberi* Fowler & Bean  
Material examined. – Natuna - D9 (4).  
Observed at. – Anambas - D1, D3-4; Natuna - D10-11, D13.
- Chromis viridis* (Cuvier)  
Material examined. – Anambas - D3 (1).
- Chromis xanthochira* (Bleeker)  
Observed at. – Natuna - D12, D13 (photographed).
- Chromis xanthurus* (Bleeker)  
Material examined. – Anambas - D4 (1); Natuna - D9 (1).
- Chrysiptera cyanea* (Quoy & Gaimard)  
Observed at. – Anambas - D14; Natuna - D9, D10-11, D13.
- Chrysiptera rollandi* (Whitley)  
Material examined. – Anambas - D3 (2), D4 (1); Natuna - D12 (1).  
Observed at. – Anambas - D1, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Chrysiptera unimaculata* (Cuvier)  
Material examined. – Anambas - Z13 (6); Natuna - Z9 (5), Z12 (4).  
Observed at. – Anambas - D7-8.
- Dascyllus melanurus* Bleeker  
Material examined. – Anambas - D7 (1), D14 (1).  
Observed at. – Anambas - D1.
- Dascyllus reticulatus* (Richardson)  
Material examined. – Anambas - D5 (7).  
Observed at. – Anambas - D2, D3-4, D5-6; Natuna - D12.
- Dascyllus trimaculatus* (Rüppell)  
Observed at. – Anambas - D3-4; Natuna - D12.
- Dischistodus chrysopoecilus* (Schlegel & Müller)  
Observed at. – Anambas - D2.
- Dischistodus fasciatus* (Cuvier)  
Material examined. – Anambas - Z1 (3); Natuna - Z12 (3).
- Dischistodus melanotus* (Bleeker)  
Observed at. – Anambas - D1, D3-4, D7-8, D14; Natuna - D12.
- Dischistodus perspicillatus* (Cuvier)  
Material examined. – Anambas - Z6 (2).  
Observed at. – Anambas - D1, D3-4, D14; Natuna - D9, D12.
- Dischistodus prosopotaenia* (Bleeker)  
Material examined. – Anambas - Z13 (1); Natuna - Z12 (1).  
Observed at. – Anambas - D7-8.
- Hemiglyphidodon plagiometopon* (Bleeker)  
Material examined. – Anambas - D8 (1).  
Observed at. – Anambas - D3-4, D9, D14.
- Neoglyphidodon melas* (Cuvier)  
Material examined. – Anambas - D4 (2); Natuna - D10 (1).  
Observed at. – Anambas - D1, D3-4, D14; Natuna - D13.
- Neoglyphidodon nigroris* (Cuvier)  
Material examined. – Anambas - D2 (1), D4 (1), D6 (1); Natuna - D10 (6).  
Observed at. – Anambas - D1, D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Neopomacentrus anabatooides* (Bleeker)  
Material examined. – Natuna - D10 (21).  
Observed at. – Natuna - D9, D12.
- Neopomacentrus bankieri* (Richardson)  
Observed at. – Natuna - D12.
- Neopomacentrus cyanomos* (Bleeker)  
Observed at. – Anambas - D3-4.
- Neopomacentrus filamentosus* (Macleay)  
Observed at. – Natuna - D9.
- Plectroglyphidodon lacrymatus* (Quoy & Gaimard)  
Observed at. – Anambas - D2, D5-6, D14; Natuna - D9, D12.
- Pomacentrus alexanderiae* Evermann & Seale  
Material examined. – Anambas - D5 (1); Natuna - D9 (1).  
Observed at. – Anambas - D1, D2, D3-4, D5-6, D7-8; Natuna - D9, D12, D13.
- Pomacentrus amboinensis* Bleeker  
Observed at. – Anambas - D3-4, D14; Natuna - D9, D10-11, D12, D13.
- Pomacentrus bankanensis* Bleeker  
Material examined. – Natuna - Z9 (1).
- Pomacentrus chrysurus* Cuvier  
Observed at. – Anambas - D2, D3-4, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Pomacentrus coelestis* Jordan & Starks  
Material examined. – Anambas - D3 (3); Natuna - D10 (1).  
Observed at. – Anambas - D2, D3-4, D5-6, D14; Natuna - D9, D10-11, D12.
- Pomacentrus grammorhynchus* Fowler  
Observed at. – Anambas - D1, D7-8, D14; Natuna - D9, D12.
- Pomacentrus lepidogenys* Fowler & Bean  
Observed at. – Anambas - D1, D3-4, D14; Natuna - D9, D10-11, D12, D13.
- Pomacentrus moluccensis* Bleeker  
Material examined. – Anambas - D3 (2); Natuna - D10 (1), D12 (1).  
Observed at. – Anambas - D1, D3-4, D5-6, D7-8, D14; Natuna - D9, D12, D13.
- Pomacentrus pavo* (Bloch)  
Observed at. – Anambas - D5-6.
- Pomacentrus philippinus* Evermann & Seale  
Observed at. – Anambas - D1, D2, D3-4, D7-8, D9, D12, D13, D14.
- Pomacentrus tripunctatus* Cuvier  
Observed at. – D.

- Pomacentrus vaiuli* Jordan & Seale  
*Material examined.* – Anambas - D14 (1).  
*Observed at.* – Anambas – D14; Natuna - D9, D10-11, D12, D13.
- Pomachromis richardsoni* (Snyder)  
*Observed at.* – D.
- Pristotis obtusirostris* Günther  
*Material examined.* – Anambas - T1 (15), T3 (2), T4 (2).
- Family **Labridae** (wrasses)
- Anampses caeruleopunctatus* Rüppell  
*Observed at.* – D.
- Bodianus axillaris* (Bennett)  
*Observed at.* – D.
- Bodianus diana* (Lacepède)  
*Observed at.* – Anambas - D1, D3-4.
- Bodianus mesothorax* (Bloch & Schneider)  
*Material examined.* – Anambas - D4 (1).  
*Observed at.* – Anambas - D1, D3-4, D5-6, D7-8; Natuna - D9, D13.
- Cheilinus chlorourus* (Bloch)  
*Material examined.* – Anambas - D6 (1).  
*Observed at.* – Anambas - D3-4, D5-6; Natuna - D12.
- Cheilinus fasciatus* (Bloch)  
*Material examined.* – Anambas - D4 (4), D6 (2); Natuna - D9 (1), D10 (1).  
*Observed at.* – Anambas - D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Cheilinus trilobatus* Lacepède  
*Observed at.* – D.
- Choerodon anchorago* (Bloch)  
*Material examined.* – Anambas - TM (1).  
*Observed at.* – Anambas - D1, D2, D14; Natuna - D12.
- Coris batuensis* (Bleeker)  
*Observed at.* – Anambas - D1, D3-4; Natuna - D9, D10-11, D12.
- Coris gaimard* (Quoy & Gaimard)  
*Observed at.* – D.
- Diproctacanthus xanthurus* (Bleeker)  
*Observed at.* – Anambas - D1, D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12.
- Epibulus insidiator* (Pallas)  
*Material examined.* – Anambas - D2 (3), D4 (3); Natuna - D9 (1).  
*Observed at.* – Anambas - D1, D3-4, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Gomphosus varius* Lacepède  
*Observed at.* – Anambas - D1, D3-4, D14; Natuna - D9, D10-11, D12.
- Halichoeres argus* (Bloch & Schneider)  
*Material examined.* – Natuna - Z12 (2).
- Halichoeres biocellatus* Schultz  
*Material examined.* – Anambas - Z1 (1), Z13 (2); Natuna - Z9 (1), Z12 (5).
- Halichoeres chloropterus* (Bloch)  
*Material examined.* – Anambas - D1 (1).  
*Observed at.* – Anambas - D1, D7-8.
- Halichoeres hortulanus* (Lacepède)  
*Material examined.* – Anambas - D4 (2); Natuna - Z9 (1).  
*Observed at.* – Anambas - D1, D2, D3-4, D7-8, D14; Natuna - D9, D10-11, D13.
- Halichoeres lamarii* (Valenciennes)  
*Material examined.* – Anambas - D6 (1); Natuna - Z9 (6).  
*Observed at.* – Anambas – D14; Natuna - D9, D13.
- Remarks.* – Usually identified as its sibling species, *Halichoeres marginatus* Rüppell, which is restricted to the Red Sea and Arabian Sea (see Kuitert, 2002b: 132).
- Halichoeres leucurus* (Walbaum)  
*Observed at.* – Anambas - D1, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D13.
- Halichoeres melanochir* Fowler & Bean  
*Observed at.* – Anambas - D1.
- Halichoeres melanurus* (Bleeker)  
*Observed at.* – Anambas - D3-4, D5-6, D7-8, D14; Natuna - D12, D13.
- Halichoeres prosopion* (Bleeker)  
*Observed at.* – Anambas - D1, D3-4; Natuna - D10-11, D13.
- Halichoeres scapularis* (Bennett)  
*Material examined.* – Anambas - Z6 (1), Z13 (21); Natuna - Z12 (6).  
*Observed at.* – Anambas - D2, D3-4, D7-8, D14; Natuna - D9, D12.
- Hemigymnus fasciatus* (Bloch)  
*Material examined.* – Anambas - D4 (1); Natuna - D10 (1).  
*Observed at.* – Anambas - D1, D2, D3-4, D14; Natuna - D9, D10-11, D12, D13.
- Hemigymnus melapterus* (Bloch)  
*Material examined.* – Anambas - D4 (1).  
*Observed at.* – Anambas - D2, D3-4, D5-6, D14; Natuna - D9, D12, D13.
- Labrichthys unilineatus* (Guichenot)  
*Observed at.* – Anambas - D1, D3-4, D5-6, D7-8, D14; Natuna - D9, D12.
- Labroides bicolor* Fowler & Bean  
*Observed at.* – Anambas - D5-6; Natuna - D13.
- Labroides dimidiatus* (Valenciennes)  
*Material examined.* – Natuna - Z9 (4).  
*Observed at.* – Anambas - D1, D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Labropsis manabei* Schmidt  
*Observed at.* – Anambas - D7-8, D14; Natuna - D13.
- Novaculichthys taeniourus* (Lacepède)  
*Material examined.* – Anambas - Z13 (1).
- Oxycheilinus celebicus* (Bleeker)  
*Observed at.* – D.  
*Remarks.* – *Cheilinus oxyrhynchus* Bleeker, considered a synonym of *Oxycheilinus celebicus* (Bleeker) by Parenti & Randall (2000: 32) is regarded as a distinct and valid taxon by Kuitert (2002b: 66) who considers *O. oxyrhynchus* as the species occurring in the South China Sea, while *O. celebicus* is restricted to the area around Flores and Maluku.
- Oxycheilinus digramma* (Lacepède)  
*Material examined.* – Anambas – TM (1); Natuna - D9 (1).  
*Observed at.* – Anambas - D7-8, D14.
- Oxycheilinus orientalis* (Günther)  
*Observed at.* – Anambas - D1, D3-4, D5-6, D14; Natuna - D9, D10-11, D12, D13.
- Paracheilinus carpenteri* Randall & Lubbock  
*Material examined.* – Anambas - D5 (4).
- Paracheilinus filamentosus* Allen  
*Observed at.* – Anambas - D3-4.
- Pseudocheilinus hexataenia* (Bleeker)  
*Material examined.* – Anambas - D5 (2).  
*Observed at.* – Anambas – D14; Natuna - D9, D12.
- Pteragogus cryptus* Randall  
*Material examined.* – Anambas - D7 (1).  
*Observed at.* – Anambas - D2, D14; Natuna - D12.  
*Remarks.* – This seems to be the '*Pteragogus cf. cryptus* 1' of Kuitert (2002b: 57), who believes that *P. cryptus* (sensu stricto) is confined to the Red Sea.
- Stethojulis interrupta* (Bleeker)  
*Observed at.* – Anambas - D3-4.
- Stethojulis strigiventer* (Bennett)  
*Material examined.* – Natuna - Z12 (1).



- Stethojulis trilineata* (Bloch & Schneider)  
*Material examined.* – Natuna - Z9 (2).  
*Observed at.* – Anambas - D1, D3-4, D7-8, D14; Natuna - D9.
- Thalassoma hardwicke* (Bennett)  
*Observed at.* – Anambas - D7-8, D14; Natuna - D9, D10-11, D12.
- Thalassoma janseni* (Bleeker)  
*Observed at.* – D.
- Thalassoma lunare* (Linnaeus)  
*Material examined.* – Anambas - D1 (1), D4 (1), TB (1), Z6 (2); Natuna - Z9 (1).  
*Observed at.* – Anambas - D1, D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D10-11, D12, D13.
- Xiphochelilus typus* (Bleeker)  
*Material examined.* – Anambas - T6 (3); Natuna - T8 (1).
- Family **Scaridae** (parrotfishes)  
*Bolbometopon muricatum* (Valenciennes)  
*Observed at.* – Anambas - D7-8.
- Cetoscarus bicolor* (Rüppell)  
*Observed at.* – D.
- Chlorurus bleekeri* (de Beaufort)  
*Material examined.* – Anambas - D4 (3).  
*Observed at.* – Anambas - D1; Natuna - D12.
- Chlorurus bowersi* (Snyder)  
*Material examined.* – Anambas - D6 (1).  
*Observed at.* – Natuna - D9, D10-11, D12, D13.
- Chlorurus japanensis* (Bloch)  
*Material examined.* – Natuna - D10 (1).
- Chlorurus microrhinos* (Bleeker)  
*Material examined.* – Natuna - D11 (1).  
*Observed at.* – Anambas - D7-8; Natuna - D10-11.
- Chlorurus sordidus* (Forsskål)  
*Material examined.* – Natuna - D10 (1).  
*Observed at.* – Anambas - D1, D2, D3-4, D5-6, D7-8, D14; Natuna - D9, D12, D13.
- Scarus dimidiatus* Bleeker  
*Material examined.* – Natuna - D10 (1).  
*Observed at.* – Anambas - D1, D7-8, D14; Natuna - D9, D12, D13.
- Scarus forsteni* (Bleeker)  
*Observed at.* – Anambas - D5-6, D7-8; Natuna - D9, D10-11.
- Scarus frenatus* Lacepède  
*Material examined.* – Anambas - D4 (2), D6 (1).  
*Observed at.* – Anambas - D5-6.
- Scarus ghobban* Forsskål  
*Material examined.* – Anambas - D4 (2), D6 (1).  
*Observed at.* – Anambas - D2, D5-6, D14; Natuna - D12.
- Scarus hypselopterus* Bleeker  
*Material examined.* – Anambas - D2 (1), D4 (5), D6 (1), TB (1); Natuna - D10 (2), D12 (3), Z12 (1).
- Scarus niger* Forsskål  
*Material examined.* – Anambas - D4 (1), TB (2); Natuna - D9 (1), D10 (1), D12 (1).  
*Observed at.* – Anambas - D2, D3-4; Natuna - D12.
- Scarus oviceps* Valenciennes  
*Observed at.* – Natuna - D9.
- Scarus prasiognathos* Valenciennes  
*Material examined.* – Anambas - D2 (1), D8 (1).  
*Observed at.* – Anambas - D14; Natuna - D9.
- Scarus quoyi* Valenciennes  
*Material examined.* – Anambas - D4 (4), D6 (1), D8 (2), TB (1); Natuna - D10 (2), D12 (1).  
*Observed at.* – Anambas - D2, D3-4, D5-6, D14; Natuna - D9, D13.
- Scarus rubroviolaceus* Bleeker  
*Observed at.* – Anambas - D7-8.
- Scarus schlegeli* (Bleeker)  
*Observed at.* – Natuna - D10-11, D13.
- Family **Uranoscopidae** (stargazers)  
*Uranoscopus cognatus* Cantor  
*Material examined.* – Natuna - T8 (4).  
*Remarks.* – This species is known to occur in the South China Sea (see Kishimoto, in Carpenter & Niem, 2001b: 3528) although it is not listed by Kishimoto (in Randall & Lim, 2000: 631).
- Family **Pinguipedidae** (sand-perches)  
*Parapercis hexaphthalma* (Cuvier)  
*Observed at.* – Anambas - D3-4; Natuna - D10-11, D12, D13.
- Parapercis xanthozona* (Bleeker)  
*Observed at.* – Anambas - D2; Natuna - D13.
- Family **Tripterygiidae** (triplefins)  
*Helcogramma striatum* Hansen  
*Material examined.* – Anambas - D4 (3), D6 (2), D14 (2); Natuna - D10 (1).  
*Observed at.* – Natuna - D11.
- Family **Blenniidae** (blennies)  
*Andamia tetradactylus* (Bleeker)  
*Material examined.* – Anambas - Z6 (7), Z7 (3).
- Atrosalarias fuscus* (Rüppell)  
*Observed at.* – Anambas - D7-8; Natuna - D12.
- Blenniella bilitonensis* (Bleeker)  
*Material examined.* – Anambas - Z1 (1); Natuna - Z9 (1).
- Blenniella cyanostigma* (Bleeker) \*  
*Material examined.* – Anambas - Z3 (1); Natuna - J7 (3).
- Ecsenius bathi* Springer \*  
*Material examined.* – Anambas - D4 (5).
- Ecsenius bicolor* (Day)  
*Material examined.* – Anambas - D4 (1), D14 (2).  
*Observed at.* – Anambas - D5-6; Natuna - D12.
- Ecsenius midas* Starck \*  
*Observed at.* – Anambas - D7-8.
- Ecsenius namiyei* (Jordan & Evermann)  
*Material examined.* – Natuna - D12 (1).
- Ecsenius yaeyamaensis* (Aoyagi)  
*Material examined.* – Anambas - D4 (1), D6 (2).
- Entomacrodus decussatus* (Bleeker)  
*Material examined.* – Natuna - Z9 (1).
- Entomacrodus striatus* (Quoy & Gaimard)  
*Material examined.* – Natuna - Z9 (1).
- Istiblennius edentulus* (Schneider)  
*Material examined.* – Anambas - Z13 (1); Natuna - Z8 (3).
- Istiblennius lineatus* (Valenciennes)  
*Material examined.* – Natuna - Z8 (5), Z9 (2), Z11 (1).
- Meiacanthus atrodorsalis* (Günther)  
*Observed at.* – Anambas - D5-6.
- Meiacanthus grammistes* (Valenciennes)  
*Observed at.* – Anambas - D1, D2, D7-8, D14.
- Omobranchus obliquus* (Garman) \*  
*Material examined.* – Anambas - Z3 (1).
- Petroscirtes mitratus* Rüppell  
*Material examined.* – Natuna - Z12 (1).
- Praealticus margaritatus* (Kendall & Radcliffe) \*  
*Material examined.* – Natuna - Z9 (2).
- Praealticus striatus* Bath  
*Material examined.* – Anambas - Z5 (7); Natuna - Z8 (2), Z9 (39).
- Praealticus tanaegasimae* (Jordan & Starks) \*  
*Material examined.* – Natuna - Z9 (1).
- Salarias fasciatus* (Bloch)  
*Material examined.* – Anambas - Z1 (1), Z7 (1).

Family **Callionymidae** (dragonets)

*Callionymus sagitta* Pallas

*Material examined.* – Anambas - T6 (2).

*Dactylopus dactylopus* (Bennett)

*Material examined.* – Anambas - T1 (1), T3 (3); Natuna - T8 (1).

Family **Eleotridae** (sleepers)

*Ophiocara porocephala* (Valenciennes)

*Material examined.* – Anambas - Z3 (4).

Family **Gobiidae** (gobies)

*Acentrogobius madraspatensis* (Day)

*Material examined.* – Natuna - Z8 (2).

*Amblyeleotris steinitzi* (Klausewitz)

*Observed at.* – Anambas - D14.

*Amblygobius hectori* (Smith)

*Material examined.* – Anambas - D3 (1).

*Observed at.* – Anambas - D1, D3-4, D5-6, D14; Natuna - D9, D12, D13.

*Amblygobius phalaena* (Valenciennes)

*Material examined.* – Natuna - Z12 (8).

*Amblygobius stethophthalmus* (Bleeker)

*Material examined.* – Anambas - Z1 (2), Z6 (26); Natuna - Z12 (13).

*Remarks.* – Previously regarded as a synonym of *Amblygobius bynoensis* (Richardson), but that species is now known to be restricted to northern Australia (Helen Larson, pers. comm.).

*Asterropteryx semipunctatus* Rüppell

*Material examined.* – Anambas - Z3 (1).

*Bathygobius fuscus* (Rüppell)

*Material examined.* – Anambas - Z1 (5), Z3 (1).

*Bathygobius cocosensis* (Bleeker)

*Material examined.* – Natuna - Z8 (1).

*Callogobius hasselti* (Bleeker)

*Material examined.* – Anambas - Z3 (1).

*Ctenogobiops pomastictus* Lubbock & Polunin

*Observed at.* – Natuna - D12.

*Drombus triangularis* (Weber)

*Material examined.* – Natuna - Z11 (4).

*Eviota pellucida* Larson

*Material examined.* – Anambas - D6 (1), D14 (2).

*Eviota sebreei* Jordan & Seale

*Material examined.* – Anambas - D14 (1).

*Favonigobius reichei* (Bleeker)

*Material examined.* – Anambas - Z1 (1); Natuna - Z8 (4), Z12 (1).

*Gobiodon* sp.

*Material examined.* – Anambas - D14 (3).

*Istigobius decoratus* (Herre)

*Observed at.* – Anambas - D2; Natuna - D13.

*Istigobius ornatus* (Rüppell)

*Material examined.* – Anambas - Z1 (8), Z3 (4), Z5 (1), Z6 (6), Z13 (1); Natuna - Z9 (10), Z11 (2), Z12 (1).

*Oplopomus oplopomus* (Valenciennes)

*Material examined.* – Natuna - Z8 (2).

*Periophthalmus kalolo* Lesson

*Material examined.* – Anambas - Z1 (1).

*Trimma fangi* Winterbottom & Chen

*Material examined.* – see Winterbottom & Chen (2004) (present volume) for the description of this species, based on material collected during Expedition Anambas 2002.

*Trimma naudei* Smith

*Material examined.* – Anambas - D14 (1).

*Trimma okinawae* (Aoyagi)

*Material examined.* – Anambas - D4 (16), D6 (14), D14 (12).

*Valenciennesa longipinnis* (Lay & Bennett)

*Material examined.* – Natuna - Z12 (1).

*Valenciennesa muralis* (Valenciennes)

*Material examined.* – Anambas - Z6 (3), Z13 (1); Natuna - Z12 (63).

*Valenciennesa sexguttata* (Valenciennes)

*Material examined.* – Anambas - Z1 (2), Z13 (2); Natuna - Z12 (2).

*Yongeichthys nebulosus* (Forsskål)

*Material examined.* – Anambas - Z1 (9); Natuna - T8 (3), Z8 (6), Z12 (1).

*Remarks.* – While frequently met with along the littoral zones and in estuarine areas (see Tan & Lim, 2004) (present volume), large examples of over 90 mm SL in our collections were collected only by trawl from depths of between 23 and 41 metres.

Family **Ptereleotridae** (dart-gobies)

*Ptereleotris evides* (Jordan & Hubbs)

*Observed at.* – Natuna - D10-11.

*Ptereleotris microlepis* (Bleeker)

*Material examined.* – Natuna - Z12 (5).

*Observed at.* – Natuna - D10-11.

Family **Ephippidae** (spadefishes)

*Platax batavianus* Cuvier

*Observed at.* – Natuna - D10-11.

*Platax orbicularis* (Forsskål)

*Observed at.* – D.

*Platax pinnatus* (Linnaeus)

*Material examined.* – Natuna - D10 (1).

*Observed at.* – Anambas - D3-4, D7-8; Natuna - D12.

*Platax teira* (Forsskål)

*Observed at.* – D.

Family **Siganidae** (rabbitfishes)

*Siganus canaliculatus* (Park)

*Material examined.* – Natuna - Z12 (20).

*Siganus corallinus* Valenciennes

*Material examined.* – Anambas - D8 (1).

*Observed at.* – Anambas - D1, D3-4; Natuna - D10-11, D12.

*Remarks.* – Kuiter & Debelius, (2001: 170) are of the opinion that *Siganus corallinus* is restricted to the Indian Ocean, and that the population inhabiting the South China Sea should be referred as *Siganus tetrazonus* (Bleeker). However, David Woodland (pers. comm.) does not regard *S. tetrazonus* as a valid species, adding that the degree of spotting on *S. corallinus* is variable and *S. tetrazonus* (otherwise a synonym of the former species) is but a juvenile of *S. corallinus* showing traces of fright pattern.

*Siganus guttatus* (Bloch)

*Material examined.* – Natuna - T8 (2).

*Observed at.* – Natuna - D10-11.

*Siganus punctatus* (Schneider)

*Material examined.* – Anambas - TM (2).

*Siganus puellus* (Schlegel)

*Observed at.* – D.

*Siganus vermiculatus* (Valenciennes)

*Observed at.* – Anambas - D2.

*Siganus virgatus* (Valenciennes)

*Material examined.* – Anambas - D2 (2), D4 (2); Natuna - D12 (1).

*Observed at.* – Anambas - D2, D7-8, D14; Natuna - D9, D12, D13.

*Siganus vulpinus* (Schlegel & Müller)

*Material examined.* – Anambas - D2 (2), D4 (1), D6 (2), D8 (2), TB (1); Natuna - D10 (1).

*Observed at.* – Anambas - D3-4, D14; Natuna - D9.

- Family **Zanclidae** (moorish idols)  
*Zanclus cornutus* (Linnaeus)  
*Material examined.* – Natuna - D12 (1).  
*Observed at.* – Natuna - D9, D10-11, D12.
- Family **Acanthuridae** (surgeonfishes and unicornfishes)  
*Acanthurus auranticavus* Randall  
*Observed at.* – Natuna - D10-11, D12.  
*Acanthurus lineatus* (Linnaeus)  
*Observed at.* – Anambas - D7-8; Natuna - D10-11.  
*Acanthurus nigrofuscus* (Forsskål)  
*Material examined.* – Natuna - D10 (1).  
*Acanthurus olivaceus* Bloch & Schneider  
*Observed at.* – D.  
*Acanthurus triostegus* (Linnaeus)  
*Observed at.* – Natuna - D10-11.  
*Ctenochaetus striatus* (Quoy & Gaimard)  
*Material examined.* – Natuna - D12 (1).  
*Ctenochaetus cyanocheilus* Randall & Clements  
*Observed at.* – D.  
*Remarks.* – *Ctenochaetus strigosus* (Bennett) seems to be endemic to the Hawaiian Islands, those in the South China Sea should be referred to the present species.  
*Naso hexacanthus* (Bleeker)  
*Observed at.* – Natuna - D10-11.  
*Naso lituratus* (Forster)  
*Observed at.* – Natuna - D10-11.  
*Naso unicornis* (Forsskål)  
*Material examined.* – Natuna - D11 (1).  
*Observed at.* – Natuna - D10-11.  
*Zebrasoma scopas* (Cuvier)  
*Observed at.* – D.
- Family **Sphyraenidae** (barracudas)  
*Sphyraena barracuda* (Walbaum)  
*Material examined.* – Anambas - TM (1).  
*Sphyraena forsteri* Cuvier  
*Material examined.* – Anambas - TM (1).
- Family **Scombridae** (mackerels and tunas)  
*Rastrelliger kanagurta* (Cuvier)  
*Material examined.* – Anambas - TM (2).

Order **Pleuronectiformes**

- Family **Paralichthyidae**  
*Pseudorhombus dupliciocellatus* Regan  
*Material examined.* – Anambas – T6 (1).  
*Pseudorhombus quinquocellatus* Weber & de Beaufort  
*Material examined.* – Anambas - T3 (2).
- Family **Bothidae** (lefteye flounders)  
*Arnoglossus aspilos* (Bleeker)  
*Material examined.* – Natuna - T8 (2).  
*Engyproson grandisquama* (Temminck & Schlegel)  
*Material examined.* – Anambas - T1 (8), T2 (1), T3 (2), T4 (3).
- Family **Cynoglossidae** (tonguefishes)  
*Cynoglossus kopsi* (Bleeker)  
*Material examined.* – Anambas - T1 (1).

Order **Tetraodontiformes**

- Family **Balistidae** (triggerfishes)  
*Abalistes stellaris* (Bloch & Schneider)  
*Material examined.* – Anambas - T6 (1), TM (1).  
*Balistapus undulatus* (Park)  
*Observed at.* – D.  
*Balistoides viridescens* (Bloch & Schneider)  
*Observed at.* – Natuna - D10-11.

- Melichthys vidua* (Richardson)  
*Observed at.* – Natuna - D10-11.

- Family **Monacanthidae** (filefishes)  
*Aluterus scriptus* (Osbeck)  
*Material examined.* – Anambas - TM (1).  
*Oxymonacanthus longirostris* (Bloch & Schneider)  
*Observed at.* – D.  
*Paramonacanthus pusillus* (Rüppell)  
*Material examined.* – Anambas - T4 (1); Natuna - T8 (1).

- Family **Ostraciidae** (boxfishes and cowfishes)  
*Lactoria cornuta* (Linnaeus)  
*Material examined.* – Anambas - T4 (1).

- Family **Tetraodontidae** (pufferfishes)  
*Arothron immaculatus* (Bloch & Schneider)  
*Material examined.* – Anambas - T1 (39), T2 (2), T3 (9), T4 (1), T6 (1).  
*Observed at.* – Anambas - D1.  
*Arothron nigropunctatus* (Bloch & Schneider)  
*Material examined.* – Anambas - Z3 (1).  
*Observed at.* – Anambas - D5-6, D7-8.  
*Arothron stellatus* (Bloch & Schneider)  
*Material examined.* – Anambas - T3 (1), T4 (2).  
*Observed at.* – Natuna - D12.  
*Torquigener hypselogeneion* (Bleeker)  
*Material examined.* – Anambas - T6 (5).

- Family **Diodontidae** (porcupinefishes)  
*Cyclichthys orbicularis* (Bloch)  
*Material examined.* – Anambas - T6 (4).  
*Diodon holocanthus* Linnaeus  
*Material examined.* – Anambas - T3 (1), T4 (1).  
*Diodon hystrix* Linnaeus  
*Observed at.* – Natuna - D10-11.  
*Diodon liturosus* Shaw  
*Material examined.* – Anambas - TB (1).

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LITERATURE CITED

- Allen, G. R., Steene, R. & M. Allen, 1998. *A Guide to Angelfishes & Butterflyfishes*. Odyssey Publishing/Tropical Reef Research. 250 pp.
- Carpenter, K. E. & V. H. Niem (eds.), 1998. *FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Volume 2. Cephalopods, crustaceans, holothurians and sharks*. FAO, Rome. p. 687-1396.

- Carpenter, K. E. & V. H. Niem (eds.), 1999a. *FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Volume 3. Batoid fishes, chimaeras and bony fishes part 1 (Elopidae to Linophrynidae)*. FAO, Rome. p. 1397-2068.
- Carpenter, K. E. & V. H. Niem (eds.), 1999b. *FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Volume 4. Bony fishes part 2 (Mugilidae to Carangidae)*. FAO, Rome. p. 2069-2790.
- Carpenter, K. E. & V. H. Niem (eds.), 2001a. *FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Volume 5. Bony fishes part 3 (Menidae to Pomacentridae)*. FAO, Rome. p. 2791-3380.
- Carpenter, K. E. & V. H. Niem (eds.), 2001b. *FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Volume 6. Bony fishes part 4 (Labridae to Latimeriidae, estuarine crocodiles, sea turtles, sea snakes and marine mammals)*. FAO, Rome. p. 3381-4218.
- Kuiter, R. H. & H. Debelius, 2001. *Surgeonfishes, Rabbitfishes and their relatives. A Comprehensive Guide to Acanthuroidei*. TMC Publishing, Chorleywood, U.K. 208 pp.
- Kuiter, R. H., 2002a. *Butterflyfishes, Bannerfishes and their relatives. A Comprehensive Guide to Chaetodontidae & Microcanthidae*. TMC Publishing, Chorleywood, U.K. 208 pp.
- Kuiter, R. H., 2002b. *Fairy & Rainbow Wrasses and their relatives. A Comprehensive Guide to selected labroids*. TMC Publishing, Chorleywood, U.K. 208 pp.
- Nielsen, J. G., Cohen, D. M., Markle, D. F. & C. R. Robins, 1999. *FAO species catalogue. Volume 18. Ophidiiform fishes of the world (order Ophidiiformes). An annotated and illustrated catalogue of pearlfishes, cusk-eels, brotulas and other ophidiiform fishes known to date. FAO Fisheries Synopsis. No. 125, Vol. 18. 178 pp., 136 figs.*
- Parenti, P. & J. E. Randall, 2000. An annotated checklist of the species of the labroid fish families Labridae and Scaridae. *JLBSI Ichthyological Bulletin*. **68**: 1-97.
- Randall, J. E. & K. K. P. Lim (eds.), 2000. A checklist of the fishes of the South China Sea. In: Ng, P. K. L. & K. S. Tan (eds.), *The Biodiversity of the South China Sea. The Raffles Bulletin of Zoology. Supplement No. 8*: 569-667.
- Randall, J. E. & R. F. Myers, 2002. *Parupeneus insularis*, a new Central Pacific species of goatfish (Perciformes: Mullidae) of the *P. trifasciatus* complex. *Zoological Studies (Taiwan)*. **41** (4): 431-440.
- Tan, H. H. & K. K. P. Lim, 2004. Inland fishes from the Anambas and Natuna Islands, South China Sea, with description of a new species of *Betta* (Teleostei: Osphronemidae). In: Ng, P. K. L., D. Wowor & D. C. J. Yeo (eds.), *Scientific Results of the Anambas Expedition 2002. The Raffles Bulletin of Zoology, 2004, Supplement No. 11*: 107-115.
- Winterbottom, R. & I.-S. Chen, 2004. Two new species of *Trimma* (Teleostei: Gobiidae) from the western Pacific Ocean. *The Raffles Bulletin of Zoology*. In: Ng, P. K. L., D. Wowor & D. C. J. Yeo (eds.), *Scientific Results of the Anambas Expedition 2002. The Raffles Bulletin of Zoology, 2004, Supplement No. 11*: 103-106.

**Appendix 1. Marine collection and observation sites visited during Expedition Anambas, 2002.**

D – Anambas and Natuna Islands: all dive sites incorporating D1 to D14, from 12 to 19 Mar.2002, visual records by Mohd. Adrim.

ANAMBAS ARCHIPELAGO

- D1 – Pulau Jemaja: Teluk Tiru off the northern coast of Pulau Punisan (2°52'54.4"N 105°47'38.5"E); 12 Mar.2002: 1125 hrs, fringing reef, 5 m visibility, moderate current.  
 D2 – Pulau Jemaja: Teluk Tiru at the northern edge of the bay near southern tip of Tanjung Linang (2°53'10.10"N 105°48'30.1"E); 12 Mar.2002: 1550 hrs, fringing reef, 7 m visibility, moderate current.  
 D3 – Pulau Jemaja: east coast, at northeast corner of Teluk Jebung, off Tanjung Jebung (2°57'13.6"N 105°50'47.4"E); 13 Mar.2002: 1107 hrs, reef slope with signs of damage by dynamite, 7 m visibility, moderate current.  
 D4 – Pulau Jemaja: east coast, at northeast corner of Teluk Jebung, off Tanjung Jebung (2°57'13.6"N 105°50'47.4"E); 13 Mar.2002: 1525 hrs, 7 m visibility, moderate current.  
 D5 – Pulau Matak: southwest coast, islet southeast of Tanjung Yang, off Selat Peninting (3°14'34.9"N 106°14'32.6"E); 14 Mar.2002: 1000 hrs, disturbed fringing reef, 5-7 m visibility, strong current.  
 D6 – Pulau Matak: southwest coast, islets near Tanjung Yang, off Selat Peninting (3°14'34.9"N 106°14'32.6"E); 14 Mar.2002: 1530 hrs, shallow disturbed fringing reef, 5-7 m visibility, strong current.  
 D7 – Pulau Mubur: south coast at Teluk Air Bandang, off east coast of Pulau Mantas (3°17'45.3"N 106°12'09.8"E); 15 Mar.2002: 1045 hrs, reef crest with living corals and steep wall with algae and silt.  
 D8 – Pulau Mubur: southeast coast at Teluk Air Bandang, off Tanjung Kran (3°18'05.5"N 106°12'29.4"E); 15 Mar.2002: 1545 hrs, fringing reef with steep slope, 10 m visibility, moderate current.  
 D14 – Pulau Bajau: southwest coast at Teluk Dumang (3°6'16.9"N 106°17'53.5"E); 19 Mar.2002: 1030 hrs, fringing reef, 3-5 m visibility, moderate current.

Visual records by Yusri Yusof conducted at: D1 - Pulau Jemaja: Teluk Tiru off Pulau Punisan, D2 - Pulau Jemaja: Teluk Tiru near Tanjung Linang, D3-4 - Pulau Jemaja: Teluk Jebung, D5-6 - Pulau Matak, D7-8 - Pulau Mubur, D14 - Pulau Bajau.

PS – Pulau Siantan: off Siantan town; 14 Mar.2002.

- T1 – Pulau Jemaja: along southern coast, northern Teluk Tiru and northwards (by trawl: in at 2°52.80'N 105°50.43'E, 30 m; out at 2°51.23'N 105°48.15'E, 32 m); 12 Mar.2002: 2010-2202 hrs.  
 T2 – Pulau Jemaja: along southern coast, northern Teluk Tiru and northwards (by trawl: in at 2°52.43'N 105°50.52'E, 30 m; out at 2°54.63'N 105°50.97'E, 30 m); 12 Mar.2002: 2253-2345 hrs.  
 T3 – Pulau Jemaja: east coast along Teluk Jebung (by trawl: in at 2°55.81'N 105°50.16'E, 20 m; out at 2°53.71'N 105°50.38'E, 29 m); 13 Mar.2002: 1955-2100 hrs.  
 T4 – Pulau Jemaja: east coast along Teluk Jebung (by trawl: in at 2°53.03'N 105°50.55'E, 31 m; out at 2°55.39'N 105°51.15'E, 24 m); 13 Mar.2002: 2128-2235 hrs.  
 T6 – Teluk Tarempa (by trawl: in at 3°15.31'N 106°09.50'E, 46 m; out at 3°15.28'N 106°11.79'E, 42 m); 14 Mar.2002: 1920-2022 hrs.  
 TB – Pulau Jemaja: Teluk Tiru (general area: geographic co-ordinates not recorded); 12 Mar.2002.  
 TM – Pulau Siantan: purchased at Terempong market; Mar.2002.  
 Z1 – Pulau Jemaja: northern edge of Teluk Tiru opposite Pulau Punisan (2°57.83'N 105°49.92'E); 12 Mar.2002: 1020-1400 hrs; sand-mud flats, coral rubble, offshore coral reef, adjacent fringing mangrove, extensive sand spit with rocks.  
 Z2 – Pulau Jemaja: Teluk Tiru, along north coast of Pulau Punisan; 12 Mar.2002: 1505-1700 hrs; sheltered bay with sandy beach, small patch of mangrove, shallow reef.  
 Z3 – Pulau Jemaja: east coast at northeast shore of Teluk Jebung (2°57.83'N 105°49.92'E); 13 Mar.2002: 0920-1600 hrs; sheltered bay with fringing *Rhizophora* mangrove, sandy beach with coral rubble, offshore reef.  
 Z4 – Pulau Jemaja: east coast at northeast corner of Teluk Jebung, at western-most of a pair of islets off Tanjung Jebung (geographic co-ordinates not recorded); 13 Mar.2002: 1300-1430 hrs; fringing reef.  
 Z5 – Pulau Matak: southeast coast of the Niulwan Peninsula, off Selat Peninting (3°13.67'N 106°15.95'E); 14 Mar.2002: 1340-1410 hrs; shallow reefs, sandy shore with coral rubble, rocky shore, coastal forest.  
 Z6 – Pulau Mubur: southwest coast at Teluk Air Bandang, off eastern shore of Pulau Kecil (3°17.95'N 106°13.11'E); 15 Mar.2002: 1030-1400 hrs; sheltered bay with coastal forest, sandy beach with big rocks, coral rubble, shallow reef.  
 Z7 – Pulau Mubur: southwest coast at Teluk Air Bandang, off eastern shore of Pulau Kecil (3°17.95'N 106°13.10'E); 15 Mar.2002: 1430-1530 hrs; sheltered bay with rocky shore and shallow reef.  
 Z13 – Pulau Bajau: south coast at Teluk Dumang, off northwest corner of Pulau Behala (3°6.20'N 106°57.51'E); 19 Mar.2002: 1040-1245 hrs; small stretch of sandy beach with offshore reefs.

NATUNA ARCHIPELAGO

- D9 – Pulau Laut: south coast (4°38'54.8"N 107°57'43.3"E); 16 Mar.2002: 1015 hrs, fringing reef and sand flats, 3-7 m visibility, moderate current.  
 D10 – Pulau Laut: rocky islet off southeast coast (4°37'39.8"N 107°58'18.1"E); 16 Mar.2002: 1614 hrs, fringing reef off rocky islet, 7-10 m visibility, moderate current.  
 D11 – Pulau Laut: rocky islet off southeast coast (4°37'39.8"N 107°58'18.1"E); 16 Mar.2002: 2050 hrs.  
 D12 – Pulau Panjang: off northwest coast of Pulau Natuna Besar (formerly Pulau Bunguran) (4°13'57.0"N 108°11'05.3"E); 17 Mar.2002: 1026 hrs, fringing reef with extensive reef flats, 7-10 m visibility, strong current.

D13 – Pulau Salor: northeast coast off west coast of Pulau Natuna Besar (formerly Pulau Bunguran); 18 Mar.2002: 0910-1230 hrs, patch reef with reef flat at 4-5 m depth and steep slope to sandy bottom at 15 m, 3-7 m visibility, moderate current.

Visual records by Yusri Yusof conducted at: D9 – Pulau Laut, D10-11 – rocky islet off Pulau Laut, D12 – Pulau Panjang, D13 – Pulau Salor.

T8 - Pulau Natuna Besar (formerly Pulau Bunguran): west coast (by trawl: in at 3°56.01'N 107°51.78'E, 41 m, out at 3°56.34'N 107°54.41'E, 23 m); 18 Mar.2002: 2036-2140 hrs.

Z8 – Pulau Laut: south coast, sand-mud flats east of sand spit linking to Pulau Sengat and offshore coral reefs (3°17.95'N 106°13.10'E); 16 Mar.2002: 1030-1600 hrs; extensive sand-flats and reef-flats with sparse coral growth, sand bar connects main island to small island.

Z9 – Pulau Panjang: northeast coast (4°15.90'N 108°12.27'E); 17 Mar.2002: 0945-1230 hrs; rocky headlands with small sandy bays and offshore reefs.

Z10 – Pulau Panjang: northeast coast (4°15.90'N 108°12.27'E); 17 Mar.2002: 1830-2000 hrs; rocky headlands with small sandy bays and offshore reefs.

Z11 – Pulau Salor: northeast coast (3°53.73'N 107°55.20'E); 18 Mar.2002: 1030-1230 hrs; rocky-sandy shore adjacent to small village of at least five houses.

Z12 – Pulau Batu Bilis: southern tip (3°56.26'N 107°57.50'E); 18 Mar.2002: 1600-1800 hrs; sandy beaches with beach vegetation, rocky on eastern coast, offshore reefs.