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SEVEN NEW RECORDS OF FISHES FROM INDONESIA, WITH DISCUSSION OF WESTERN INDIAN OCEAN FISHES IN SOUTHWESTERN INDONESIA

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ABSTRACT. - The following seven new records of reef fishes for Indonesia are reported from the southwest coast of Sumatra off Padang and the Mentawai Islands: the serranids *Liopropoma africanum* (Smith) and *Pseudogramma astigmum* Randall & Baldwin, the apogonid *Fowleria flammea* Allen, the pomacentrid *Chromis dimidiata* (Klunzinger), and the gobiids *Amblyeleotris downingi* Randall, *Bryaninops amplus* Larson and *Trimma naudei* Smith. In addition, we call attention to a previous new Indonesian record of the Indian Ocean chaetodontid *Hemitaurichthys zoster* (Bennett) from the Mentawai Islands by Suharsono et al. (1995). Other Indonesian records of western Indian Ocean fishes are listed. The range of *Pomacentrus xanthosternus* Allen is extended from the Seribu Islands in the Java Sea to the Mentawai Islands, and the first illustrations provided of the juvenile and adult.

KEYWORDS. - Reef fishes, new records, Indonesia, Sumatra, Mentawai Islands.

INTRODUCTION

Indonesia consists of over 13,000 islands in a vast area straddling the equator from longitude 95°E at the northwestern end of Sumatra to 141°E at the eastern border of Irian Jaya. Along with the other islands of the East Indies, it has the richest marine fauna and flora of the world. Herre (1953) compiled a checklist of 2,145 species of fishes of the Philippines. Much taxonomic research on Philippine fishes has taken place since 1950, so this list needs much correction and updating. Kailola (1987-1991) recorded 2,146 species from Papua New Guinea; she estimated that 200 more species should be expected. Froese et al. (1996) prepared a list of 2,151 marine and brackish water fishes for Indonesia, incorporating the recent taxonomic literature dealing with the region. They did not rely on the largely outdated 11-volume *The Fishes of the Indo-Australian Archipelago* by Weber & de Beaufort (1911-

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1962) which covers 2,778 marine and freshwater fishes of Indonesia.

The number of fishes for Indonesia will certainly increase with additional collecting and continuing investigation of existing museum fish collections, in particular the deep-water and pelagic species. That much remains to be done even with reef and shore fishes might be surmised from our finding seven new records and nine new species of reef fishes in five days of diving in Sumatra off Padang and Siberut Island, Mentawai Islands in April, 1997 (Fig. 1, A and B). The undescribed fishes: a wrasse of the genus *Cirrhilabrus* (Randall & Kunzmann, 1998); a grouper of the genus *Cephalopholis* allied to *C. microprion* (Bleeker); two cardinalfishes, one in the genus *Archamia* similar to *A. zosterophora* (Bleeker) (Randall & Satapoomin, MS), and a second in the genus *Siphamia*, similar to *S. corallicola* Allen; a sand perch of the genus *Parapercis* (Randall, MS); a parrotfish of the genus *Scarus* (Westneat, Satapoomin & Randall, MS); a blenny of the genus *Ecsenius* (Springer & Randall, MS); a moray eel of the genus *Gymnothorax* (Böhlke, MS); and a goby of the genus *Amblygobius* (also represented by specimens from Palau). A possible tenth new fish, a caesionid of the genus *Pterocaesio*, was photographed underwater, but no specimens were obtained. It may also be a color variant of *P. trilineata* Carpenter. It is illustrated here (Fig. 2) as a guide to those who may be in a position to collect specimens.

Four of our seven new records of fishes for Indonesia and that of *Hemitaurichthys zoster* (Bennett) reported by Suharsono et al. (1995) from Nias (Fig. 1, C) are species that are distributed primarily in the western Indian Ocean. In recent years other fishes have been recorded for islands of the western half of the Indonesian Archipelago that were previously

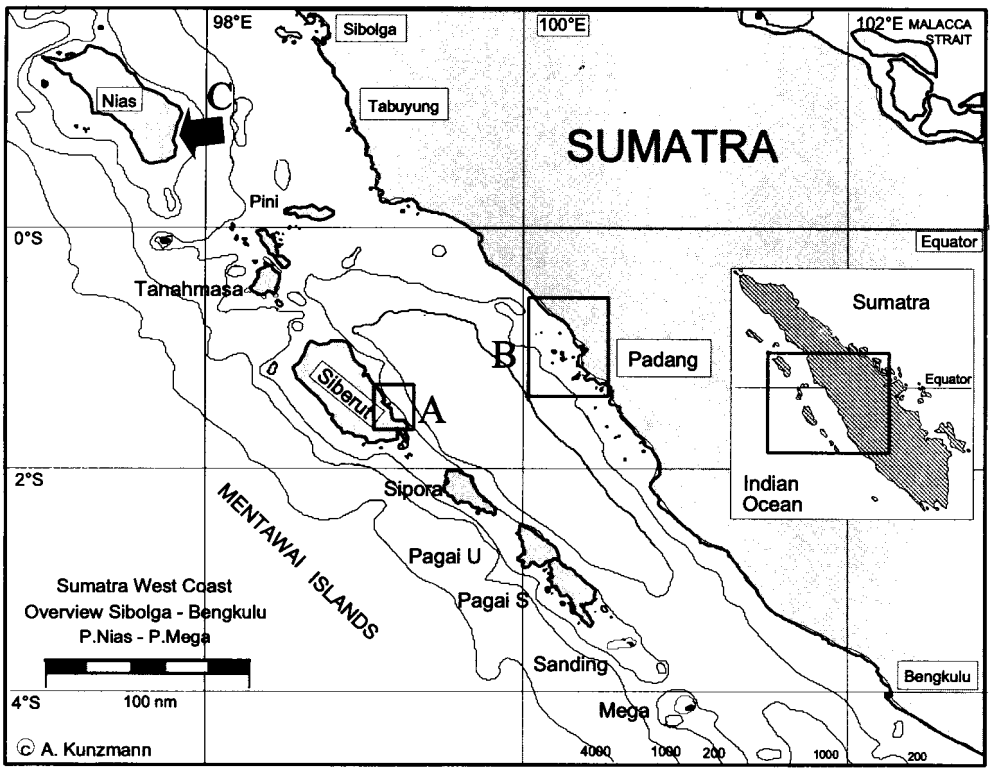

Fig. 1. Map of Sumatra to show field locations; A and B for collections reported herein, and C for Suharsono et al., 1995.

known from localities to the west of Indonesia. Examples are: *Pterois miles* (Bennett) (to Sumatra by E. Schultz, 1986), *Epinephelus faveatus* (Valenciennes) (to Lombok by Randall & Heemstra, 1991); *Pseudanthias bimaculatus* (Smith) (to Bali by Randall & Hutomo, 1988); *Apogon abrogramma* Fraser & Lachner, 1985 (described from many islands of the western Indian Ocean except for two lots from the Mentawai Islands, Sumatra); *Chaetodon decussatus* Cuvier (to the westernmost part of Indonesia by Allen, 1979), *Chaetodon falcula* Bloch (to Java by Kuiter & Debelius, 1994); *Chaetodon guttatissimus* Bennett (to Bali by Kuiter, 1992); *Chaetodon trifasciatus* Park (to Bali by Kuiter, 1995); *Centropyge eibli* (to Bali by Kuiter, 1992); *Amphiprion akallopisos* Bleeker and *A. sebae* Bleeker (to Java by Allen, 1991); *Dascyllus carneus* Fischer (to Java by H. Randall & Allen, 1977); *Gomphosus caeruleus* Lacepède (to Java by Kuiter & Debelius, 1994); *Scarus viridifucatus* (Smith) (to Bali and Sulawesi by Satapoomin et al., 1994); *Acanthurus leucosternon* Bennett (to Flores by Kuiter, 1992); *Acanthurus tristis* Randall (to Bali by Randall, 1993); *Meiacanthus smithi* Klausewitz (to Java Sea by Smith-Vaniz, 1976); and *Blenniella cyanostigma* (Bleeker) (to Bali by Springer & Williams, 1994). The two parrotfishes, *Chlorurus capistratoides* (Bleeker) and *C. strongylocephalus* (Bleeker), both with a type locality of Batavia (now Jakarta), are not known east of Bali but are broadly distributed in the western Indian Ocean. The butterflyfish *Heniochus pleurotaenia* (Ahl) was described from Padang, Sumatra, but ranges west to the Maldive Islands and east only to Java.

Some of the above species, such as *Chaetodon trifasciatus*, are represented in the eastern part of Indonesia and elsewhere in the western Pacific by what are believed to be sister species, differing very little in color or morphology. On the other hand, there are species of fishes that have a slightly different color pattern in the Indian Ocean from the western Pacific and eastern Indonesia which are generally regarded as geographical variants. It is often difficult to decide whether these east-west pairs should be considered as species or not.

We observed three species of reef fishes in the Mentawai Islands, *Naso lituratus* (Bloch & Schneider), *Cephalopholis urodeta* (Bloch & Schneider), and *Labroides dimidiatus* (Valenciennes) in their western Indian Ocean color pattern. A male of the labrid fish *Halichoeres hortulanus* (Lacepède) was noted that exhibited the western Indian Ocean pattern of a single yellow spot dorsally on the body on one side and the western Pacific pattern of three yellow spots on the other side.

Much more field work is advised for the southwestern part of Indonesia, especially the southern shores of Sumatra and Java, where Indian Ocean and Pacific variants may meet, to help determine whether they should be classified as species. On the other hand, east-west pairs currently regarded as species, such as *Pterois miles* and *P. volitans* (Linnaeus), might prove to be conspecific if they are shown to freely intergrade. At the present time within Indonesia, *P. miles* is reported only from the Indian Ocean shore of Sumatra, and *P. volitans* not west of Sulawesi (see E. Schultz, 1986: fig. 3).

Specimens of our new records of Indonesian fishes were deposited in the Bernice P. Bishop Museum in Honolulu (BPBM) and the fish collection of Bung Hatta University, Padang, Sumatra. Specimens of six unidentified species of the gobiid genus *Trimma* with color notes were sent as a gift to Richard Winterbottom of the Royal Ontario Museum, Toronto who is revising the genus.

NEW RECORDS FOR INDONESIA

Liopropoma africanum (Smith)

Chorististium africanum Smith, 1954: 862, 866, text-fig. l, pl. 27 B (type locality, Tekomaji Island, Mozambique).

Material. - BPBM 37629, 3: 28-45 mm SL, West Sumatra, off southwest coast, Pulau Pandan, south side, 0°56.6'S, 100°8.2'E, small caves at base of drop-off, 25-26 m, rotenone, J. Randall, A. Kunzmann & S. Gendron, 17 Apr.1997.

Remarks. - *Liopropoma africanum* was described from four specimens collected on the coast of East Africa from Pemba Island, Tanzania at 5°S to Mozambique at 14°10'S. Smith & Smith (1963) added a record, as *Ypsigramma africanum*, from the Seychelles. In a revision of the genus, Randall & Taylor (1988: 28, pl. III B) extended the range of *L. africanum* to Kenya, Djibouti, Comoro Islands, Chagos Archipelago, and the Maldive Islands. Their specimens were collected from reefs in the depth range of 8-48 m. Like other small species of the genus, *L. africanum* is very cryptic; it is generally observed only when it emerges briefly from small holes at the back of caves.

Pseudogramma astigmum Randall & Baldwin

Pseudogramma astigmum Randall & Baldwin, 1997: 9, 14, Plate I B (type locality, Enewetak Atoll, Marshall Islands).

BPBM 37624, 29 mm SL, West Sumatra, off southwest coast, Pulau Pandan, south side, 0°56.6'S, 100°8.2'E, small caves at base of drop-off, 25-26 m, rotenone, J. Randall, A. Kunzmann & S. Gendron, 17 Apr.1997.

Remarks. - This species was described from specimens in the Pacific from the Marshall Islands, Caroline Islands, Vanuatu, Great Barrier Reef, and Papua New Guinea. The only material from the Indian Ocean was collected in the Comoro Islands. The present record from the Mentawai Islands is near the middle of the large distribution gap between Papua New Guinea and the Comoro Islands.

Like other species of the genus, *Pseudogramma astigmum* remains hidden in reefs. We have never observed any individuals alive while diving by day or night.

Fowleria flammea Allen
(Fig. 3)

Fowleria flammea Allen, 1993: 10, fig. 3 (type locality, Massas Island, Madang Province, Papua New Guinea).

BPBM 37661, 2: 28-44 mm SL, Mentawai Islands, Siberut Island, Sarabua Bay, 1°28.8'S, 99°9.7'E, reef in 6 m, quinaldine, J. Randall, 24 Apr.1997.

Remarks. - Allen described *Fowleria flammea*, named for its bright red coloration, from four specimens, 28.0-30.8 mm SL, all deposited in the Western Australian Museum, Perth. They were collected from the seaward side of Massas Island, near Madang, Papua New Guinea, in 27-29 m.

In addition to BPBM 37661, two Siberut Island specimens of *F. flammea*, 18-40 mm SL, taken at a different station in Sarabua Bay in 12-15 m, were sent as a gift to Gerald R. Allen so that he could make direct comparison with his type material of *F. flammea*.

Another specimen (BPBM 31050: 37 mm SL) was collected by the senior author in 1984 at Gili Ayer, Lombok, Indonesia in 21.5 m. It is here reported for the first time, and its photograph is the one used for Fig. 3.

Chromis dimidiata (Klunzinger)
(Fig. 4)

Heliastes dimidiatus Klunzinger, 1871: 529 (type locality, Red Sea).

BPBM 37663, 38 mm SL, Mentawai Islands, Siberut Island, off entrance to Sarabua Bay, 1°30'S, 99°10'E, reef and coral rubble, 9 m, quinaldine, J. Randall, 24 Apr.1997.

Remarks. - This damselfish is a common species of shallow reefs from the Red Sea south on the East African coast to Natal and east through the islands of the western Indian Ocean to Sri Lanka, the Andaman Islands and Christmas Island (Allen, 1991); it was recorded from the Cocos-Keeling Islands by Allen & Smith-Vaniz (1994). It is therefore not surprising that it should be found in the Mentawai Islands.

Amblyeleotris downingi Randall
(Fig. 5)

Amblyeleotris downingi Randall, 1994: 318, pls. 1-4 (type locality, Kubbar Island, Kuwait).

BPBM 37844, 48 mm SL, West Sumatra, Pulau Ular, 1°7.21'S, 100°21.35'E, 22 m, spear, J. Randall, 20 Apr.1997; BPBM 37845, 78 mm SL, same locality, 26 m, rotenone, J. Randall, 20 Apr.1997.

Remarks. - *Amblyeleotris downingi*, like others of the genus, is symbiotic with a snapping shrimp (the shrimp in Fig. 5, *Alpheus ochrostriatus*, may be seen at the entrance to the burrow). This goby was described from the northern Persian Gulf. The two specimens reported here are the first records since the species was described, hence a noteworthy range extension. The identification was provided by Mark Mohlmann of the University of Hawaii who is currently preparing a revision of *Amblyeleotris*.

Bryaninops amplus Larson
(Fig. 6)

Bryaninops amplus Larson, 1985: 62, 66, figs. 5, 6 (type locality, Lizard Island, Great Barrier Reef).

BPBM 37637, 29 mm SL, West Sumatra, Pulau Ular, 1°7.21'S, 100°21.35'E, on the seawhip *Junceella*, 24.5 m, quinaldine, J. Randall, 20 Apr.1997.

Remarks. - *Bryaninops amplus* is a small goby (maximum, 46 mm SL) that is nearly always found as a commensal on gorgonians, especially sea whips of the genus *Junceella*. Larson described it from numerous specimens from the Great Barrier Reef, northern and western Australia, Seychelles, Madagascar, Philippines, Ryukyu Islands, and the Hawaiian Islands.

It is odd that it has not been recorded previously from Indonesia.

On May 2, 1997 the senior author and Nigel Goh collected three specimens of *B. amplus* (BPBM 37670, 15.5-29 mm SL) from *Junceella* sp. at Tekukar Island, Singapore in 9-10 m.

Trimma naudei Smith
(Fig. 7)

Trimma naudei Smith, 1956: 828, fig. 5 (type locality, Mahé, Seychelles).

BPBM 37651, 18 mm SL, Mentawai Islands, Siberut Island, Sarabua Bay, 1°28.8'S, 99°9.7'E, reef in 12-15 m, rotenone, J. Randall, A. Kunzmann, J.-H. Steffan & L. Jonker, 23 Apr.1997.

Remarks. - This small colorful goby was described by Smith in a paper on the gobioid fishes of Aldabra, but a 27-mm specimen from Mahé was selected as the holotype. Smith (1958: 149, pl. II B) extended the range to Pinda, Mozambique, and Winterbottom (1984: 708, figs. 5, 23) to the Chagos Archipelago where he reported it from depths of 3-40 m, primarily in lagoons. Randall & Goren (1993: 22, pl. 4, fig. D) added a record for the Maldive Islands.

Winterbottom (1984) noted the existence of a similar species to *T. naudei* on the Great Barrier Reef which lacks the black bar at the pectoral-fin base and lacks scales on the opercle, adding that it appears to be undescribed. The senior author has underwater photos of what seems to be same species from Palau and the Solomon Islands. It might therefore be expected in the eastern part of Indonesia. Records of *T. naudei* from the islands of Micronesia and the Loyalty Islands are probable misidentifications.

Hemitaurichthys zoster (Bennett)

Chaetodon zoster Bennett, 1831: 61 (type locality, Mauritius).

Remarks. - This distinctive butterflyfish is a western Indian Ocean species that is usually seen in schools feeding on zooplankton well above the substratum. It was reported in a list of fishes observed by Suharsono et al. (1995) at Nias Island lying in the same chain just north of the Mentawai Islands (Fig. 1, C). That the common *H. polylepis* (Bleeker) was also recorded by these authors in the same list makes their identification more positive. Since their publication is written in the Indonesian language, we are reporting the record of this species here as well.

RANGE EXTENSION WITHIN INDONESIA

Pomacentrus xanthosternus Allen
(Figs. 8, 9)

Pomacentrus xanthosternus Allen, 1991: 163, upper fig., 233 (type locality, Seribu Islands, Java Sea.

BPBM 37645, 3: 58-74 mm SL, Mentawai Islands, Siberut Island, Sarabua Bay, 1°28.8'S, 99°9.7'E, reef in 3-4 m, spear, J. Randall, 23 Apr.1997.

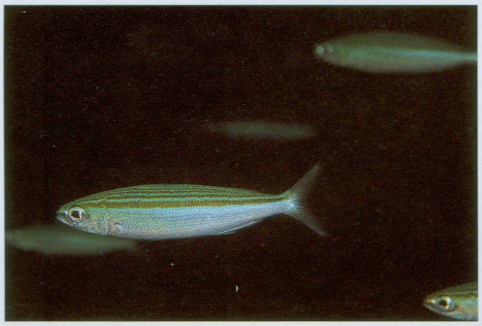

Fig. 2. Unidentified species of the caesionid fish genus *Pterocaesio*, Mentawai Islands.

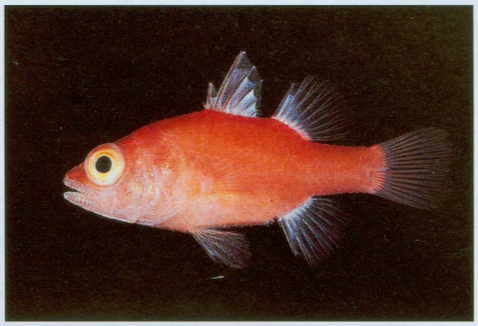

Fig. 3. The apogonid fish *Fowleria flammea*, Lombok, Indonesia.

Fig. 4. The pomacentrid fish *Chromis dimidiata*, Mentawai Islands.

Fig. 5. The gobiid fish *Amblyeleotris downingi*, Pulau Ular, West Sumatra.

Fig. 6. The gobiid fish *Bryaninops amplus* on the gorgonian *Junceella* sp., Pulau Ular, West Sumatra.

Fig. 7. The gobiid fish *Trimma naudei*, Mentawai Islands.

Fig. 8. Juvenile of the pomacentrid fish *Pomacentrus xanthosternus*, Mentawai Islands.

Fig. 9. Adult of the pomacentrid fish *Pomacentrus xanthosternus*, Mentawai Islands.

Remarks. - Allen described this damselfish from five specimens, 61-71 mm SL, from Pulau Putri, Seribu Islands, collected by the senior author in 1975. Our three specimens represent the second record for the species and a noteworthy range extension within Indonesia. Allen illustrated only the subadult; we have therefore provided underwater photographs of the adult and juvenile.

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