Annotated Checklist of the Shore Fishes of the Marquesas Islands

JOHN E. RANDALL[1] & JOHN L. EARLE[2] (Pacific Biological Survey, Bishop Museum, 1525 Bernice Street, Honolulu, Hawai'i 96817, USA)

ABSTRACT. A total of 415 species of shore fishes are listed for the Marquesas Islands. The following 48 species are recorded for the first time from the archipelago: *Himantura fai*, *Moringua ferruginea*, *Echidna leucotaenia*, *Enchelycore bayeri*, *Gymnothorax fimbriatus*, *G. gracilicauda, G. margaritophorus*, *G. reevesii*, *G. thyrsoideus*, *Uropterygius fuscoguttatus*, *Brachysomophis crocodilinus*, *Ichthyapus vulturis*, *Tylosurus crocodilus crocodilus*, *Myripristis berndti*, *Plectrypops lima*, *Scorpaenodes kelloggi*, *Sebastapistes galactacma*, *Taenianotus triacanthus*, *Eurycephalus otaitensis*, *Thysanophrys chiltonae*, *Epinephelus lanceolatus*, *Kuhlia petiti*, *Apogon caudicinctus*, *Alectis ciliaris*, *Decapterus macarellus*, *Uraspis secunda*, *Paracaesio sordidus*, *Pristipomoides zonatus*, *Gymnocranius grandoculis*, *Chelon macrolepis*, *Kyphosus vaigiensis*, *Sectator ocyurus*, *Chaetodon semeion*, *Centropyge flavicauda*, *Novaculichthys taeniourus*, *Chlorurus microrhinos*, *Amblygobius nocturnus*, *Bryaninops yongei*, *Coryphopterus duospilus*, *Eviota infulata*, *Pleurosicya mossambica*, *Vanderhorstia ornatissima*, *Promethichthys prometheus*, *Euthynnus affinis*, *Samariscus triocellatus*, *Balistes polylepis*, *Arothron meleagris*, and *A. stellatus*. The percentage of species-level endemic shore fishes of the Marquesas Islands is revised from an estimated 10% to 11.6%.

INTRODUCTION

The Marquesas Islands, the northernmost archipelago of French Polynesia, lie between 7°50' S and 10°35' S latitude and 138°25' W and 140°50' W longitude. Except for the very small Motu One (Isle de Sable) in the north, all are high islands of volcanic origin with no barrier reefs and relatively little live coral. They rise steeply as shield volcanoes from depths exceeding 4000 m. They are geologically young. Duncan & McDougall (1974) estimated that Fatu Hiva at the southeast end of the chain is 1.3 m.y. in age, and they determined the volcanic migration rate as 9.9 cm/yr. Eiao, 355 km to the northwest, would therefore be about 4.7 m.y. old. The "hot spot", if it still exists, would be 112 km southeast of Fatu Hiva. Springer (1982) discussed in detail the geology of the Marquesas in relation to its marine fauna, and Woodhead (1992) provided a more recent review of the geology and geochemical evolution of the archipelago.

The nearest islands to the Marquesas are the atolls of the northern Tuamotu Archipelago some 500 km to the southwest. There is no evidence that they were ever any closer than they are today (Springer, 1982). The nearest islands to the east are the Galápagos, about 3700 km away, an even greater distance than that separating the Hawaiian Islands from North America. Since the prevailing current, the South Equatorial, flows from east to west, any larval forms from the Galápagos or coast of South America would have to be transported a vast distance to reach the Marquesas. As would thus be expected, the Marquesan shore fish fauna is dominantly tropical Indo-Pacific in origin, with an endemic component of Indo-Pacific faunal affinity.

The present-day current from the Marquesas flows toward the western Tuamotus and Caroline Atoll (now Millennium Island), so it would take an alteration of this pattern for larval forms to get from the Tuamotus to the Marquesas. This would be possible from current change during El Niño (ENSO) conditions. The sea surface temperature for the Marquesas region from 1982–1998 averaged 27.5 °C. The extremes are 26.5 °C and 30.0 °C (temperature data from the TAO Project Office of the Pacific Marine Environmental Laboratories in Seattle, courtesy of Russell E. Brainard). This is a large range for open-

1. Senior Ichthyologist Emeritus, Bishop Museum, 1525 Bernice Street, Honolulu, Hawai'i 96817, USA; email: jackr@hi.net.
2. Research Associate, Pacific Biological Survey, Bishop Museum, 1525 Bernice Street, Honolulu, Hawai'i 96817, USA.

ocean sea temperature for a locality so near the equator. The cooler temperature is from equatorial upwelling, and the higher temperature from El Niño. There are unsubstantiated reports of sea temperatures as low as 15–18 °C from local upwelling in the islands (R. Grigg, pers. comm.). Glynn *et al.* (1983) summarized and provided references in explanation for the depauperate coral reefs of the Marquesas, including the effect of upwelling. The warming from El Niño would result in a greater temperature change in the Marquesas than at other low-latitude islands to the west. If the sea surface temperature were as high as 30 °C in the open ocean, still higher sea temperature would be expected at times inshore, depending on other factors such as circulation and diurnal heating. A temperature of 30 °C can be stressful for many corals; 31.5 °C will cause "bleaching" from the expulsion of zooxanthellae (C. Hunter, pers. comm. from observations on *Porites lobata* and *P. evermanni* in Hawai'i). Bleaching can be induced by exposure of 1–2 days at temperatures 3–4 °C above summer ambient or by exposure for several weeks at 1–2 °C higher (Jokiel & Coles, 1990). Longer exposure or higher temperature results in coral mortality. We observed corals moribund or recently dead, especially *Pocillopora meandrina* (a species particularly sensitive to warm sea temperature), during our visit to Nuku Hiva and Eiao in October 1998 at the end of a strong El Niño event. Because of the frequency of occurrence of El Niño and the Marquesas being more susceptible to its effect than islands to the west, and the possibility of mortality from upwelling, coral reefs may not have had enough time at growth temperature to develop.

The unfavorable current direction for recruitment from extralimital areas, the sea temperature variation, and the lack of coral reefs and lagoons would seem to be the principal reasons for the relatively impoverished fish fauna of the Marquesas. The isolation of the Marquesas, both geographically and hydrographically, has led to the relatively high percentage of endemic species of fishes (redetermined in this paper as 11.6%).

The Marquesas are divided into a northwestern group (Hatutu, Eiao, Nuku Hiva, Ua Huka, Ua Pou) and a southeastern group (Hiva Oa, Tahuata, Motane, Fatu Hiva). The southern group was discovered in 1595 and named Islas de Marquesas de Mendoca in honor of the Viceroy of Peru who had dispatched the expedition. Surprisingly, it was not until 1791 that the northern group was discovered by the American brig *Hope*.

Seale (1906) reported on his collections of 1,550 specimens of fishes representing 375 species made at islands in the South Pacific from November 1900 to September 1903. This material was deposited in the Bishop Museum, Honolulu under the acronym BM (now BPBM). Included were specimens of 58 species from Nuku Hiva, Marquesas, 4 of which were described as new (now all in synonymy). Many of Seale's identifications of Marquesas fishes are incorrect, and there is evidence of some locality error. He reported 3 specimens of the labrid fish *Halichoeres solorensis* (Bleeker) from Nuku Hiva, a species known today only from the East Indies. Two of his specimens were found at the Bishop Museum (BPBM 2261 and BPBM 2262). The former is reidentified as *H. trimaculatus* (Quoy & Gaimard), and the latter as *Stethojulis bandanensis* (Bleeker); neither of these species has been reported from the Marquesas by other authors, nor have they been collected or observed by us in the Marquesas. We conclude that they originated elsewhere and therefore do not include them in the present checklist. Seale listed 1 specimen of a pipefish (BPBM 2283) as *Trachyrhampus* sp. from the Marquesas, adding that it was badly damaged, so the identification is "quite problematic." In the Bishop Museum catalog, we found a remark that the specimen was discarded. When Seale's species names differ from those now recognized, they are listed under the current names in the present checklist.

In 1922–1923 Henry W. Fowler was the recipient of a Bishop Museum Fellowship from Yale University that provided for his examination of the fish specimens at Bishop Museum (these were mainly from islands of the central and western Pacific). This was followed by work on the fishes from Pacific islands at the Museum of Comparative Zoology at Harvard University, the United States National Museum of Natural History, and his own institution, the Academy of Natural Sciences of Philadelphia. His research culminated in the publication of *The fishes of Oceania* (Fowler, 1928). He reported on Seale's material from the Marquesas, often correcting the identifications. Although he transferred some Bishop Museum specimens to the Academy of Natural Sciences of Philadelphia, there is no record of such transfer in records at the Bishop Museum.

Three expeditions resulted in small collections of fishes from the Marquesas. The Pinchot South Seas Expedition of 1929 obtained 28 species of fishes (Fowler, 1932). The Crane Pacific Expedition obtained 46 species during brief stops at Hiva Oa and Nuku Hiva in 1929 (Herre, 1936). Herre wrote, "Enough was secured to show that any student of fishes would be richly repaid for a few months spent in collecting here." The George Vanderbilt Expedition of 1937 procured 63 species of fishes in Nuku Hiva, Ua Pou, and Fatu Hiva (Fowler, 1938).

The senior author made a few small collections of fishes in the Marquesas in 1957 from his 10-m ketch *Nani*; he noted an unexpected high percentage of endemic species. He returned in 1971 for a month of extensive fish collecting from the 30-m schooner "Westward", with the assistance of 6 divers and the support of a grant from the National Geographic Society (Randall, 1978, 1980). The specimens were deposited in the Bishop Museum. The first island visited on the *Westward* was Fatu Hiva. Unfortunately, only 4 days were spent collecting fishes there. Some species observed at Fatu Hiva were not seen again, suggesting a faunal difference between the northwestern and southeastern Marquesas.

Some small collections of shore fishes made by staff of the Honolulu Laboratory of the National Marine Fisheries Service during cruises of the *Hugh M. Smith* in 1955, 1956, and 1958 and the *Charles H. Gilbert* in 1961 were given to the Bishop Museum.

Lavondès & Randall (1978) documented the native Marquesan names of 145 fishes (some listed only by generic name when the same Marquesan name was given for more than 1 species of a genus). The native names were listed for Nuku Hiva, Ua Huka, Ua Pou, Hiva Oa, and Fatu Hiva because there are often inter-island differences in the names.

Plessis & Maugé (1978) briefly reviewed previous publications on Marquesas fishes and provided a checklist of the species, including 79 observed by Plessis during a period of 5 weeks in 1973. Their list totals 254 species. They accepted Marquesan records of Seale (1906), Fowler (1928, 1932, 1938), Herre (1936), and Bagnis *et al.* (1972). The records of Bagnis *et al.* were mostly from their listing the Marquesan name of the species, not from the documentation with specimens or by providing illustrations. Many of the names from the literature recorded by Plessis and Maugé are obvious misidentifications, either as synonyms or of species that clearly do not occur in the Marquesas. In addition, 6 species were recorded by Plessis and Maugé twice under names known to be synonyms or as different combinations, and 2 species were recorded 3 times (one being the endemic *Epinephelus irroratus* which they listed as *E. albopunctulatus*, *E. australis*, and *E. spiniger*). Only 2 Marquesan specimens from Plessis' collection have been curated in the Museum National d'Histoire Naturelle in Paris, *Lutjanus gibbus* (Forsskål) and *Sufflamen bursa* (Bloch & Schneider) [initially identified as *S. capistratus* (Shaw) by Plessis &

Maugé] (M. Desoutter, pers. comm.). Randall (1985) prepared a checklist of 800 fishes of French Polynesia. Each species name in the checklist is followed variously by the letters A, M, S, R, and T to designate the localities Austral Islands, Marquesas Islands, Society Islands, Rapa, and the Tuamotu Archipelago, respectively. Epipelagic species are labelled P. The total number of shore fishes for the Marquesas on this list is 345 [freshwater fishes and pelagic species such as flyingfishes, dolphins (*Coryphaena*), and the offshore tunas not counted—the freshwater fishes of the Marquesas were reported by Fossati & Marquet (1998)]. Since there is no curated material to check the doubtful identifications of Plessis & Maugé (1978), Randall (1985) decided not to include names from their checklist not already known to him for the area in order to prevent the possible recording of species that do not occur in the Marquesas.

The number of shore fishes in the 1985 checklist for the Society Islands is 593. As a result of updating records, Myers (1999) increased the total to 633. Although fish collecting in Tahiti and the other Society Islands has probably been more extensive than in the Marquesas, it is still very evident that the Marquesan fauna is impoverished. If we compare the number of fishes in families with species that are readily observed and collected, the differences between the Society Islands and Marquesas are striking. The Society Islands have 27 chaetodontids, 11 pomacanthids, 33 pomacentrids, 50 labrids, and 19 scarids. The respective numbers for the Marquesas are 15, 3, 21, 33, and 6.

Thirty-five of the Marquesan shore fishes on the 1985 checklist were identified only to genus. Eight of these have since been named as new species, *Coris hewetti* Randall, *C. marquesensis* Randall, *Stethojulis marquesensis* Randall, *Ptereleotris melanopogon* Randall & Hoese, *Priolepis compita* Winterbottom, *Fusigobius duospilus* Hoese & Reader (no Marquesan specimens listed by them; the species is now classified in *Coryphopterus*), *Pervagor marginalis* Hutchins, and *Enneapterygius rhabdotus* Fricke. The species of 6 other genera have now been identified: *Moringua ferruginea* Bliss, *M. javanica* (Bleeker), *Gymnothorax gracilicauda* Jenkins, *G. margaritophorus* Bleeker, *Brachysomophis crocodilinus* (Bennett), *Gymnocranius grandoculis* (Valenciennes), *Pleurosicya mossambica* Smith, and *Priolepis nocturna* Smith. The listing of *Helcogramma* sp. by Randall (1985) may have been in error, as no Marquesan specimens of this tripterygiid genus can now be found in the Bishop Museum fish collection. The remaining 25 species of Marquesan fishes (in 18 genera) are represented by specimens of species that appear to be undescribed.

Corrections are given below for changes in species names of Marquesan fishes from the 1985 checklist as a result of later systematic study. Some of the changes are the result of synonymy, and some from misidentifications.

In October 1998 the authors were among a group of 8 divers who spent 8 days aboard the 18-m catamaran *Eiao* at the islands of Nuku Hiva and Eiao, diving from a 9-m dive boat that accompanied the catamaran. The principal objective was to obtain underwater photographs of the endemic fishes of the islands. During the 1971 Marquesan expedition, the senior author had concentrated on collecting fishes. He photographed many of them after removal from the sea, but relatively few underwater photographs were taken (then with use of a Nikonos camera and flash bulbs). However, in 1998 we discovered 17 new records of fishes for the islands, 13 of which were photographed underwater (specimens collected for 4 of these). Other new records have resulted from identification of species previously recorded only to genus, and from the identification of specimens that were not treated by Randall (1985).

The authors found the following species to be abundant at Nuku Hiva and Eiao during October 1998, based on underwater observation: *Myripristis* sp., *Epinephelus fasciatus*, *F. irroratus*, *Pseudanthias* sp., *Cirrhitichthys oxycephalus*, *Apogon apogonides*, *Apogon* sp. (relative of *A. angustatus*), *Lutjanus bohar*, *L. kasmira*, *Centropyge flavissimus*, *Chromis* sp. F (of Allen, 1975), *Lepidozygus tapeinosoma*, *Pomacentrus coelestis*, *Thalassoma amblycephalum*, *Nemateleotris magnifica*, *Ptereleotris zebra*, and *Ctenochaetus marginatus*.

In October 1999, the junior author, accompanied by D. Ross Robertson, Ann Fielding, John P. Hoover, and other divers, visited the Marquesas and dived at Nuku Hiva and Ua Pou. Their visit resulted in 5 additional new records of fishes for the islands. Additional specimens were collected of undescribed species of *Stegastes* and *Xyrichtys*.

An updated checklist of Marquesas shore fishes is given below. The new records are designated by a bold asterisk (*****) before the species name. The species listed with no annotation were reported by Randall (1985), and nearly all are represented by specimens in the Bishop Museum. Figure numbers in square brackets refer to photographs in this paper.

CHECKLIST

Carcharhinidae (**requiem sharks**)
Carcharhinus albimarginatus (Rüppell, 1837)
Carcharhinus amblyrhynchos (Bleeker, 1856)
Carcharhinus limbatus (Valenciennes, 1839)
Carcharhinus melanopterus (Quoy & Gaimard, 1824)
Galeocerdo cuvieri (Péron & Lesueur, 1822)
Triaenodon obesus (Rüppell, 1837)

Sphyrnidae (**hammerhead sharks**)
Sphyrna lewini (Griffith & Smith, 1834)

Dasyatidae (**stingrays**)
* *Himantura fai* Jordan & Seale, 1906 **[Fig. 1]**
Eiao. Underwater photographs identified by Peter Last.
Taeniura meyeni Müller & Henle, 1841
Taeniura melanospilos Bleeker, 1853 is a synonym, as published by Last & Stevens (1994).

Myliobatidae (**eagle rays**)
Aetobatis narinari (Euphrasen, 1790)
Manta birostris (Donndorff, 1798)
Last & Stevens (1994) regard *M. alfredi* (Krefft, 1868) as a junior synonym of *M. birostris*.

Megalopidae (**tarpons**)
Megalops cyprinoides (Broussonet, 1752)

Albulidae (**bonefishes**)
Albula glossodonta (Forsskål, 1775)
Albula forsteri (Valenciennes, 1846)
Randall & Bauchot (1999) showed that *A. neoguinaica* (Valenciennes, 1846) is a junior synonym.

Chanidae (**milkfishes**)
Chanos chanos (Forsskål, 1775)

Moringidae (**worm eels**)
* *Moringua ferruginea* Bliss, 1883
BPBM 11502, 3: 171–362 mm, Fatu Hiva; BPBM 38503, 9: 108–286 mm, Ua Huka; BPBM 11504, 4: 177–294 mm, Nuku Hiva. Vertebral counts by P.H.J. Castle, 118–126; he has informed us that *M. guthrianus* (McCelland, 1844) from India has a similar number of vertebrae to *M. ferruginea* and may prove to be a senior synonym.
Moringua javanica (Kaup, 1856)
Reported by Seale (1906). In addition, BPBM 38532, 490 mm, Fatu Hiva; BPBM 38533, 293 mm, Ua Huka. Vertebral counts 166 and 178 by Castle; a tentative identification by him.

Chlopsidae (**false morays**)
Kaupichthys diodontus Schultz, 1943
Kaupichthys sp.
One specimen of this genus from Nuku Hiva, BPBM 12632, 224 mm, appears to be undescribed. It is under study by Kenneth A. Tighe.

Muraenidae (**moray eels**)
Anarchias leucurus (Snyder, 1904)
The identification of this moray, and that of the following species, is provisional. Systematic research on the genus is in progress by David G. Smith and Erling Holm. Smith (pers. comm.) reported that the *leucurus* form in the Marquesas has 106–115 vertebrae, and the *seychellensis* form 125–132 vertebrae.
Anarchias seychellensis Smith, 1962
* *Echidna leucotaenia* (Schultz, 1943) **[Fig. 2]**
BPBM 11752, 474 mm, Fatu Hiva; BPBM 11912, 544 mm, Tahuata.
Echidna nebulosa (Ahl, 1789)
Echidna polyzona (Richardson, 1844)
Echidna unicolor Schultz, 1953
Reported as *Echidna amblyodon* Bleeker by Seale (1906); one of his specimens was found at Bishop Museum under a different number than listed by Seale, BPBM 3560.
* *Enchelycore bayeri* (Schultz, 1953)
BPBM 17717, 398 mm, Nuku Hiva; BPBM 12426, 2: 133–545 mm.
Enchelycore bikiniensis (Schultz, 1953)
Enchelycore pardalis (Temminck & Schlegel, 1846)
Enchelycore schismatorhynchus (Bleeker, 1853)
Enchelynassa canina (Quoy & Gaimard, 1824)
Gymnomuraena zebra (Shaw, 1797)
Gymnothorax breedeni McCosker & Randall, 1977
Gymnothorax buroensis (Bleeker, 1857)
Gymnothorax marquesensis Seale, 1906 (holotype, BPBM 2384, 232 mm) is a synonym (Böhlke & Randall, 2000). Also the Bishop Museum has 6 other lots of *G. buroensis* collected in 1971 from the Marquesas.
* *Gymnothorax fimbriatus* (Bennett, 1832) **[Fig. 3]**
Nuku Hiva.
Gymnothorax flavimarginatus (Rüppell, 1830)
This record was omitted by Randall (1985). Fowler (1938) listed the species from Ua Pou (identification of ANSP 79827, 252 mm, confirmed by Eugenia B. Böhlke). Other material, BPBM 10342, 3: 175–196 mm, Nuku Hiva; BPBM 10399, 5: 72–39 mm, Tahuata; BPBM 11791, 137 mm, Fatu Hiva; BPBM 11905, 710 mm, Tahuata.
* *Gymnothorax gracilicauda* Jenkins, 1903

BPBM 10333, 3: 73–162 mm, Nuku Hiva; BPBM 11847, 304 mm, Fatu Hiva; BPBM 11930, 2: 208–269 mm, Tahuata; BPBM 12161, 3: 203–226 mm SL, Ua Pou; BPBM 12550, 121 mm, Nuku Hiva.

Gymnothorax javanicus (Bleeker, 1859)

* *Gymnothorax margaritophorus* Bleeker, 1864

Seale (1906) recorded 10 Bishop Museum specimens of *G. detactus* Bryan & Herre from Nuku Hiva. H.W. Fowler took 4 of these to the Academy of Natural Sciences of Philadelphia where he reidentified them as *G. undulatus* (Lacepède). Eugenia B. Böhlke, however, determined that 3 of these, ANSP 88828, 116–182 mm, are *G. buroensis* (like Bryan and Herre's types from Minami-tori-shima). The fourth, ANSP 176778, 164 mm, is *G. margaritophorus*.

Gymnothorax melatremus Schultz, 1953

Gymnothorax meleagris (Shaw, 1795)

Gymnothorax monostigma (Regan, 1909)

Gymnothorax pictus (Ahl, 1789)

The moray from Ua Huka identified by Fowler (1932) as *Lycodontis nudivomer* (Günther) and deposited in the U.S. National Museum of Natural History was reidentified by David G. Smith as *G. pictus*.

Gymnothorax prismodon Böhlke & Randall, 2000

This new species is known from 3 lots in the Marquesas, 2 from the Line Islands, and 6 from the Hawaiian Islands.

* *Gymnothorax reevesii* (Richardson, 1845)

BPBM 12820, 2: 149–255 mm, Nuku Hiva.

Gymnothorax rueppelliae (McClelland, 1844)

* *Gymnothorax thyrsoideus* (Richardson, 1845) **[Fig. 4]**

BPBM 10411, 260 mm, Tahuata; BPBM 12127, 28: 199–320 mm, Hiva Oa; BPBM 12819, 2: 177–226, Nuku Hiva. This species may eventually be reclassified in the genus *Thyrsoidea* .

Gymnothorax zonipectis Seale, 1906

Scuticaria tigrina (Lesson, 1829)

Seale (1906) listed a specimen (BPBM 2381) from Nuku Hiva, and Fowler (1928) confirmed this record. The specimen is no longer extant at the Bishop Museum; however, one was collected in 1971 from Ua Huka (BPBM 12420, 1195 mm).

Uropterygius concolor (Rüppell, 1837)

* *Uropterygius fuscoguttatus* Schultz, 1953

The specimen of *U. marmoratus* from Nuku Hiva identified by Seale (1906), BPBM 2399, 145 mm, is reidentified as *U. fuscoguttatus*.

Uropterygius macrocephalus (Bleeker, 1865)

Uropterygius marmoratus (Lacepède, 1803)

Fowler (1938) listed a 640-mm specimen from Ua Pou (identification of ANSP 87998 confirmed by Eugenia B. Böhlke); other records are BPBM 10424, 400 mm; BPBM 12336, 700 mm.

Uropterygius alboguttatus Smith, 1962

Congridae (**conger eels**)

Ariosoma sp.

Marquesan specimens of this species, with a range in vertebral count of 146–150, may represent a new species (D.G. Smith, pers. comm.).

Conger cinereus cinereus Rüppell, 1828

Heteroconger lentiginosus Böhlke & Randall, 1981

Gorgasia sp.

This species is represented by a single specimen, BPBM 11867, 183 mm, with a vertebral count of 163. In their review of Indo-Pacific Heterocongrinae, Castle & Randall (1999: 48) were unable to identify it; they preferred not to describe the species from this single small specimen.

Ophichthidae (**snake eels**)
Apterichtus flavicaudus (Snyder, 1904)
Apterichtus moseri (Jordan & Snyder, 1901)
* *Brachysomophis crocodilinus* (Bennett, 1831) **[Fig. 5]**
BPBM 11800, 812 mm, Fatu Hiva. *B. henshawi* Jordan & Snyder is a synonym (McCosker & Randall, in prep.).
Lamnastoma orientalis (McClelland, 1844)
This is the species listed as *Caecula polyophthalma* (Bleeker, 1853) by Randall (1985).
Callechelys randalli McCosker, 1998
Cirrhimuraena playfairii (Günther, 1870)
* *Ichthyapus vulturis* (Weber & de Beaufort, 1916)
BPBM 11898, 425 mm, Tahuata.
Leiuranus semicinctus (Lay & Bennett, 1839)
Myrichthys maculosus (Cuvier, 1816)
Phaenomonas cooperae Palmer, 1970
Phyllophichthus xenodontus Gosline, 1951
Schultzidia johnstonensis (Schultz & Woods, 1949)
Xestochilus nebulosus (Smith, 1962)
McCosker (1998) described the genus *Xestochilus* to replace *Callechelys* for this species and recorded it from various Indo-Pacific localities, including Fatu Hiva, Tahuata, and Nuku Hiva from Bishop Museum specimens.
Yirrkala sp.
This species will be described by John E. McCosker when he revises the genus.

Clupeidae (**sardines and herrings**)
Sardinella marquesensis Berry & Whitehead, 1968
Fowler (1932) reported a specimen of *Harengula punctata* (Rüppell) from Taiohae, Nuku Hiva. It is now a paratype of *S. marquesensis* at the Academy of Natural Sciences of Philadelphia (E.B. Böhlke, pers. comm.).

Synodontidae (**lizardfishes**)
Saurida gracilis (Quoy & Gaimard, 1824)
Synodus jaculum Russell & Cressey, 1978
Synodus variegatus (Lacepède, 1803)
Waples & Randall (1988) showed that *S. engelmani* Schultz, 1953 is a synonym of *S. variegatus*.
Trachinocephalus myops (Forster *in* Bloch & Schneider, 1801)

Antennariidae (**frogfishes**)
Antennarius coccineus (Lesson, 1831)

Ophidiidae (**cusk eels**)
Brotula multibarbata Temminck & Schlegel, 1846
Ophidion exul Robins, 1991
Robins described this species from Easter Island and 4 Bishop Museum lots from the Marquesas. He did not make the Marquesan specimens paratypes because of a slight difference in pectoral ray counts and their being too small for morphological comparison.

Carapidae(**pearlfishes**)
Carapus mourlani (Petit, 1934)
Markle & Olney (1990: fig. 95) plotted the Marquesas as a locality for this species, but they did not document the record with a listing of material. The Bishop Museum has 2 specimens, BPBM 12611, 140–179 mm, that were collected from a cushion starfish (*Culcita*) at Nuku

Hiva. Plessis & Maugé (1978) recorded *Carapus* sp. from *Culcita* taken at Tahuata; it was probably also *C. mourlani.*

Onuxodon fowleri (Smith, 1955)

Markle & Olney (1990) showed that specimens from Oceania identified as *O. margaritiferae* (Rendahl, 1921) are *O. fowleri*. *O. margaritiferae* is presently known only from Western Australia.

Belonidae (**needlefishes**)

Platybelone argalus platyura (Bennett, 1832)

Tylosurus acus melanotus (Bleeker, 1850)

∗ *Tylosurus crocodilus crocodilus* (Peron & Lesueur, 1821)

Fowler (1932) reported a 315-mm head of a needlefish from Nuku Hiva as *Strongylura indica* Lesueur. Bruce B. Collette (pers. comm.) reidentified the specimen, USNM 89743, as *T. c. crocodilus*.

Hemiramphidae (**halfbeaks**)

Hemiramphus depauperatus Lay & Bennett, 1839

The 3 specimens from Nuku Hiva that Seale (1906) reported as *Hemiramphus eclancheri* Cuvier & Valenciennes that were reidentified as *H. brasiliensis* (Linnaeus) by Fowler (1928) are *H. depauperatus*, as is the specimen from Nuku Hiva that Fowler (1932) identified as *Hemiramphus brasiliensis* (B.B. Collette, pers. comm.).

Hyporhamphus acutus acutus (Günther, 1872)

Fowler (1932) recorded *Hemiramphus pacificus* Steindachner from Nuku Hiva; however, his specimen, USNM 89741, 58 mm SL, is *H. a. acutus* (Collette, 1974).

Holocentridae (**soldierfishes and squirrelfishes**)

∗ *Myripristis berndti* Jordan & Evermann, 1903

BPBM 38676, 190 mm, collected in 15 m at Nuku Hiva in October 1999.

Myripristis kuntee Valenciennes, 1831

Seale (1906: 28) described *Myripristis phaeopus* from a juvenile specimen from Nuku Hiva (BPBM 2280, 55 mm SL). Randall & Greenfield (1996: 36) placed this species in the synonymy of *M. kuntee*. An adult (BPBM 38677, 124 mm SL) was collected in October 1999.

Myripristis pralinia Cuvier, 1829

Myripristis vittata Valenciennes, 1831

Myripristis woodsi Greenfield, 1974

Myripristis sp.

Randall & Greenfield (1996) noted that specimens from the Marquesas they identified as *M. berndti* lack small scales in the axil of the pectoral fins or have only a few of them. They reported their specimens as having the same meristic and morphological characters as *M. berndti* except for large adults lacking the strongly jutting lower jaw. However, in 1998 we noticed that Marquesan *berndti* do not have the white leading edge of the second dorsal, anal, caudal, and pelvic fins. In October 1999, an adult individual with typical *berndti* coloration was collected in l5 m (listed above). It is now apparent that the common Marquesan species is undescribed and is being described by the senior author and D.R. Robertson.

Neoniphon argenteus (Valenciennes, 1831)

Neoniphon aurolineatus (Liénard, 1839)

Neoniphon sammara (Forsskål, 1775)

∗ *Plectrypops lima* (Valenciennes, 1831)

One individual observed at night by the junior author at North Sentinel Rock off Taiohae Bay, Nuku Hiva in October 1999.

Sargocentron caudimaculatum (Rüppell, 1838)

Sargocentron diadema (Lacepède, 1802)

Sargocentron ittodai (Jordan & Fowler, 1903)

Sargocentron punctatissimum (Cuvier, 1829)
Sargocentron spiniferum (Forsskål, 1775)
Sargocentron tiere (Cuvier, 1829)

Aulostomidae (trumpetfishes)
Aulostomus chinensis (Linnaeus, 1766)

Fistulariidae (cornetfishes)
Fistularia commersonii Rüppell, 1838

Syngnathidae (pipefishes and seahorses)
Doryrhamphus excisus excisus Kaup, 1856

This species in the Marquesas has a middorsal white stripe and a broad black lateral stripe. It looks the same as specimens from elsewhere in French Polynesia. Dawson (1985) divided *D. excisus* into 3 subspecies, one from the Red Sea, this one from the rest of the Indo-Pacific, and one from the eastern Pacific. He noted that specimens from the Austral Islands and Tuamotus may be largely brownish, but refrained from any nomenclatural recognition. He examined about 600 specimens of the Indo-Pacific subspecies.

Halicampus marquesensis Dawson, 1984
Microphis argulus (Peters, 1855)

Dawson (1985) referred *Coelonotus platyrhynchus* (Duméril, 1870) to the synonymy of *M. argulus*. He wrote that most specimens are from freshwater.

Scorpaenidae (scorpionfishes)
Iracundus signifer Jordan & Evermann, 1903
Pterois antennata (Bloch, 1787)
Pterois volitans (Linnaeus, 1758)
Scorpaenodes guamensis (Quoy & Gaimard, 1824)

The record of this species from Nuku Hiva by Seale (1906) as *Sebastapistes guamensis*, BPBM 2380, 45 mm SL, was overlooked by Randall (1985).

* *Scorpaenodes kelloggi* (Jenkins, 1903) **[Fig. 6]**

BPBM 11106, 4: 29–33 mm SL, Fatu Hiva; BPBM 11707, 2: 20–33 mm SL, Fatu Hiva; BPBM 38522, 3: 16–26 mm SL, Eiao

Scorpaenodes littoralis (Tanaka, 1917)

Reported from the Marquesas by Eschmeyer & Randall (1975).

Scorpaenodes parvipinnis (Garrett, 1863)
Scorpaenopsis diabolus (Cuvier, 1829)
Scorpaenopsis spp.

Two new species of this genus from the Marquesas are under study by William N. Eschmeyer. Seale (1906) reported 1 specimen of *Sebastapistes ballieui* (Vaillant & Sauvage) from Nuku Hiva, adding that it was "rather doubtfully identified". The specimen (BPBM 2379) could not be found. The name for this lot in the Bishop Museum catalog was changed to *Scorpaenopsis macrochir*.

* *Sebastapistes galactacma* Jenkins, 1903

BPBM 11135, 24 mm.

Sebastapistes mauritiana (Cuvier, 1829)
Sebastapistes tinkhami (Fowler, 1946)
* *Taenianotus triacanthus* Lacepède, 1802 **[Fig. 7]**

Platycephalidae (flatheads)
* *Eurycephalus otaitensis* (Cuvier, 1829) **[Figs. 8, 9]**

BPBM 11402, 3: 86–106 mm, Tahuata; BPBM 11407, 2: 82–104 mm, Nuku Hiva; BPBM 12120, 4: 109–187 mm, Hiva Oa; BPBM 38521, 24 mm SL, Eiao.

* *Thysanophrys chiltonae* (Schultz, 1953) **[Fig. 10]**
BPBM 12428, 5: 50–125 mm, Ua Huka; BPBM 12760, 5: 35–144 mm, Nuku Hiva.

Caracanthidae (**orbicular velvetfishes**)
Caracanthus maculatus (Gray, 1831)

Dactylopteridae (**helmet gurnards**)
Dactyloptena orientalis (Cuvier, 1829)

Pegasidae (**sea moths**)
Eurypegasus draconis (Linnaeus, 1766)

Serranidae (**groupers and sea basses**)
Aporops bilinearis Schultz, 1943
Cephalopholis argus Bloch & Schneider, 1801
Cephalopholis sexmaculata (Rüppell, 1830)
Cephalopholis urodeta (Bloch & Schneider, 1801)
Epinephelus fasciatus (Forsskål, 1775)
Epinephelus hexagonatus (Bloch & Schneider, 1801)
Epinephelus irroratus (Forster *in* Bloch & Schneider, 1801)
Reported from Nuku Hiva as *E. australis* (Castelnau) by Herre (1936) and as *Serranus spiniger* Günther by Fowler (1938)
* *Epinephelus lanceolatus* (Bloch, 1790)
Lavondès & Randall (1978) mentioned the sighting of a grouper of about 100 kg in 20 m by one of the divers of the "Westward" off the SW point of Nuku Hiva in 1971. Naomi Stern, one of the divers during our October 1998 visit to the Marquesas, also observed a huge grouper at Nuku Hiva which she identified as *E. lanceolatus*. She was with the senior author during a dive in the southern Red Sea when we both observed a very large adult of this species at close range. A photograph of this Red Sea fish was reproduced by Debelius (1998: 59). On the basis of these 2 sightings, we are confident that the species occurs in the Marquesas.
Epinephelus macrospilos (Bleeker, 1855)
The record by Randall (1985) of *E. howlandi* (Günther, 1873) from the Marquesas represents a misidentification of *E. macrospilos* (Randall & Heemstra, 1990). *E. howlandi* is not known east of Samoa. Fowler (1932) reported a 66-mm specimen of *Epinephelus merra* (Bloch) from Ua Huka. The specimen could not be found at the National Museum of Natural History where it was deposited (V.G. Springer, pers. comm.). Since there is no other record of this species from the Marquesas, it seems more likely that this was a juvenile of *E. macrospilos* or *E. hexagonatus.*
Epinephelus polyphekadion (Bleeker, 1849)
Reported from the Marquesas by Randall & Heemstra, 1990: 233.
Epinephelus tauvina (Forsskål, 1775)
Epinephelus octofasciatus Griffin, 1926 **[Fig. 11]**
Plessis & Maugé (1978) recorded the Giant Grouper, *Epinephelus lanceolatus*, from the Marquesas based on Bagnis *et al.* (1972) who listed a small variety of *lanceolatus* with a Marquesan name of Petii (sic) that does not exceed 90 kg. Lavondès & Randall (1978: 85) discussed this Marquesan grouper under the common name Peti and suggested from information from Pierre Fourmanoir, who examined a photograph of a large Marquesan specimen, that it is *E. septemfasciatus*. They reported that it is caught at depths of about 300 m, adding that Fatu Hiva is the best place to fish for it. In a review of Indo-Pacific Epinephelinae, Randall & Heemstra (1990) showed that *E. septemfasciatus* is known only from Japan, Korea, and China at about 30 °N. They concluded that the large deep-water species from the Marquesas (also reported from Tahiti) is the wide-ranging Indo-Pacific *E. octofasciatus*, a species very similar to *septemfasciatus*. *E. octofasciatus* has conspicuous black bars when young which fade with

growth. We provide a photograph of an adult grouper caught off Ua Pou that local fishermen identified as Peti. A specimen from the Marquesas should be obtained to confirm the identification of this species as *E. octofasciatus*.

Grammistes sexlineatus (Thunberg, 1792)
Plectranthias nanus Randall, 1980
Pogonoperca punctata (Valenciennes, 1830)
Pseudanthias regalis (Randall & Lubbock, 1981)
Pseudanthias sp.

The description of this Marquesan endemic, one of a complex that includes *P. cooperi* and *P. mooreanus*, has been completed (Randall, & Pyle, in press).

Pseudogramma polyacantha (Bleeker, 1856)
Variola louti (Forsskål, 1775)

Kuhliidae (**flagtails**)

* *Kuhlia petiti* Schultz, 1943 **[Figs. 12, 13]**

BPBM l0431, 9: 64–143 mm Eiao; BPBM 10447, 14: 68–157 mm, Nuku Hiva; BPBM 12146, 6: 70–136 mm, Ua Pou; BPBM 12649, 2: 110–150 mm; BPBM 38517, 172 mm SL, Eiao. The specimen from Nuku Niva identified as *Dules marginatus* Cuvier by Fowler (1938: 69), ANSP 95600, 178 mm SL, was sent on loan from the Academy of Natural Sciences of Philadelphia; it is reidentified as *K. petiti.* The 7 juveniles from Nuku Niva identified as *Dules taeniurus* Cuvier by Fowler (1938: 70) could not be found. We have seen only *K. petiti* in the Marquesas, so we suspect these small specimens were also this species.

Priacanthidae (**bigeyes**)
Heteropriacanthus cruentatus (Lacepède, 1801)
Priacanthus hamrur (Forsskål, 1775)

Cirrhitidae (**hawkfishes**)
Cirrhitichthys oxycephalus (Bleeker, 1855)
Cirrhitus pinnulatus (Forster *in* Bloch & Schneider, 1801)
Cyprinocirrhites polyactis (Bleeker, 1875)
Paracirrhites forsteri (Bloch & Schneider, 1801)
Paracirrhites hemistictus (Günther, 1874)
Paracirrhites xanthus Randall, 1963

Apogonidae (**cardinalfishes**)
Apogon apogonides (Bleeker, 1856)

* *Apogon caudicinctus* Randall & Smith, 1988 **[Fig. 14]**

BPBM 38524, 32 mm SL, Eiao. This specimen has 14 pectoral rays, in contrast to the type specimens from Rapa with 12 rays; 10 of 12 specimens from the Ogasawara Islands (BPBM 35122) have 13 rays; one has 12, and one has 14. The identification of this 1 Marquesan specimen is provisional, pending the collection of additional material.

Apogon evermanni Jordan & Snyder, 1904
Apogon kallopterus Bleeker, 1856
Apogon taeniopterus (Bennett, 1835)
Apogon spp.

Specimens of 4 new Marquesan species of *Apogon* have been collected. One is a small transparent red fish related to *Apogon erythrinus* that is being described by David W. Greenfield. The other 3 have been described by the senior author (Randall, in press). One was identified as *Amia aroubiensis* by Seale (1906), as *Apogon angustatus* by Herre (1936), as *Amia novemfasciata* by Fowler (1938); and as *A. nigrofasciatus* by Randall (1985).

Apogonichthys ocellatus (Weber, 1913)
Cheilodipterus quinquelineatus Cuvier, 1828

Reported as *Paramia quinquelineata* by Seale (1906) and confirmed as *C. quinquelineatus* by Fowler (1928). Seale's specimen was not found. We have not collected or observed this apogonid in the Marquesas; however, we believe Seale's record may be valid. This species is the most wide-ranging of the genus (Gon, 1993).

Fowleria marmorata (Alleyne & Macleay, 1876)

Gymnapogon sp.

A new species for which the material is on loan to Jeng-Ping Chen of the Institute of Zoology, Academia Sinica, Taiwan.

?*Pseudamia* sp.

An apogonid with a very large rounded caudal fin was observed in a cave off Nuku Hiva in 18 m by the junior author in October 1998 that seemed to be a species of *Pseudamia*. Because no specimens or photographs were obtained, we are not including it in our count of Marquesan fishes.

Pseudamiops sp.

A new species represented by 2 specimens (Randall, in press).

Malacanthidae (**tilefishes**)

Malacanthus brevirostris Guichenot, 1858

Echeneidae (**remoras**)

Remora remora (Linnaeus, 1758)

Lavondès & Randall (1978).

Remorina albescens (Temminck & Schlegel, 1850)

Carangidae (**jacks**)

* *Alectis ciliaris* (Bloch, 1787) **[Fig. 15]**

BPBM 11078, 540 mm, Ua Huka.

Carangoides orthogrammus (Jordan & Gilbert, 1881)

Caranx ignobilis (Forsskål, 1775)

Caranx lugubris Poey, 1860

The listing of this species from French Polynesia was inadvertently omitted by Randall (1985); its Marquesan name of *'uhi* was given by Lavondès & Randall, 1978, and 1 specimen was collected in 1971, BPBM 12334, 464 mm fork length, from Nuku Hiva.

Caranx melampygus (Cuvier, 1833)

Caranx papuensis Alleyne & Macleay, 1876

Caranx sexfasciatus Quoy & Gaimard, 1825

* *Decapterus macarellus* (Valenciennes, 1833)

BPBM 12423, 232 mm fork length, Ua Huka. The specimen reported by Fowler (1938) as *Decapterus lajang* Bleeker, taken from the stomach of a bonito at Ua Huka, was reidentified as *D. macarellus* by William F. Smith-Vaniz.

Elagatis bipinnulata (Quoy & Gaimard, 1825)

Gnathanodon speciosus (Forsskål, 1775)

Scomberoides lysan (Forsskål, 1775)

Selar crumenophthalmus (Bloch, 1793)

Trachinotus sp.

A probable undescribed species related to *T. bailloni* (Lacepède); under study by William F. Smith-Vaniz.

* *Uraspis secunda* (Poey, 1860)

A specimen of this species, MNHN 1966-16, 296 mm FL, collected by H. Lavonès was examined by the author in the Museum National d'Histoire Naturelle in Paris.

Lutjanidae (**snappers**)

Aphareus furca (Lacepède, 1801)

Aprion virescens Valenciennes, 1830
Lutjanus bohar (Forsskål, 1775)
Lutjanus nukuhivae Seale was correctly placed in synonymy with *L. bohar* by Fowler (1928).
Lutjanus fulvus (Forster *in* Bloch & Schneider, 1801)
Lutjanus gibbus (Forsskål, 1775)
Lutjanus kasmira (Forsskål, 1775)
The 7 specimens from Nuku Hiva identified as *Lutjanus bengalensis* Bloch by Seale (1906) were correctly reidentified as *L. kasmira* by Fowler (1928).
Lutjanus monostigma (Cuvier, 1828)
* *Paracaesio sordidus* Abe & Shinohara, 1962 **[Fig. 16]**
BPBM 11103, 270 mm SL, Fatu Hiva; BPBM 11143, 270 mm SL, Ua Pou; Eiao.
* *Pristipomoides zonatus* (Valenciennes, 1830)
BPBM 11069, 362 mm, Fatu Hiva.

Caesionidae (**fusiliers**)
Pterocaesio marri Schultz, 1953
Bishop Museum specimens from Fatu Hiva, Ua Huka, and Nuku Hiva were reported by Carpenter (1987).
Pterocaesio tile (Cuvier, 1830)
Seale (1906).

Lethrinidae (**emperors**)
Gnathodentex aureolineatus (Lacepède, 1802)
* *Gymnocranius grandoculis* (Valenciennes, 1830) **[Fig. 17]**
BPBM 11754, 150 mm SL, Fatu Hiva; BPBM 12472, 250 mm, Nuku Hiva; BPBM 12625, 242 mm SL, Nuku Hiva (from 180 m)
Lethrinus rubrioperculatus Sato, 1978
Carpenter & Allen (1989) extended the range of this species to the Marquesas (based on BPBM 11066, 2: 331–334 mm, from Nuku Hiva).
Lethrinus xanthochilus Klunzinger, 1870
Randall (1985) reported this species as *L. amboinensis* (based on BPBM 12072, 3: 140–167 mm, reidentified by Kent E. Carpenter).
Monotaxis grandoculis (Forsskål, 1775)

Mugilidae (**mullets**)
* *Chelon macrolepis* (Smith, 1846)
BPBM 10445, 219 mm, Nuku Hiva; BPBM 10460, 217 mm, Nuku Hiva; and BPBM 12614, 2: 278–287 mm, Nuku Hiva. Specimens were identified by Hiroshi Senou.
Chelon melinopterus (Valenciennes, 1836)
BPBM 33467, 2: 50–126 mm; BPBM 35439, 72 mm, Hiva Oa. This is the mullet listed as *Liza alata* (Steindachner) by Randall (1985) and recorded as this species by Thomson (1997). The specimens were reidentified as *C. melinopterus* by Senou (1997) who redescribed the species. It is presently known from islands in Oceania only from Palau, Tonga and the Marquesas.
Moolgarda engeli (Bleeker, 1858)
Moolgarda seheli (Forsskål, 1775)
Juveniles were reported by Herre (1936) and Fowler (1938) from Nuku Hiva. Two Bishop Museum lots, BPBM 10442, 3: 165–180 mm, Nuku Hiva; and BPBM 35440, 122 mm, Hiva Oa.
Neomyxus leuciscus (Günther, 1871)
Reported by Plessis & Maugé (1978) as both *Neomyxus leuciscus* and *N. chaptalii* (Eydoux & Souleyet); Bishop Museum material includes BPBM 10462, 3: 162–176 mm, Nuku Hiva, and BPBM 11787, 5: 44–60 mm, Fatu Hiva. Seale (1906) recorded BPBM 2264 from Nuku Hiva as *Mugil cephalus*. Fowler (1928) reidentified this as *Neomyxus chaptalii* (= *N. leuciscus*). The

specimen could not be found at Bishop Museum.

Mullidae (**goatfishes**)
Mulloidichthys flavolineatus (Lacepède, 1801)
Seale (1906) reported 11 specimens from Nuku Hiva as *Mulloides samoensis* Günther.
Mulloidichthys mimicus Randall & Guézé, 1980
First reported from the Marquesas by Herre (1936: 213, fig. 11) as *Parupeneus bilineatus* (Cuvier & Valenciennes).
Mulloidichthys pfluegeri (Steindachner, 1900)
Mulloidichthys vanicolensis (Valenciennes, 1831)
Seale (1906) listed 6 specimens from Nuku Hiva as *Mulloides auriflamma* (Forsskål).
Parupeneus barberinus (Lacepède, 1801)
Parupeneus bifasciatus (Lacepède, 1801)
Parupeneus ciliatus (Lacepède, 1801)
Parupeneus cyclostomus (Lacepède, 1801)
Parupeneus multifasciatus (Quoy & Gaimard, 1825)
Seale (1906) reported this species from the Marquesas as *Pseudupeneus moana* (Jordan & Seale, 1906), and Fowler (1938) as *Pseudupeneus trifasciatus* (Lacepède).
Parupeneus pleurostigma (Bennett, 1831)
Upeneus vittatus (Forsskål, 1775)

Pempheridae (**sweepers**)
Pempheris oualensis Cuvier, 1831

Kyphosidae (**sea chubs**)
Kyphosus bigibbus Lacepède, 1802)
Kyphosus cinerascens (Forsskål, 1775)
Reported by Plessis & Maugé (1978) from Tahuata. Observed by the authors at Eiao.
* *Kyphosus vaigiensis* (Quoy & Gaimard, 1825) **[Fig. 18]**
Eiao.
* *Sectator ocyurus* (Jordan & Gilbert, 1882) **[Fig. 19]**
This eastern Pacific species is not a waif in the Marquesas as it appears to be in the Hawaiian Islands. It was observed in aggregations of as many as 40 individuals off exposed promontories at Eiao and Nuku Hiva.

Chaetodontidae (**butterflyfishes**)
Chaetodon auriga Forsskål, 1775
Chaetodon citrinellus Cuvier, 1831
Chaetodon declivis Randall, 1975
Chaetodon ephippium Cuvier, 1831
Chaetodon lineolatus Cuvier, 1831
Chaetodon lunula (Lacepède, 1802)
Reported from Hiva Oa as *C. fasciatus* Forsskål by Herre (1936).
Chaetodon ornatissimus Cuvier, 1831
Chaetodon pelewensis Kner, 1868
Chaetodon quadrimaculatus Gray, 1831
Chaetodon reticulatus Cuvier, 1831
**Chaetodon semeion* Bleeker, 1855
A pair of this distinctive butterflyfish was observed by the junior author at Ua Pou and another pair by D.R. Robertson at Nuku Hiva, both in October 1999.
Chaetodon trichrous Günther, 1874
Chaetodon unimaculatus Bloch, 1787
Forcipiger flavissimus Jordan & McGregor, 1898

Forcipiger longirostris Broussonet, 1782

Pomacanthidae (**angelfishes**)

Centropyge flavicauda* Fraser-Brunner, 1933 **[Fig. 20]

Eiao.

Centropyge flavissima (Cuvier, 1831)

Centropyge loricula (Günther, 1874)

This bright orange-red species exhibits considerable variation in the black bars on the body in the Marquesas; some individuals have only the first short bar, and none have the full complement of broad black bars as seen on typical *C. loricula* from elsewhere. No obvious differences were noted in meristic or morphological characters.

Pomacentridae (**damselfishes**)

Abudefduf conformis Randall & Earle, 2000

This close relative of *A. vaigiensis* (Quoy & Gaimard) was listed from Nuku Hiva by Seale (1906) as *Abudefduf coelestinus* (Cuvier & Valenciennes), and by Fowler (1928) and Randall (1985) as *A. saxatilis* (Linnaeus).

Abudefduf sordidus (Forsskål, 1775)

Herre (1936: 296) recorded 2 specimens of *Abudefduf melas* (Cuvier), now *Neoglyphidodon melas*, from Hiva Oa. Since this species is not known from islands of Oceania, a request was made for a loan of 1 of the specimens, FMNH 23696, 170 mm SL, from the Field Museum of Natural History. It proved to be *Abudefduf sordidus*, although unusual in lacking the black spot dorsally on the caudal peduncle. Bishop Museum specimens of this species from the Marquesas have the black spot.

Chromis leucura Gilbert, 1905

Chromis viridis (Cuvier, 1830)

Chromis xanthura (Bleeker, 1854)

Chromis spp.

Three undescribed species will be described by the senior author (designated as *Chromis* B, F, and G in Allen, 1975).

Chrysiptera brownriggii (Bennett, 1828)

Pethiyagoda *et al.* (1994) showed that *C. brownriggii* is a senior synonym of *C. leucopoma* (Lesson, 1830). Reported from Nuku Hiva as *Abudefduf leucopomus* by Seale (1906) and as *Abudefduf biocellatus* (Quoy & Gaimard) by Fowler (1938).

Dascyllus aruanus (Linnaeus, 1758)

Dascyllus strasburgi Klausewitz, 1960

Seale (1906) reported 7 specimens of *Pomacentrus lividus* from Nuku Hiva. These are no longer in the Bishop Museum, but 2 (formerly BPBM 2209–2210) were found at the Academy of Natural Sciences of Philadelphia as ANSP 84753. The smallest, 32 mm SL, is *D. strasburgi*. The other, as noted below, is an undescribed species of *Stegastes*.

Lepidozygus tapeinosoma (Bleeker, 1856)

Plectroglyphidodon dickii (Liénard, 1839)

Plectroglyphidodon johnstonianus Fowler & Ball, 1924

This species in the Marquesas is notably paler in ground color than elsewhere in its range.

Plectroglyphidodon lacrymatus (Quoy & Gaimard, 1825)

Plectroglyphidodon leucozona (Bleeker, 1859)

Reported by from Nuku Hiva by Seale (1906) and Fowler (1928) as *Abudefduf zonatus* (Cuvier & Valenciennes).

Plectroglyphidodon phoenixensis (Schultz, 1943)

Plectroglyphidodon sagmarius Randall & Earle, 2000

A close relative of *P. imparipennis* (Vaillant & Sauvage, 1875).

Pomacentrus coelestis Jordan & Starks, 1901

The specimen from Hiva Oa, 21 mm in TL reported by Fowler (1932) as *Abudefduf uniocella-*

tus (Quoy & Gaimard) was sent on loan from the Academy of Natural Sciences of Philadelphia (ANSP 52628, 17 mm SL) and reidentified as *P. coelestis*. Herre (1936) reported this species from Nuku Hiva as *P. pavo* (Bloch).

Stegastes aureus (Fowler, 1927)

Stegastes sp.

This damselfish was reported from the Marquesas as *Pomacentrus nigricans* (Lacepède) by Seale (1906), Fowler (1932), Herre (1936), and Fowler (1938), and as *Stegastes nigricans* by Allen (1975) and Randall (1985); however, it is a new species that is being described by the senior author. As noted above under *Dascyllus strasburgi*, one of 2 former Bishop Museum specimens reported as *Pomacentrus lividus* by Seale (1906) that was found in the Academy of Natural Sciences of Philadelphia is also this undescribed species of *Stegastes.*

Labridae (**wrasses**)

Anampses caeruleopunctatus Rüppell, 1828

Anampses melanurus Bleeker, 1857

Bodianus axillaris (Bennett, 1831)

Bodianus bilunulatus (Lacepède, 1802)

Cheilinus chlorourus (Bloch, 1791)

Cheilinus oxycephalus Bleeker, 1853

Coris hewetti Randall, 1999b

Coris marquesensis Randall, 1999b

Cymolutes torquatus (Valenciennes, 1839)

Further study may show that the Marquesan form of this species is distinct, at least at the subspecific level. The male has a short oblique black bar centered on the eighth and ninth lateral-line scales.

Gomphosus varius Lacepède, 1801

Halichoeres melasmapomus Randall, 1980

Halichoeres ornatissimus (Garrett, 1863)

Hemigymnus fasciatus (Bloch, 1792)

Labroides bicolor Fowler & Bean, 1928

Labroides dimidiatus (Valenciennes, 1839)

Labroides rubrolabiatus Randall, 1958

Macropharyngodon meleagris (Valenciennes, 1839)

The male form of this species in the Marquesas is a little different in color from elsewhere in its range and warrants further investigation. More specimens and documentation of the life color are needed.

**Novaculichthys taeniourus* (Lacepède, 1801)

Sight records of adults at Eiao and Ua Pou.

Oxycheilinus bimaculatus (Valenciennes, 1840)

Oxycheilinus unifasciatus Streets, 1877

Pseudocheilinus octotaenius Jenkins, 1901

Reported from the Marquesas by Randall (1999a).

Pseudodax moluccanus (Valenciennes, 1839)

Pseudojuloides pyrius Randall & Randall, 1981

Stethojulis marquesensis Randall, 2000

Thalassoma amblycephalum (Bleeker, 1856)

Thalassoma lutescens (Lay & Bennett, 1839)

A common species in the Marquesas; recorded by Seale (1906) as *T. aneitense* (Günther), and by Fowler (1928, 1938), and Plessis & Maugé (1978) as *T. lutescens*, but overlooked by Randall (1985).

Thalassoma purpureum (Forsskål, 1775)

Thalassoma quinquevittatum (Lay & Bennett, 1839)

Thalassoma trilobatum (Lacepède, 1801)

Wetmorella nigropinnata (Seale, 1900)

Xyrichtys pavo (Valenciennes, 1839)
Xyrichtys sp.

A single specimen of this new razorfish was collected by the senior author at Ua Pou in 1957; 12 additional specimens were collected by the junior author and D.R. Robertson at the same island in October 1999.

Scaridae (**parrotfishes**)
Calotomus carolinus (Valenciennes, 1839)
**Chlorurus microrhinos* (Bleeker, 1854)

Sight record of a large adult by the senior author at 18 m off Matahumu Point, Fatu Hiva on 18 April 1971.

Chlorurus sordidus (Forsskål, 1775)
Scarus koputea Randall & Choat, 1980
Scarus psittacus Forsskål, 1775
Scarus rubroviolaceus Bleeker, 1849

Pinguipedidae (**sand perches**)
Parapercis schauinslandii (Steindachner, 1900)

Tripterygiidae (**triplefins**)
Enneapterygius rhabdotus Fricke, 1994

Blenniidae (**blennies**)
Alticus simplicirrus Smith-Vaniz & Springer, 1971

Alticus saliens (Lacepède) of Seale (1906).

Aspidontus taeniatus Quoy & Gaimard, 1834
Blenniella caudolineata (Günther, 1877)

Seale (1906) listed 1 specimen of this species as *Salarias caudolineatus* from Nuku Hiva as BPBM 2332. The specimen is missing from the Bishop Museum collection, and it is not present in the collection of the Academy of Natural Sciences of Philadelphia (Eugenia B. Böhlke, pers. comm.). Although this blenny was not recorded from the Marquesas by Springer & Williams (1994), the Seale record may be valid because he correctly identified a specimen from the island of Makatea in the Tuamotus as this species.

Blenniella paula (Bryan & Herre, 1903)

Springer & Williams (1994) reidentified Marquesan specimens of *Istiblennius periophthalmus* (Valenciennes) as *B. paula*. A specimen (BPBM 2339, 57 mm SL) from Nuku Hiva that Seale (1906) reported as *Salarias coronatus* Günther is here reidentified as *B. paula*.

Blenniella gibbifrons (Quoy & Gaimard, 1824)

Springer & Williams (1994) recorded this blenny for the first time from the Marquesas, based on Bishop Museum material. They noted differences in color and a higher mean number of vertebrae in the Marquesan population of this widespread Indo-Pacific species.

Cirripectes quagga (Fowler & Ball, 1924)
Cirripectes variolosus (Valenciennes, 1836)
Ecsenius midas Starck, 1969
Enchelyurus ater (Günther, 1877)
Entomacrodus corneliae (Fowler, 1932)
Entomacrodus macrospilus Springer, 1967
Entomacrodus randalli Springer, 1967

Salarias marmoratus Bennett of Seale (1906).

Exallias brevis (Kner, 1868)
Istiblennius bellus (Günther, 1861)

Fowler (1938: 82, fig. 28) described *Salarias leopardus* from Nuku Hiva, invalid as a homonym and reported as a synonym of *I. bellus* by Springer & Williams (1994). Seale (1906) list-

ed *Salarias meleagris* (Cuvier & Valenciennes) from Nuku Hiva. His specimen, BPBM 2338, was not found at Bishop Museum, but it was probably *I. bellus* (*I. meleagris* is known only from Australia).

Istiblennius edentulus (Schneider & Forster, 1801)

Seale (1906) listed 47 specimens from Nuku Hiva as *Salarias quadricornis* Forster. Fowler (1928) reidentified these as *Salarias edentulus*.

Plagiotremus rhinorhynchus (Bleeker, 1852)

Plagiotremus tapeinosoma (Bleeker, 1857)

Rhabdoblennius ellipes (Jordan & Starks, 1906)

Rhabdoblennius rhabdotrachelus (Fowler & Ball, 1924) appears to be a synonym.

Callionymidae (**dragonets**)

Callionymus marquesensis Fricke, 1989

Callionymus simplicicornis Valenciennes, 1837

Synchiropus ocellatus (Pallas, 1770)

Gobiidae (**gobies**)

Amblyeleotris sp.

A new endemic Marquesan shrimp goby to be described by Mark Mohlmann and the senior author.

Amblygobius nocturnus* (Herre, 1945) **[Fig. 21]

Nuku Hiva.

Bathygobius coalitus (Bennett, 1832)

BPBM 10365, 54 mm, Nuku Hiva tidepool; BPBM 10423, 9: 39–71 mm, Fatu Hiva; BPBM 12330, 57 mm, Nuku Hiva. This is the species listed as *B. padangensis* (Bleeker) by Randall (1985); Marquesan specimens were reidentified by Douglass F. Hoese.

Bathygobius cocosensis (Bleeker, 1854)

This was identified as *Mapo soporator* (Cuvier & Valenciennes) by Seale (1906).

Bathygobius cotticeps (Steindachner, 1880)

Bryaninops yongei* (Davis & Cohen, 1969) **[Fig. 22]

BPBM 38516, 17 mm SL, Eiao

Callogobius sp.

This species appears to be undescribed; the genus is under study by Menachem Goren.

Coryphopterus duospilus* (Hoese & Reader, 1985) **[Fig. 23]

BPBM 11828, 2: 26–30 mm, Fatu Hiva; BPBM 12097, 40 mm, Hiva Oa; BPBM 12766, 27 mm, Nuku Hiva. This is the species listed by Randall (1985) as *Fusigobius* sp. (*Fusigobius* Whitley was placed in the synonymy of *Coryphopterus* Gill by Randall, 1995).

Discordipinna griessingeri Hoese & Fourmanoir, 1978

Eviota infulata* (Smith, 1957) **[Fig. 24]

BPBM 38514, 4: 10–11 mm SL, Nuku Hiva.

Gnatholepis cauerensis (Bleeker, 1853)

Randall & Greenfield (in press) reidentified the Marquesas specimens listed as *G. anjerensis* (Bleeker) by Randall (1985).

Kelloggella tricuspidata (Herre, 1935)

Paragobiodon echinocephalus (Rüppell, 1828)

Fowler (1938) listed 2 18-mm specimens from Nuku Hiva. Although we have not examined any Marquesan specimens of this goby, we believe this to be a valid record. Fowler's color description of the specimens is typical of the species. The Bishop Museum has specimens from the Tuamotu Archipelago and Line Islands.

Paragobiodon sp.

A probable undescribed species; similar to *P. modestus* (Regan), differing in having 19 pectoral rays and rows of large papillae along the membranes of the ventral surface of the pelvic disc.

**Pleurosicya mossambica* Smith, 1959

BPBM 26364, 18 mm, Nuku Hiva.

Priolepis compita Winterbottom, 1985

This was one of the 2 species listed as *Priolepis* spp. by Randall (1985).

Priolepis nocturna Smith, 1957

This was the second species of *Priolepis* spp. of Randall (1985).

Priolepis semidoliata (Valenciennes, 1837)

Randall (1985) listed this species as *P. farcimen* (Jordan & Evermann), but Winterbottom & Burridge (1993) showed that *farcimen* is a Hawaiian endemic.

Priolepis squamogena Winterbottom & Burridge, 1989

Specimens identified by various authors as *P. cincta* (Regan) from islands of the Pacific Plate, including those from the Marquesas by Randall (1985), were described as *P. squamogena* by Winterbottom & Burridge. Herre (1936: 373, fig. 26) identified specimens from Nuku Hiva as *Cingulogobius naraharae* (Snyder), and Fowler (1938) identified one from Ua Pou and 2 from Nuku Hiva as *Gobius eugenius* (Jordan & Evermann).

Priolepis sp.

BPBM 12829, 2: 8.6–14.9 mm. Winterbottom & Burridge (1992: 1945) concluded that these faded specimens are either *P. profunda* (Weber) or an undescribed species. In view of the Indonesian-Western Australian distribution of *P. profunda*, this goby is more likely the latter.

Stonogobiops medon Hoese & Randall, 1982

Trimma sp.

Richard Winterbottom is conducting systematic research on the species of this genus.

Valenciennea helsdingenii (Bleeker, 1858)

Valenciennea strigata (Broussonet, 1782)

Vanderhorstia ornatissima Smith, 1959 **[Fig. 25]**

This goby occurs from East Africa to the Tuamotu Archipelago (collected by the senior author at Rangiroa Atoll).

Microdesmidae (**dartfishes and wormfishes**)

Gunnellichthys monostigma Smith, 1958

Nemateleotris magnifica Fowler, 1938)

Ptereleotris heteroptera (Bleeker, 1855)

Ptereleotris melanopogon Randall & Hoese, 1985

Ptereleotris zebra (Fowler, 1938)

Sphyraenidae (**barracudas**)

Sphyraena barracuda (Walbaum, 1792)

Sphyraena forsteri Cuvier, 1829

Seale (1906: 18, fig. 4) described *S. goodingi* as a new species from Nuku Hiva. Fowler (1928) correctly referred it to the synonymy *S. forsteri*. The holotype of *S. goodingi*, BPBM 2112, 440 mm SL, has 116 lateral-line scales, 16 rudimentary gill rakers with spinules, and a large eye (5.5 in head length).

Sphyraena helleri Jenkins, 1901

Sphryaena qenie Klunzinger, 1870)

Gempylidae (**snake mackerels**)

**Promethichthys prometheus* (Cuvier, 1832)

BPBM 12137, 205 mm, caught at surface at night while at anchorage (depth 21 m) at Ua Pou.

Scombridae (**tunas and mackerels**)

Acanthocybium solandri (Cuvier, 1831)

Reported from Taiohae Bay, Nuku Hiva by Fowler (1938), but probably not caught in the bay.

**Euthynnus affinis* (Cantor, 1849)

BPBM 12339, 664 mm FL, Nuku Hiva.

Gymnosarda unicolor (Rüppell, 1838)

Zanclidae (**moorish idols**)
Zanclus cornutus (Linnaeus, 1758)

Acanthuridae (**surgeonfishes**)
Acanthurus achilles (Shaw, 1803)
Acanthurus guttatus Bloch & Schneider, 1801
Acanthurus lineatus (Linnaeus, 1758)
Acanthurus mata (Cuvier, 1829)
Randall (1988) placed *A. bleekeri* Günther in the synonymy of *A. mata*.
Acanthurus nigricans (Linnaeus, 1758)
Randall (1988) showed that *A. nigricans* is a senior synonym of *A. glaucopareius* Cuvier.
Acanthurus nigroris Valenciennes, 1835
Acanthurus pyroferus Kittlitz, 1834
Acanthurus reversus Randall & Earle, 1999
A close relative of *A. olivaceus* Forster *in* Bloch & Schneider.
Acanthurus thompsoni (Fowler, 1923)
Acanthurus triostegus marquesensis Schultz & Woods, 1948
Acanthurus xanthopterus Valenciennes, 1835
Ctenochaetus hawaiiensis Randall, 1955
Ctenochaetus marginatus (Valenciennes, 1835)
Ctenochaetus flavicaudus Fowler, 1938
Naso annulatus (Quoy & Gaimard, 1825)
Naso brachycentron (Quoy & Gaimard, 1825)
Naso brevirostris (Valenciennes, 1835)
Naso hexacanthus (Bleeker, 1855)
Naso lituratus (Bloch & Schneider, 1801)
Naso unicornis (Forsskål, 1775)
This unicornfish in the Marquesas has a large blue area anteriorly on the side of the body.
Zebrasoma rostratrum (Günther, 1873)

Siganidae (**rabbitfishes**)
Siganus argenteus (Quoy & Gaimard, 1825)

Bothidae (**lefteye flounders**)
Arnoglossus sp.
BPBM 25174, 57 mm, Nuku Hiva, 117 m. Under study by Kunio Amaoka.
Bothus mancus (Broussonet, 1782)
Bothus pantherinus (Rüppell, 1830)
Engyprosopon sp.
BPBM 17722, 57 mm, Nuku Hiva. A possible new species, but the specimen is in poor condition; it is currently under study by Kunio Amaoka.

Samaridae (**slender flounders**)
**Samariscus triocellatus* Woods, 1966
BPBM 12618, 31 mm SL, Nuku Hiva.

Soleidae (**soles**)
Aseraggodes sp.
A probable undescribed species; BPBM 10992, 67 mm, Ua Huka; BPBM 12757, 30 mm, Nuku Hiva. Counts of largest: D rays 76, A rays 58, LL scales 66.

Balistidae (**triggerfishes**)
Balistapus undulatus (Park, 1797)
**Balistes polylepis* Steindachner, 1877

One small adult of this species was observed in 10 m off Ua Pou by D. Ross Robertson in October 1999. It may only be a waif there, as it was for some years in the Hawaiian Islands; however, Randall & Mundy (1998) have shown that there is now a breeding population at the island of Hawai'i.

Balistoides viridescens (Bloch & Schneider, 1801)

Recorded by Plessis & Maugé (1978), after Bagnis *et al.* (1972). Observed by the authors at Eiao.

Melichthys niger (Bloch, 1786)

Melichthys viduus (Solander, 1844)

Odonus niger (Rüppell, 1829)

Reported from Fatu Hiva as *Odonus erythrodon* (Günther) by Fowler (1938).

Rhinecanthus aculeatus (Linnaeus, 1758)

Rhinecanthus rectangulus (Bloch & Schneider, 1801)

Sufflamen bursa (Bloch & Schneider, 1801)

Sufflamen fraenatus (Latreille, 1804)

Reported as *Balistes capistratus* Shaw by Seale (1906) and Fowler (1938).

Xanthichthys caeruleolineatus Randall, Matsuura & Zama, 1978

Monacanthidae (**filefishes**)

Aluterus scriptus (Osbeck, 1765)

Cantherines dumerilii (Hollard, 1854)

Cantherines pardalis (Rüppell, 1837)

Pervagor marginalis Hutchins, 1986

Ostraciidae (**trunkfishes**)

Lactoria cornuta (Linnaeus, 1758)

Ostracion cubicus Linnaeus, 1758

Reported from Nuku Hiva by Seale (1906) as *O. tuberculatum* Linnaeus and by Fowler (1928) as *O. cubicus*. Observed and photographed at Eiao by the authors.

Ostracion meleagris (Bloch & Schneider, 1801)

Ostracion whitleyi Fowler, 1931

Seale (1906) recorded 2 specimens of *Ostracion lentiginosum* Bloch & Schneider from Nuku Hiva. Only one of these was found, BPBM 2116, 90 mm SL. It proved to be a female of *O. whitleyi*. Seale listed a specimen of *O. renardi* Bleeker, BPBM 2120, from Nuku Hiva. It is missing from the Bishop Museum collection but is present in the Academy of Natural Sciences of Philadelphia as ANSP 68619, 34 mm SL, and was sent on loan. It is a juvenile of *O. whitleyi*. Females of *O. whitleyi* in the Society Islands and Marquesas have small brown spots in the white stripe on the side of the carapace and numerous small brown spots ventrally; these are lacking or only a few are present ventrally on specimens from the Hawaiian Islands and Johnston Island. The males from the 2 major areas are the same in color.

Tetraodontidae (**puffers**)

Arothron hispidus (Linnaeus, 1758).

Arothron meleagris* (Bloch & Schneider, 1801) **[Fig. 26]

BPBM 11899, 4: 147–190 mm SL, Tahuata. Eiao.

Arothron stellatus* (Bloch & Schneider, 1801). **[Fig. 27]

Eiao.

Canthigaster amboinensis (Bleeker, 1865)

Canthigaster janthinoptera (Bleeker, 1855)

Canthigaster marquesensis Allen & Randall, 1977

Diodontidae (**porcupinefishes**)

Diodon hystrix Linnaeus, 1758

ENDEMIC SPECIES

Randall (1976, 1998) estimated the level of endemism of shore fishes of the Marquesas at 10%; he indicated a need for a detailed analysis of the fish fauna and additional collecting.

In addition to the 30 undescribed fishes listed above by generic name, all but one of which are expected to be restricted to the Marquesas, the following species are endemic to these islands: *Callechelys randalli*, *Sardinella marquesensis*, *Epinephelus irroratus*, *Pseudanthias regalis*, *Dascyllus strasburgi*, *Coris hewetti*, *C. marquesensis*, *Pseudojuloides pyrius*, *Stethojulis marquesensis*, *Scarus koputea*, *Alticus simplicirrus*, *Entomacrodus corneliae*, *E. macrospilus*, *E. randalli*, *Callionymus marquesensis*, *Kelloggella tricuspidata*, *Stonogobiops medon*, *Ptereleotris melanopogon*, and *Canthigaster marquesensis*. With a total number of 415 shore fishes and 48 as endemics, the percentage of endemism for the Marquesan shore fish fauna is 11.6%. If subspecies such as *Acanthurus triostegus marquesensis* and at least 5 other species for which subspecific status is expected (variation discussed by species above) are included as endemics, the percentage increases to 13%. In either case, the Marquesas clearly qualifies as the third highest region of endemism among shore fishes of the Pacific Ocean. The islands probably rank third highest for the entire Indo-Pacific region because the 13.7% endemism given for Red Sea fishes by Goren & Dor (1994) is expected to be substantially lowered with further analysis. The Hawaiian Islands and Easter Island have the highest percentage of endemic shore fishes, 23.1% for Hawaii and 22.2% for Easter Island (Randall, 1998).

Chaetodon declivis and *Mulloidichthys mimicus* were described from the Marquesas but were found later at the Line Islands. *Pervagor marginalis* also has a Marquesas—Line Islands distribution, as does one of the undescribed species of *Apogon*. A subadult of *Halicampus marquesensis* was reported provisionally from Fiji by Dawson (1985); it is not included here as a Marquesan endemic. It is probable that some of the species of fishes from the Marquesas presently considered as endemics will eventually be found at other localities. Moreover, additional new records of Indo-Pacific fishes will probably be discovered in the Marquesas which will also lower the level of endemism. Thirty-four percent of the reef fishes of the Hawaiian Islands were determined as endemic by Gosline & Brock (1960). This has gradually dropped to 23.1% as supposed endemics have turned up elsewhere and new records of extralimital species have been discovered in Hawai‘i.

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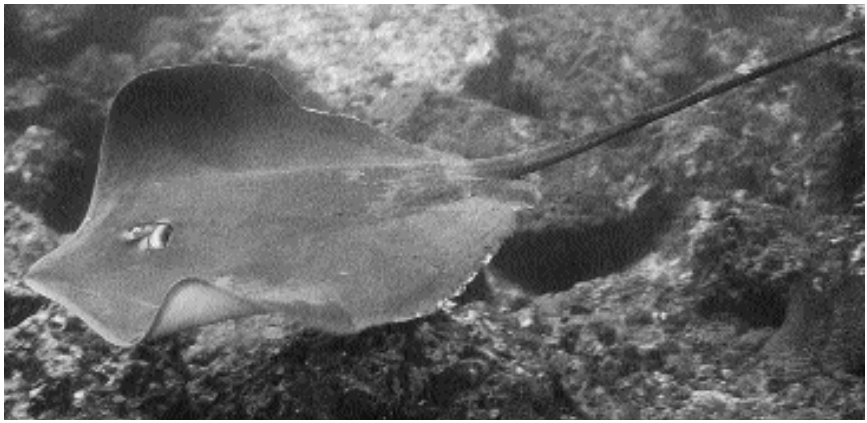

Figure 1. *Himantura fai*, Eiao.

Figure 2. *Echidna leucotaenia*, BPBM 11752, 474 mm, Fatu Hiva.

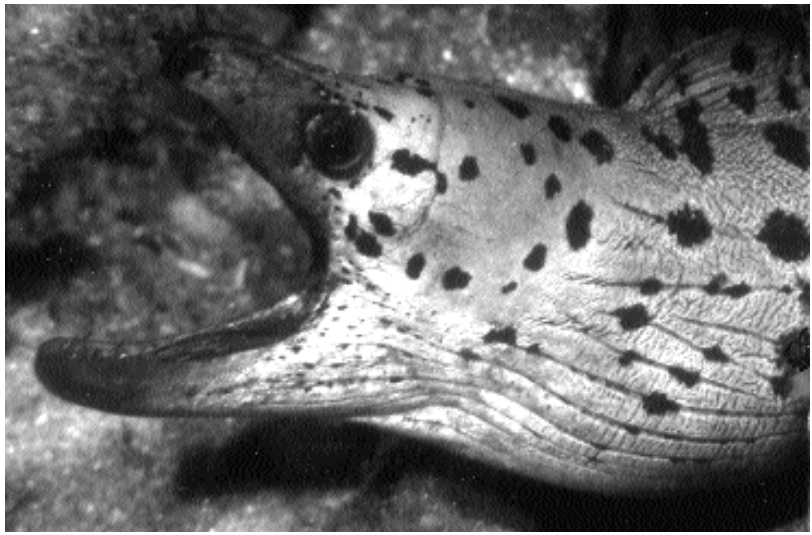

Figure 3. *Gymnothorax fimbriatus*, Nuku Hiva.

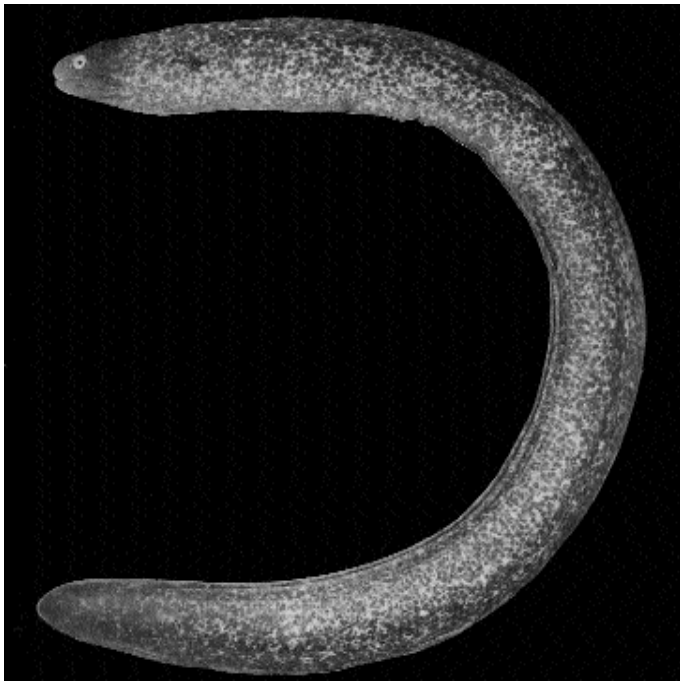

Figure 4. *Gymnothorax thyrsoideus*, BPBM 12127, 257 mm, Hiva Oa.

Figure 5. *Brachysomophis crocodilinus*, BPBM 11800, 812 mm, Fatu Hiva.

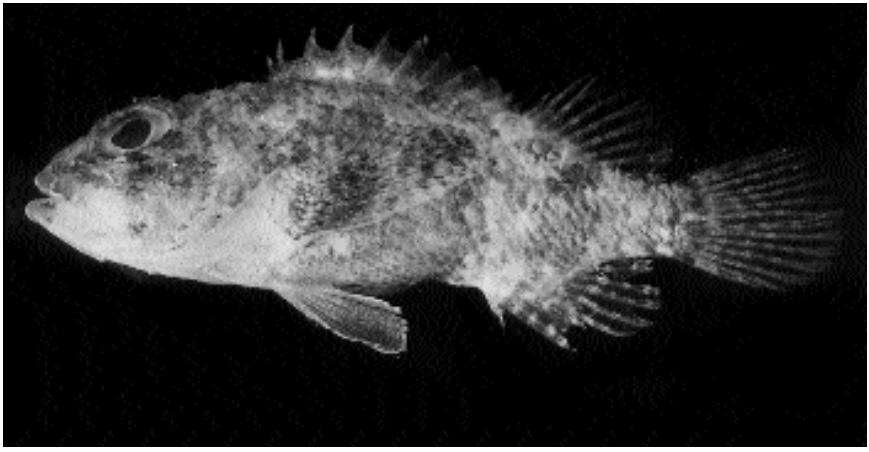

Figure 6. *Scorpaenodes kelloggi*, BPBM 11106, 31 mm, Fatu Hiva.

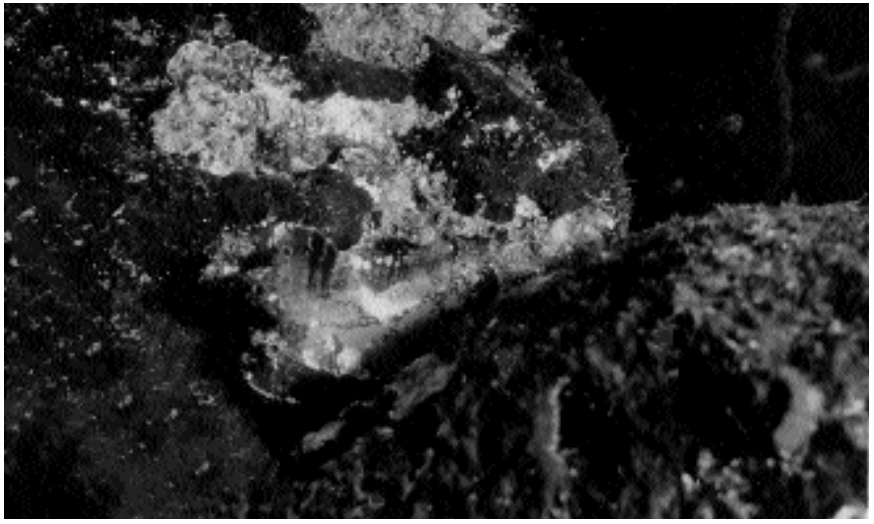

Figure 7. *Taenianotus triacanthus*, Nuku Hiva (Ann Fielding).

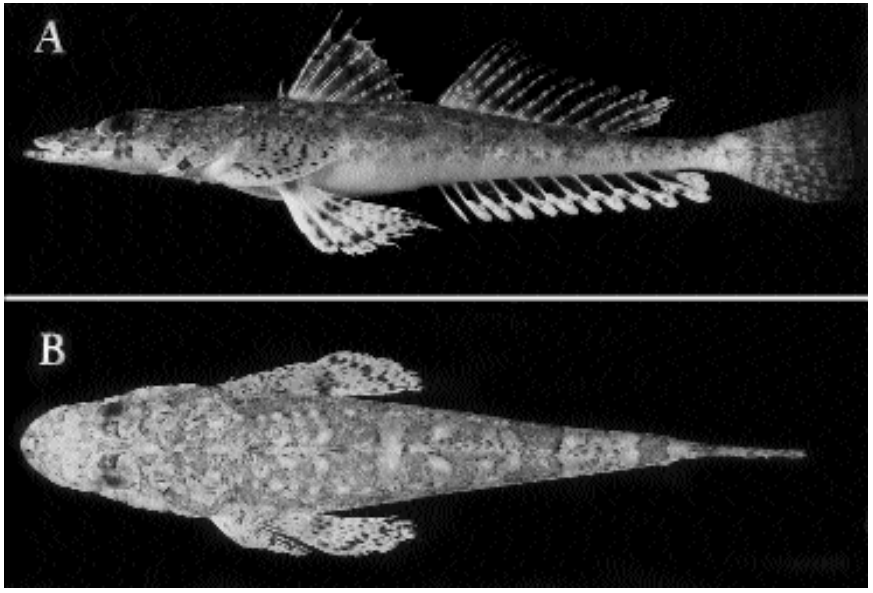

Figure 8. *Eurycephalus otaitensis*, BPBM 12120, 187 mm, Hiva Oa. **A**. side view. **B**. dorsal view.

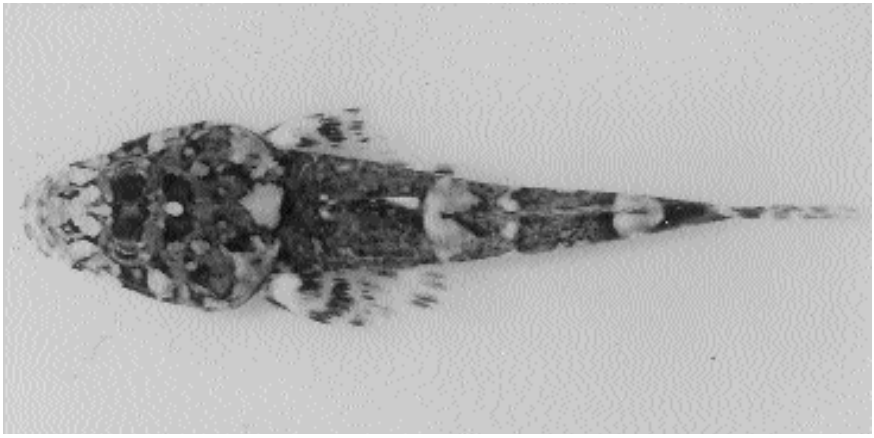

Figure 9. *Eurycephalus otaitensis*, juvenile, BPBM 38521, 24 mm, Eiao.

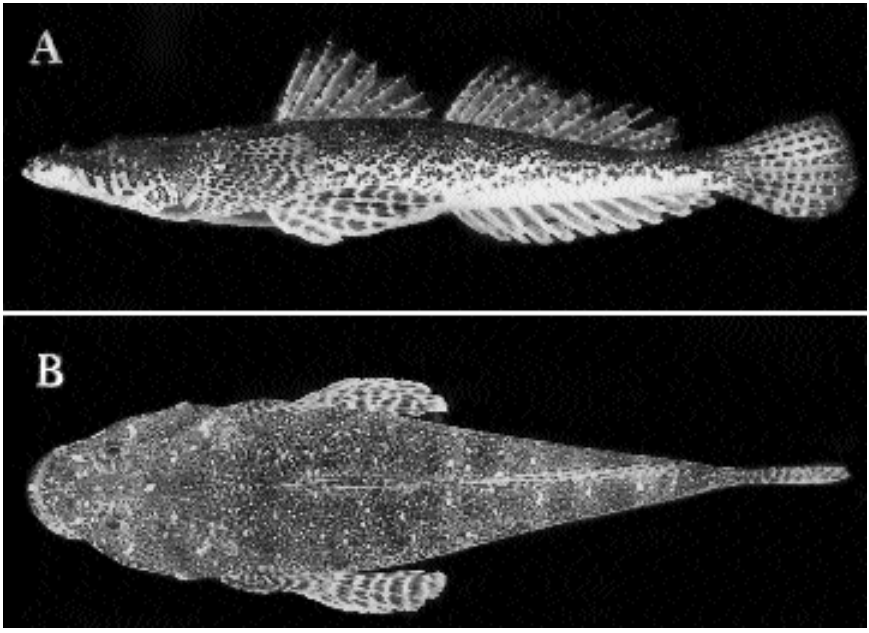

Figure 10. *Thysanophrys chiltonae*, BPBM 12428, 125 mm, Ua Huka. **A**. side view. **B**. dorsal view.

Figure 11. *Epinephelus octofasciatus*, 50 kg, Ua Pou (Henri Lavondès).

Figure 12. *Kuhlia petiti*, BPBM 12146, 136 mm, Ua Pou.

Figure 13. School of *Kuhlia petiti*, Eiao.

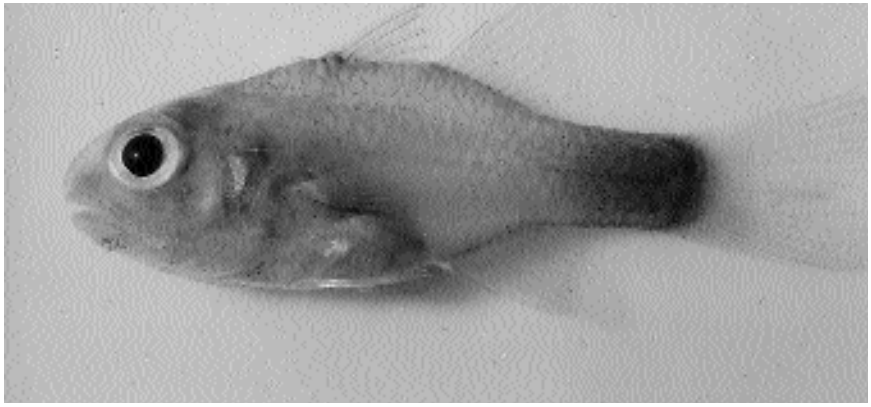

Figure 14. *Apogon caudocinctus,* BPBM 38524, 32 mm SL, Eiao.

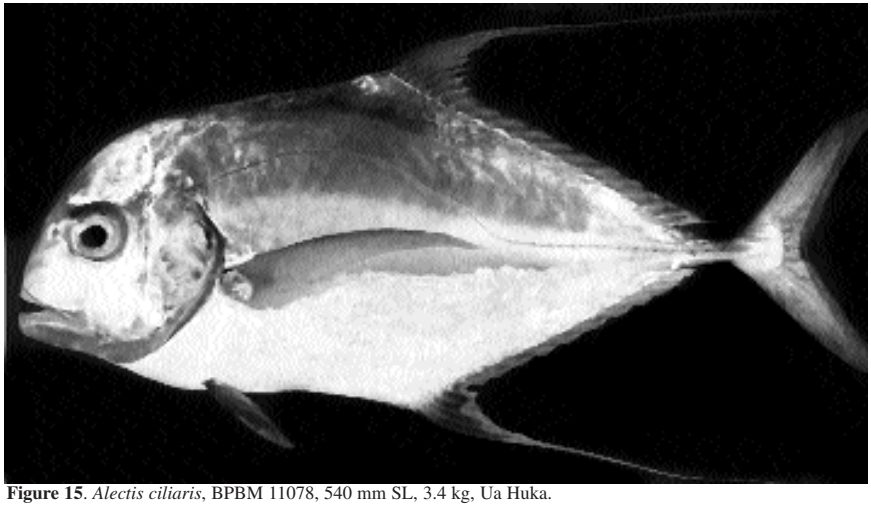

Figure 15. *Alectis ciliaris*, BPBM 11078, 540 mm SL, 3.4 kg, Ua Huka.

Figure 16. *Paracaesio sordidus*, Eiao.

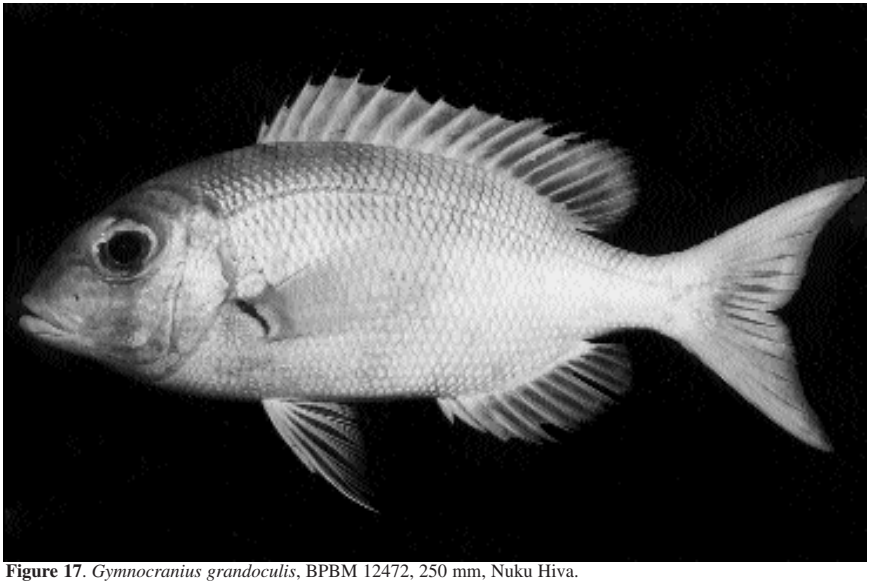

Figure 17. *Gymnocranius grandoculis*, BPBM 12472, 250 mm, Nuku Hiva.

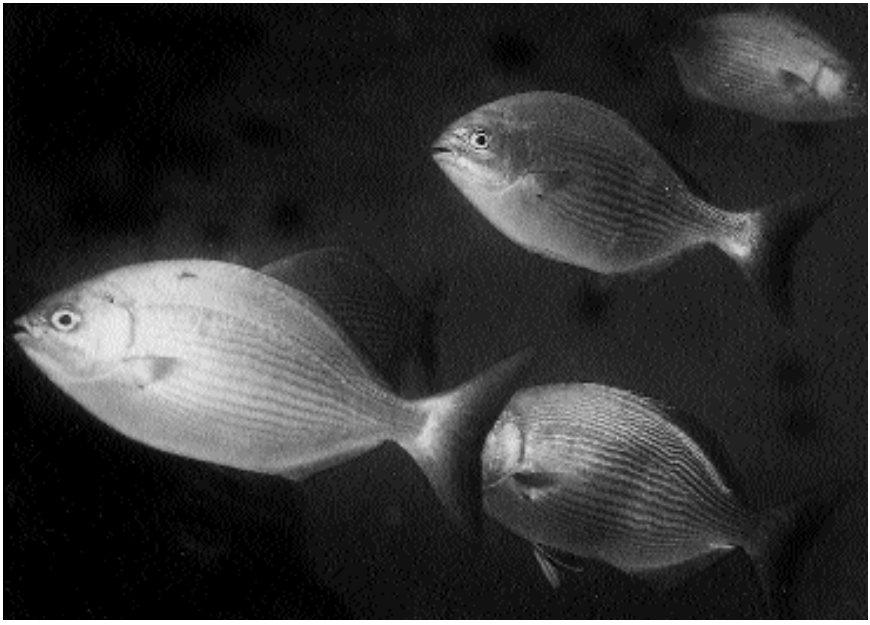

Figure 18. *Kyphosus vaigiensis*, Eiao.

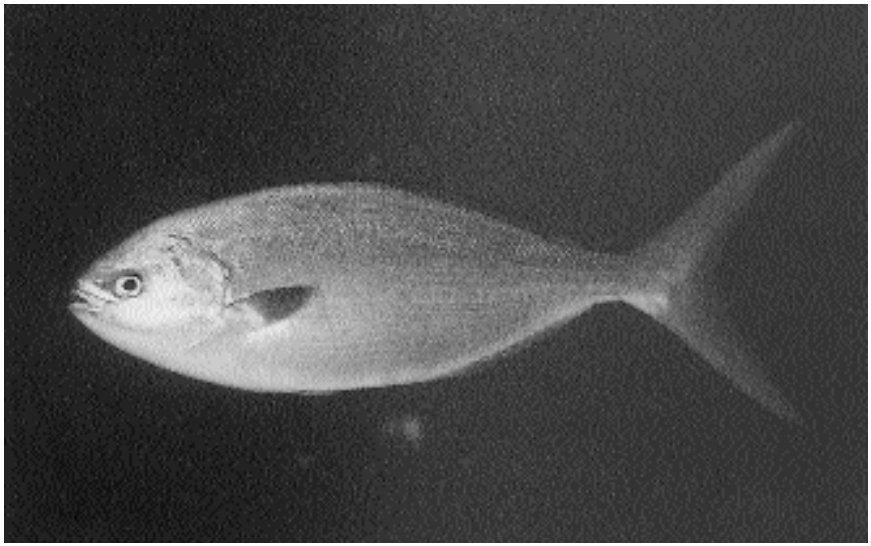

Figure 19. *Sectator ocyurus*, Eiao.

Figure 20. *Centropyge flavicauda*, Eiao.

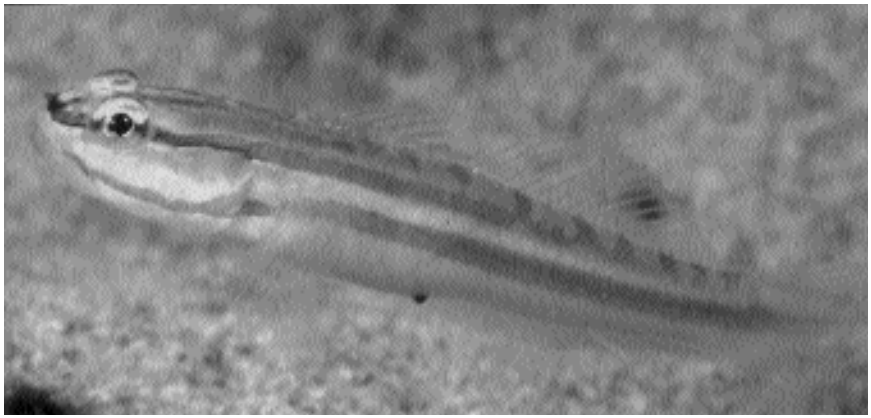

Figure 21. *Amblygobius nocturnus*, Nuku Hiva.

Figure 22. *Bryaninops yongei*, Eiao.

Figure 23. *Coryphopterus duospilus*, Nuku Hiva.

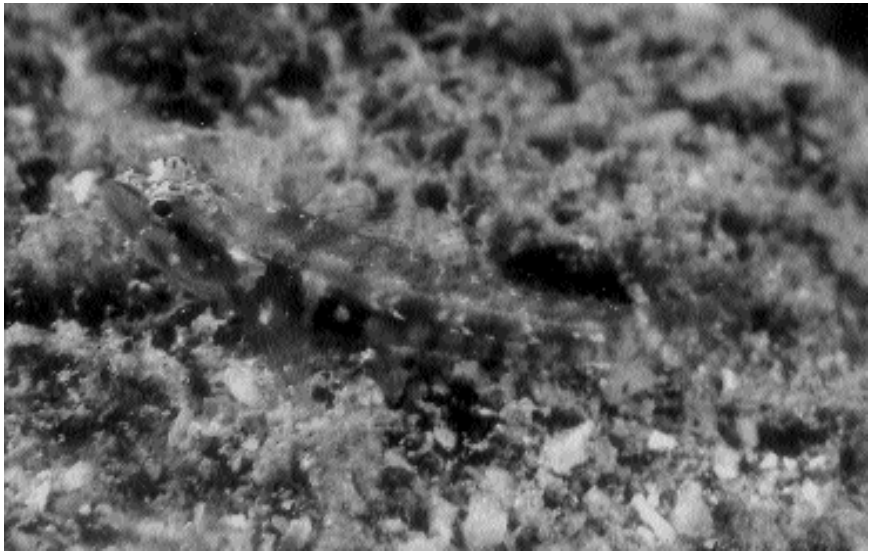

Figure 24. *Eviota infulata*, Nuku Hiva.

Figure 25. *Vanderhorstia ornatissima*, Nuku Hiva.

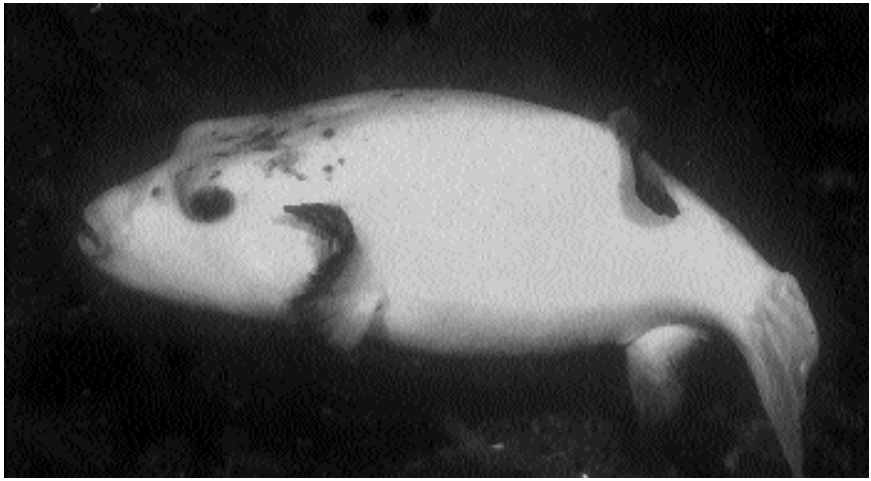

Figure 26. *Arothron meleagris*, yellow color phase, Eiao (night).

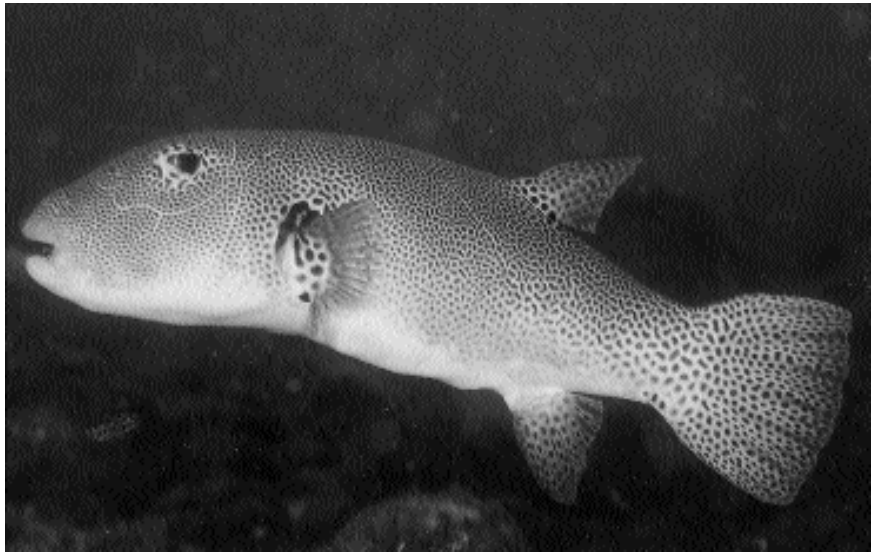

Figure 27. *Arothron stellatus*, Eiao.