New Records of Fishes from Guam, with Notes on the Ichthyofauna of the Southern Marianas

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Abstract—One hundred and eleven species of fishes are newly recorded from Guam and the nearby islands of Rota, Tinian and Saipan, raising the total number of fishes known from the southern Marianas to 772 species in 106 families. A preliminary zoogeographic analysis shows the area's ichthyofauna to consist mainly of species widely distributed on both sides of the andesite line. Species having primarily continental distributions and species having primarily insular distributions are important elements, and endemism is low. The nomenclature of many species previously recorded from Guam is brought into agreement with current scientific usage.

Introduction

Kami, Ikehara and DeLeon (1968) published the first comprehensive checklist of fishes from Guam, based on specimens collected by the Guam Department of Agriculture, catch records of the Guam Fishing and Boating Association and species cited from Guam in previous publications. Two supplements (Kami, 1971, 1975) listed additional species and specimens of previously recorded species, bringing the number of fish species known from the island to 673 in 94 families. A review of the recent literature (Table 1) has revealed 22 species which were not included by Kami and his coworkers, and recent revisionary work by various authors has shed new light on the identity of many of the fishes reported in the checklist and its supplements. A large number of names attributed to fishes from Guam are thus no longer applicable to the species they were intended to represent, or were based on misidentifications (cf. Appendix). Subsequent studies of specimens collected previously but not recorded from Guam, as well as recent collections and underwater photography, have yielded 100 species new to Guam and 11 new records from neighboring islands immediately to the north.

The purpose of this paper is to report species previously unknown from Guam and the Mariana Islands, and to bring the nomenclature of many species presently recorded from Guam into agreement with current scientific usage.

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Table 1. Fishes recorded from Guam in the recent literature. Species included by Kami et al. (1968) and Kami (1971, 1975) are omitted.

Species	Record	Selected UG Reference Material
DASYATIDAE		
Dasyatus kuhlii (Muller & Henle)	Jones & Chase, 1975	UG 1776 UG 4166
SYNGNATHIDAE		
Choeroichthys brachysoma (Bleeker)	Dawson, 1976	—
Corythoichthys nigripectus Herald	Dawson, 1977b	UG 5844
Micrognathus myersi Herald & Randall	Herald & Randall, 1972	—
SERRANIDAE		
Plectranthias kamii Randall	Randall, 1980	UG 6239
POMACANTHIDAE		
Centropyge bispinosus (Günther)	Randall & Yasuda, 1979	UG 6240
Centropyge colini Smith-Vaniz & Randall	Myers, 1980a	UG 6181 UG 6182
Centropyge shepardi Randall & Yasuda	Randall & Yasuda, 1979	UG 5386
POMACENTRIDAE		
Pomachromis guamensis Allen & Larson	Allen & Larson, 1975	UG 4457
LABRIDAE		
Labropsis sp. (undescribed)	Shepard & Meyer, 1978	UG 6171
BLENNIIDAE		
Enchelyurus kraussi (Klunzinger)	Springer, 1972	UG 4805
Escenius bicolor (Day)	Springer, 1972	UG 6192
Plagiotremus rhynorhynchus (Bleeker)	Smith-Vaniz, 1976	—
Rhabdoblennius snowi (Fowler)	Schultz & Chapman (in Schultz et al., 1960)	UG 4131
Pteroscirtes xestus Jordan & Seale	Smith-Vaniz, 1976	UG 1927 UG 2003
GOBIIDAE		
Eviota afelei Jordan & Seale	Larson, 1974	UG 5811
Eviota distigma Jordan & Seale	Larson, 1974	UG 5346
Eviota nebulosa Smith	Larson, 1976	UG 4335
Eviota pellucidus Larson	Larson, 1976	UG 5299
Eviota smaragdus Jordan & Seale	Larson, 1974	UG 4565
Eviota zonura Jordan & Seale	Larson, 1974	UG 5621
Ptereleotris heteropterus (Bleeker)	Davis, Randall & French, 1977	UG 6238

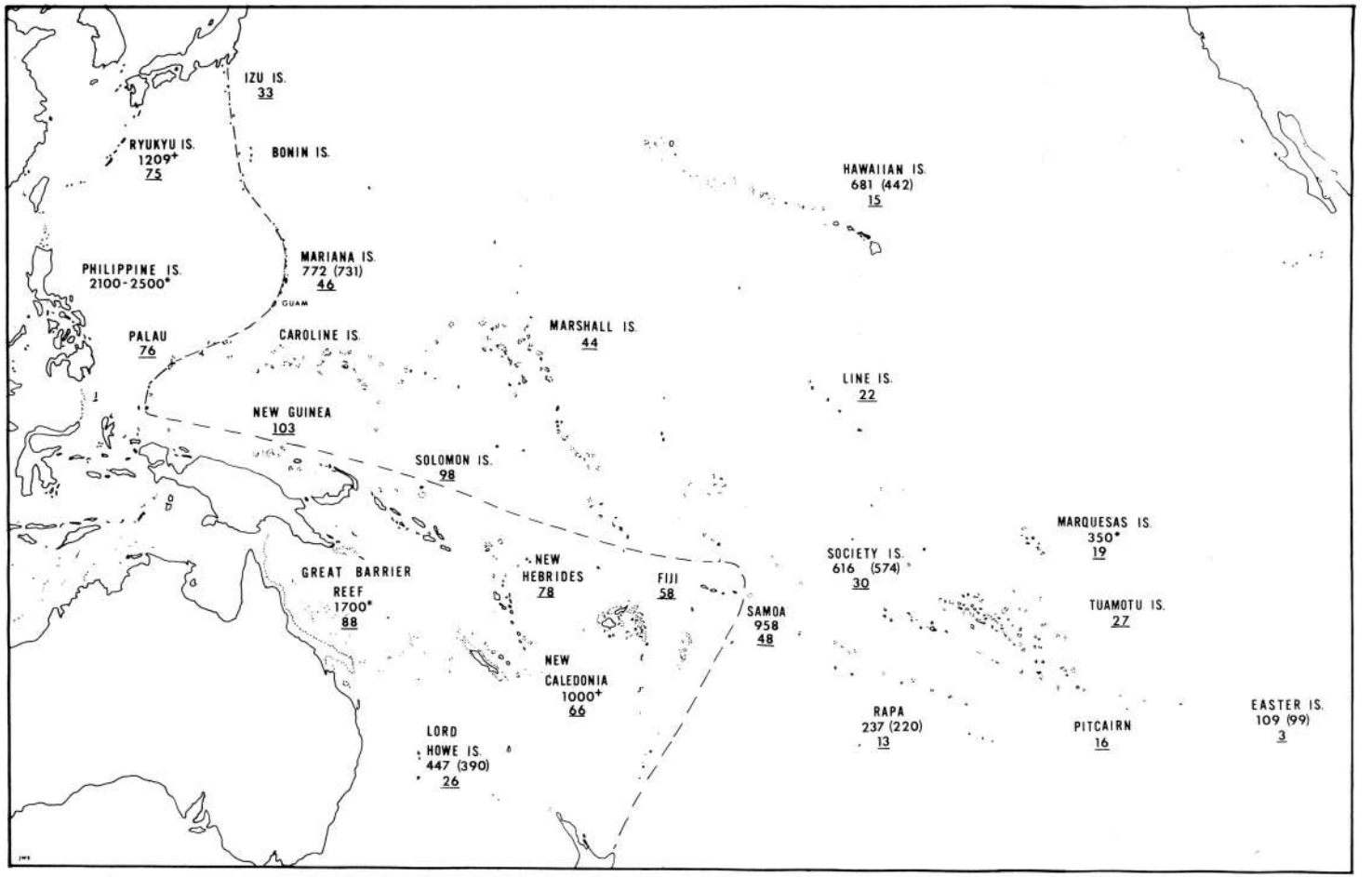
Composition and Zoogeographic Affinities of the Mariana Islands Fish Fauna

Much revisionary work as well as collecting remains to be accomplished before a truly comprehensive view of the ichthyofauna of the Mariana Islands or nearly any other Indo-West Pacific island group will be possible. However, recent collecting efforts, particularly those involving diving scientists and exploratory fishery surveys, have shed enough light on the Mariana Islands fish fauna to justify some general comments.

Guam, at approximately 13°25′N, 144°45′E, is the southernmost of the Mariana Islands. The Mariana Islands, the Bonin Islands to the north, and the Western Caroline Islands to the southwest, lie on the andesite line (Fig. 1) which has been generally regarded as the boundary between relatively recent oceanic rocks of the Pacific crustal plate and older continental rocks. It is significant that the andesite line serves as an important biogeographic boundary as well (Springer and Gomon, 1975). Many groups of tropical marine fishes (roughly 1,000 species, including many genera and families) have primarily continental distributions and do not occur east of the andesite line other than in marginal areas. Conversely, several dozen species have primarily insular Pacific distibutions and generally do not occur west of the andesite line (Allen, 1975; Burgess, 1978; Springer, MS). A similar pattern is reflected in the distributions of certain species in other taxa of marine animals as well (Abbott, 1960; Burgess, 1970; Emerson and Cernohorsky, 1973 for molluscan examples; Roy K. Kropp, pers. com. for portunid crab examples).

The Bonin-Mariana-Western Caroline Islands portion of the andesite line lies on the eastern and southern fringe of the Philippine Plate rather than on the Eurasian and Indian-Australian Plates. Unlike the latter two, with the exception of southern Taiwan and northern Luzon, the Philippine Plate has remained free of large emergent land masses and their associated shorelines throughout the Cenozoic, and for the most part is relatively young (less than 100×10^6 years old) and is expanding. The Mariana and Bonin Islands are thus currently well removed from continental shorelines, although at the time of their emergence they occupied a position adjacent to the current Palau-Kyushyu Ridge (Meijer, MS). The presence of shallow water limestone formations of Eocene age suggests that Guam and Saipan were emergent as early as $40–50 \times 10^6$ years ago (Cloud et al., 1956; Schlanger, 1964). This corresponds closely with the second major lithothamnion-scleractinian radiation and the major acanthopterygian fish radiation which gave rise to the species characterizing modern reef communities (Patterson, 1964; Newell, 1971; Hobson, 1974). By the end of the Eocene, coral reef communities were well established in parts of the Mariana, Marshall and Western Caroline Islands.

We presently recognize 761 species in 104 families naturally occuring at Guam. Eleven additional species known from Rota, Saipan and Tinian to the north and expected to occur at Guam, raise the total to 772 species in 106 families. Of these, 731 are considered inshore species; the remainder are offshore pelagic, epipelagic or


IZU IS.
33
RYUKYU IS.
1209+
75
BONIN IS.
HAWAIIAN IS.
681 (442)
15
PHILIPPINE IS.
2100-2500*
MARIANA IS.
772 (731)
46
GUAM
PALAU
76
CAROLINE IS.
MARSHALL IS.
44
LINE IS.
22
NEW GUINEA
103
SOLOMON IS.
98
MARQUESAS IS.
350*
19
SOCIETY IS.
616 (574)
30
GREAT BARRIER
REEF
1700*
88
NEW
HEBRIDES
78
FIJI
58
SAMOA
958
48
TUAMOTU IS.
27
NEW
CALEDONIA
1000+
66
RAPA
237 (220)
13
PITCAIRN
16
EASTER IS.
109 (99)
3
LORD
HOWE IS.
447 (390)
26

freshwater species. Introduced species such as the cichlid, *Sarotherodon mossambicus* are not considered. With subsequent collecting, particularly at depths beyond the practical limits of scuba diving, it could be assumed that at least 750 inshore species will eventually be recorded from Guam and nearby islands.

The ten most speciose families at Guam, with the number of species in each indicated in parenthesis, are the Gobiidae (69), Labridae (50), Pomacentridae (46), Muraenidae (41), Blenniidae (36), Apogonidae (34), Serranidae (31), Chaetodontidae (29), Acanthuridae (28), and Lutjanidae (23). In addition, two gobiids, two muraenids, one labrid and one serranid not yet known from Guam have been collected from Tinian or Saipan. Together these families account for 50.1% of the total and 52.9% of the inshore fishes of the southern Mariana Islands. An additional ten families contain between ten and twenty species each.

Of the inshore species occurring in the southern Marianas, we considered 657 to have adequately known distributions to be included in a zoogeographic analysis (Table 2). The vast majority (79.1%) are species widely distributed on both sides of the andesite line. Fifty-nine species (9.0%) have continental distributions, and 45 (6.9%) have insular Pacific distributions. Fourteen (2.1%) have disjunct distributions, occurring at Cocos-Keeling and/or Christmas Island in the Eastern Indian Ocean, but are otherwise confined to the insular Pacific and its western margin. Thirteen (2.0%) have circumtropical distributions. Very few species have limited distributions near

Table 2. Zoogeographic analysis of the Mariana Islands fish fauna.

Distribution	Number of Species	% of Species Considered in Analysis
Widespread Indo-West Pacific	520	79.1
Continental	59	9.0
Insular Pacific	45	6.9
Insular Pacific and Cocos-Keeling/Christmas Island	14	2.1
Circumtropical	13	2.0
Limited to the Mariana Islands and Neighboring Island Groups	6	0.9
Total Considered in Analysis	657	100.0
Distributions Inadequately Known	74	—
Total Inshore Species	731	—

Fig. 1. Map of the central and western Pacific, showing numbers of fish species known from selected locations. Figures at upper left indicate total number of species, figures in parenthesis indicate number of inshore species and underlined figures indicate number of pomacentrid species, a fairly well-known family. An asterisk indicates a rough estimate. All figures other than those for the Mariana Islands are taken from the recent literature. The broken line indicates the approximate position of the andesite line.

the Marianas. *Plectranthias kamii* may be confined to the region bounded by the Bonin-Mariana arc, the Caroline Islands, Taiwan and the Ryukyu Islands, and *Centropyge shepardi* to the Mariana, Bonin and Izu Islands. *Micrognathus myersi* and *Pomachromis guamensis* are presently known only from Guam, but could be expected elsewhere in the Marianas.

It is widely known that the Indo-Australian region contains the richest inshore marine ichthyofauna in the world, and that the number of species at any given locality or island group tends to decrease towards the periphery of the Indo-West Pacific Province (Fig. 1). Yet the southern Marianas are somewhat depauperate relative to neighboring island groups. Several factors probably contribute to this. Prevailing currents (Fig. 2) may tend to make the Marianas net exporters of larvae; the nearest islands upcurrent are the extreme northern Marshalls and Wake Island, while the Western Carolines, Philippines, Taiwan and Ryukyu Islands lie downcurrent. While it seems likely that a large portion of the Mariana ichthyofauna originated from Caroline Island stock, present-day prevailing currents would seem to make

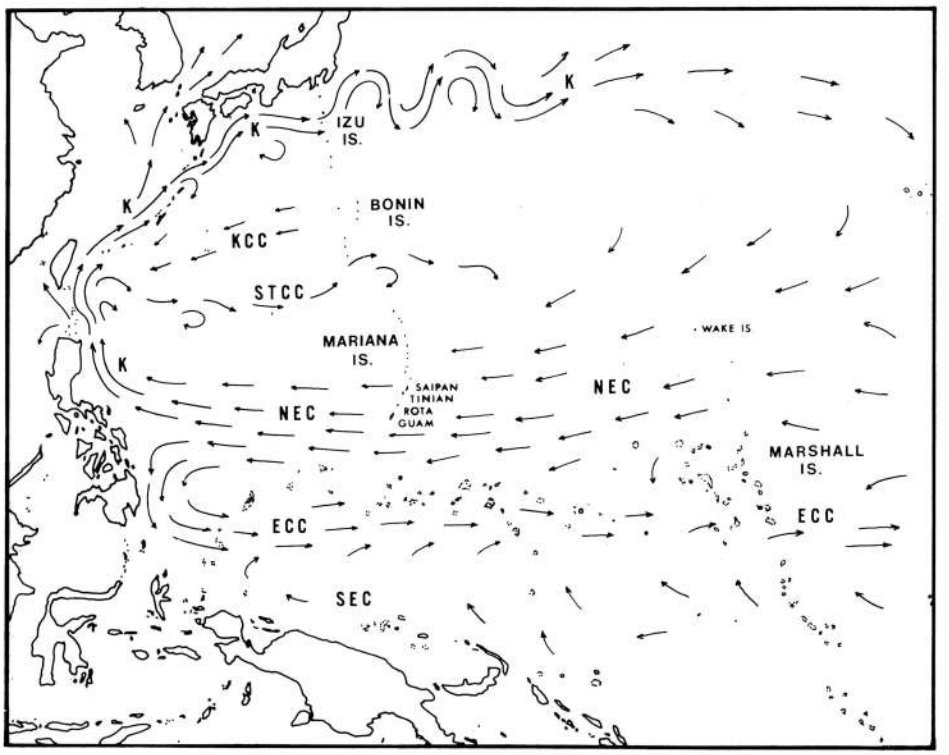


Fig. 2. Prevailing currents affecting the Mariana and neighboring island groups. ECC = Equatorial Countercurrent; NEC = North Equatorial Current; K = Kuroshio Current; KCC = Kuroshio Countercurrent; SEC = South Equatorial Current; STCC = Subtropical Countercurrent.

recruitment from there sporadic at best. It is not surprising that the populations of some species from Guam currently under study are slightly divergent from those found elsewhere. A greater diversity would be expected to the south and west in areas closer to the Indo-Australian region, yet several species found both there and well to the north in the Bonin and/or Izu Islands are absent in the southern Marianas (e.g., *Coradion chrysozonus, Parachaetodon ocellatus, Labroides pectoralis* and several species of *Bodianus* and *Cirrhilabrus*). The ancestral stocks of the Bonin and Izu Islands populations of these species quite likely originated in the Philippine-Taiwan-Ryukyu Islands area and arrived via the Kuroshiro current system, but their progeny have been unable to become established immediately south of the Bonins. The Bonin Islands fish fauna as a whole remains inadequately collected, but certain families for which adequate literature is available are clearly more speciose there than in the Marianas (Zama and Fujita, 1977). The relatively great distance of the Mariana Islands from emergent continental land masses possessing a greater variety of shoreline habitats has greatly influenced their present-day ichthyofauna. The Marianas have supported coral reef communities for nearly as long if not longer than most modern actinopterygion fish and coral reef assemblages have existed, but their relatively small sizes and steep submarine slopes may not have been conducive to the development of the same diversity of habitats available in continental areas, or in some of the Marshall and Caroline Islands. While more extensive shallow water lagoon systems existed as recently as the Pleistocene in the Marianas, the islands presently lack the well-developed lagoon and estuarine systems of the nearby Caroline Islands. As a consequence, certain habitats may be missing or too small in extent to support species which might otherwise become established (MacArthur and Wilson, 1967). Additionally, the Carolines benefit from the Equatorial Countercurrent (4–8°N) which facilitates larval dispersal from the rich southern Philippine area. Fossil evidence suggests that the insular tropical Pacific inshore fauna was more diverse in the past as part of a highly diverse, homogeneous Pan-Tethyan fauna (McCoy and Heck, 1976). Present-day centers of diversity may be holdovers from this fauna, retaining many species which were once more widespread. Evidence suggests that these areas serve as centers of speciation (the average generic age of corals decreases as the center of diversity is approached; (Stehli and Wells, 1971)), as well as centers of dispersal to islands downcurrent and accumulators of species evolved at islands upcurrent. Conversely, newly evolved, more efficient competitors may eliminate certain populations of once widespread species, resulting in disjunct distributions or relict populations on the fringes of the Pacific. In the Marianas, as well as in many other Pacific Islands, unfavorable events such as the rapid lowering of sea levels (on a geological time scale) with the onset of glacial periods, or due to localized tectonic activity may have eliminated some shallow-water habitats, causing local extinctions. Unfavorable current patterns or continued lack of suitable habitats may have prevented recolonization of such depleted areas.

Methods of Presentation

The general phylogenetic arrangement of Greenwood et al. (1966) is used and the species in each family are listed alphabetically. The Dussumeriidae are recognized as distinct from the Clupeidae; the Caesionidae, Nemipteridae, Lethrinidae and Haemulidae as distinct from the Lutjanidae; the Pomacanthidae as distinct from the Chaetodontidae; the Gerridae as distinct from the Leiognathidae; the Xenocongridae as distinct from the Echelinae, which we place in the Ophichthidae; and the Canthigasteridae are included in the Tetraodontidae. We follow recent authors in placing *Triaenodon obesus* in the Carcharhinidae, thus the Triakidae are not yet known from the southern Marianas. Families reported from the southern Marianas for the first time are denoted by an asterisk. Selected morphological data are given for certain unidentified or poorly known species. Specimens are deposited in the fish collection of the University of Guam Marine Laboratory (UG) or the Bernice P. Bishop Museum (BPBM), Honolulu, Hawaii.

NEW RECORDS FROM GUAM

SQUALIDAE*

Etmopterus pusillus (Lowe)
UG 6194, 410 mm TL, 366 m, off Pati Point, 8 October, 1976; UG 6195, 408 mm TL, no other data.

Known otherwise from throughout the Atlantic to Natal, South Africa and Japan, in depths from 274 to 481 m (Bass et al., 1976).

Squalus mitsukurii Jordan & Fowler
UG 6196, 917 mm TL, bottom fishing in approximately 250 m, off Haputo Point, July, 1979; UG 6197, 7: 208–232 mm TL, 3 males and 4 females, all well developed embryos taken from a female caught by bottom fishing at night, 19 February, 1979.

Known otherwise from China, Japan and the Hawaiian Islands.

CONGRIDAE

Gorgasia sp.
BPBM 7879, J. E. Randall (pers. com.).

Has been observed by the senior author in large colonies on flat or gently sloping sandy plains between 15 and 46 m off Taelayag Beach and Double Reef, 4 km south of Uruno Point. Collected at Guam by J. E. Randall, who with J. Bohlke has revised *Gorgasia* (Bohlke and Randall, MS).

Heteroconger hassi (Klausewitz & Eibl-Eibesfeldt)
UG 6199, 236 mm TL, 27 m, Facpi Point, 15 May, 1978.

Taken from a colony of several hundred, each occupying a separate hole on a flat sandy plain beginning at a depth of 26 m at the base of a steep coral slope. Known from the Western Indian Ocean to the Solomon Islands, Samoa and New Caledonia, north to Amami-Oshima in the Ryukyu Islands (Abe et al., 1979).

MURAENIDAE

Echidna polyzona (Richardson)

Based on a photograph (Fig. 3) of a specimen collected on a reef flat (specific location on Guam unknown) and maintained in an aquarium until about March of 1978. Widespread in the Indo-West Pacific.

Echidna unicolor Schultz
UG 4209, 137 mm TL, 3–8.5 m, Double Reef, off Haputo Point, 6 December, 1969.

Widespread in the Indo-West Pacific.

Enchelycore schismatorhynchus (Bleeker)
UG 6163, 685 mm TL, NCS Beach, 9 October, 1968; UG 6164, 202 mm TL, reef front, Tanguisson Point, 6 May, 1970.

Widespread from the Indo-Australian region to the Society Islands.

Lycodontis berndti (Synder)
UG 6201, 2: 855–912 mm TL, 244 m, shrimp trap off Agana Bay, 20 August, 1976; UG 6202, 693 mm TL, about 200 m, 1979 (no other data); UG 6203, 2: 479–671 mm TL, 238 m, Table Rock, 2.5 km north of Tanguisson Point, June, 1979.

Known otherwise from relatively deep water in widely scattered localities in both the Atlantic and Indo-Pacific Oceans (J. Randall, personal communication).

Lycodontis goldsboroughi (Jordan & Evermann)
UG 6204, about 500 mm TL (specimen damaged), ca. 450 m depth by shrimp trap on mud bottom, off Double Reef, Haputo Point, 6 August, 1975; UG 6241, 569 mm TL, 165 m, bottom fishing over mud bottom, off Facpi Point, 20 February, 1979.

A capture depth of 450 m is highly unusual for a muraenid. The senior author has examined specimens from the Hawaiian Islands, Samoa and Taiwan. This species may be identical with *L. elegans* (Bliss) from the western Indian Ocean.

Lycodontis nuttingi (Synder)
UG 6200, 699 mm TL, 238 m, Table Rock, 2.5 km north of Tanguisson Point, June, 1979.

Our identification is tentative. *L. nuttingi* is otherwise known only from the holotype obtained from the Honolulu Market and several specimens trapped in 185 to 275 m off Oahu in the Hawaiian Islands (Clarke, 1972).

Gymnothorax sp.
UG 1880, 5: 93–197 mm TL, 27–33 m, off NCS Beach, 23 June, 1968.

This species, which may be undescribed, has been illustrated in color by Burgess and Axelrod (1975, p. 1407, fig. 31) as *G. flavimarginatus*. Also known from the Solomon Islands, but is probably more widespread.

Strophiodon brummeri (Bleeker)
UG 6170, 442 m TL, 1.5 m, Alupang Cove, October, 1977.

Widespread in the Indo-West Pacific from East Africa to the Cook Islands.

Thyrsoidea macrurus (Bleeker)
UG 6137, 2,548 mm TL, about 0.8 km up Talofofo Stream, 28 February, 1977.

An insular locality such as Guam is unusual for this species. Inhabits estuarine and brackish waters of continental plate coastlines from East Africa to Fiji. Otherwise known in Micronesia from Palau.

Uropterygius supraforatus (Regan)
UG 6147, 4: 140–290 mm TL, 1–2 m, reef margin, north of Pelagi Island, Agat Bay, 22 November, 1974.

Widespread in the tropical Pacific from the Philippines to the Hawaiian and Society Islands.

SYNAPHOBRANCHIDAE*

Synaphobranchus sp.
UG 6021, 2: 335–395 mm TL, about 540 m, shrimp trap, Agana Bay, 3 December, 1975; UG 6253, 14: 419–697 mm TL, depth unknown, shrimp trap, west coast of Guam, July, 1980.

Generally found at depths exceding 500 m. One of more species of this genus are found along coastlines and deep banks of tropical and temperature seas throughout the world.

DUSSUMIERIDAE

Spratellioides sp.
UG 6198, 2: 174–188 mm SL, 21 m, Facpi Point, 17 March, 1978.

GOBIESOCIDAE

Aspasma sp.
UG 4476, 15 mm SL, reef front, Tanguisson Point, 6 May, 1970.

ANTENNARIIDAE

Antennarius sp. cf. **coccineus** (Lesson)
UG 5837, 17 mm SL, 10–12 m, Tanguisson Point, 16 September, 1972.

This specimen possesses an illicium which differs from that of the true *A. coccineus* and may represent a distinct species (T. W. Pietsch, personal communication). We have a specimen of the true *A. coccineus*, UG 6013, from Guguan Is., Northern Marianas.

Antennatus tuberosus (Cuvier)
UG 5620, 24 mm SL, bench near Marine Laboratory, Pago Bay, October 1970.

Widespread in the Indo-West Pacific.

Histrio histrio (Linnaeus)
UG 5329, 65 mm SL, in *Sargassum*, outer reef flat, northeast end of Pago Bay, 19 June 1970.

Usually pelagic, inhabiting floating rafts of *Sargassum*. Generally regarded as circumtropical but possibly absent from the eastern and much of the central Pacific (T. W. Pietsch, personal communication).

HOLOCENTRIDAE

Myripristis vittatus Cuvier

Based on a photograph (Fig. 4) taken in 28 m at the Blue Hole off Orote Peninsula. Inhabits caves and crevices, usually in depths exceeding 30 m. Widespread in the Indo-West Pacific.

SYNGNATHIDAE

Cosmocampus sp.
UG 6249, 0.5 m, in *Gracilaria*, reef flat north of NCS Beach, 1979.

Similar to, if not conspecific with *C. darrosanus* (Dawson & Randall) from the Indian Ocean (C. E. Dawson, personal communication).

SOLENOSTOMIDAE*

Solenostomus armatus Weber
UG 5800, 40 mm TL, 7.5 m, Double Reef, off Haputo Point, 5 October, 1968.

Apparently rare. Otherwise known from the holotype, 80 mm TL from 95 m in the Arufura Sea, and a post-larval specimen taken in a plankton haul off Bikini Atoll in the Marshall Islands (Schultz, in Schultz et al., 1953).

SCORPAENIDAE

Dendrochirus biocellatus (Fowler)
UG 5836, 58 mm SL, 11–12 m, Tanguisson Point, 16 September, 1972.

Widespread in the Indo-West Pacific from Sri Lanka to the Tuamotu Archipelago.

Scorpaena albobrunnea Günther
UG 6267, 55.7 mm SL, in *Pocillopora verrucosa*, 4 m, Luminao Reef, 22 September, 1980.

Inhabits large, robustly branching corals of the genus *Pocillopora* (Fig. 5). We also have specimens from Guguan Island, Northern Mariana Islands (UG 6010). Widespread in the Indo-West Pacific.

Scorpaenopsis cirrhosa (Thundberg)
UG 4186, 126 mm SL, 3–8.5 m, Double Reef, off Haputo Point, 6 December, 1969; UG 4330, 4: 54–154 mm SL, 11 m, Tanguisson Point, 25 February, 1970.

Widespread in the Indo-West Pacific.

CEPHALACANTHIDAE

Daicocus petersoni (Nystrom)
UG 6205, 352 mm SL, about 200 m, bottom fishing, Guam, 1978.

Found in depths of 90 m or more from South Africa to southern Japan.

SERRANIDAE

Anthias pleurotaenia (Bleeker)
UG 1932, 59 mm SL, 29–36 m, northwest Cocos Reef, 28 May, 1968; UG 6206, 84 mm SL, 27 m, Blue Hole, off Orote Peninsula, 13 September, 1978; UG 6207, 96 mm SL, 24 m, Blue Hole, 1977; UG 6208, 82 mm SL, 46 m, Saupan Point, 12 April, 1979.

Dorsal rays X, 18; anal rays III, 8; pectoral rays 17–18, upper two and lowermost unbranched; pored lateral line scales 48–50. The most common anthiine fish at Guam. Aggregates a few meters off the upper edge of dropoffs below 20 m which are exposed to tidal currents. Otherwise known from Indonesia and the Philippines east to the Solomon Islands and Samoa, south to New Caledonia and Queensland.

Anthias randalli Lubbock & Allen
UG 6261, 2: 45.6–51.1 mm SL, 24 m, Blue Hole, Orote Peninsula, 6 August, 1980.

Observed only in the vicinity of the collecting site. Females observed in

aggregations of 10 to 20 individuals hovering one to two m from the sides of the "Blue Hole" cave between 18 and 25 m; other females and a few males observed along the adjacent dropoff below 36 m. Known otherwise from the Philippine, Molucca, Palau and Marshall Islands (Lubbock and Allen, 1978).

Anthias taeniatus Klunzinger
UG 6247, 54.2 mm SL, 36 m, exposed shelf adjacent to vertical dropoff 1 km south of Orote Point, 30 July, 1980; UG 6259, 67.6 mm SL, 38 m, upper edge of dropoff, other data as above.

Our specimens, both females, agree well with those of Katayama (1978). Occurs in loose aggregations along the upper edge of dropoffs exposed to tidal currents below 16 m, often with *A. pascalus* and *A. pleurotaenia*. Widespread in the Indo-West Pacific from the Red Sea and Western Indian Ocean to Southern Japan.

Gracila polleni (Day)
UG 6183, 169 mm SL, Blue Hole, off Orote Peninsula, 25 August, 1978.

Our specimen exhibits the adult color pattern illustrated in color by Masuda et al. (1975, pl. 45 H) as *G. okinawae* (J. E. Randall, personal communication). It was observed with two other individuals on the roof of a cave below 35 m. Otherwise known from the western Indian Ocean to the Ryukyu Islands.

Liopropoma lunulatum (Guichenot)
UG 6209, 159 mm, 165 m, Cetti Bay, 16 April, 1970.

This and another specimen from Guam will be reported on in greater detail in a forthcoming revision of the genus by J. E. Randall and L. R. Taylor. Presently known otherwise from deep water from Reunion, Mauritius and the Ryukyu and Izu Islands (Masuda et al., 1975).

Plectranthias fourmanoiri Randall
UG 6210, 33.3 mm SL, 20 m, deep crevice in outer reef slope, Gun Beach, 15 April, 1979.

Occurs in the depth range of 5 to 44 meters. Otherwise known from Christmas Island in the eastern Indian Ocean, and in the western and central Pacific from the Marshall Islands to the Pitcairn Group (Randall, 1980).

Plectropomus melanoleucus (Lacépède)
UG 5761, 124 mm SL, no other data.

Seen occasionally below 10 m along outer reef slopes. Widespread in the Indo-West Pacific.

PSEUDOCHROMIDAE

Pseudoplesiops sp. 1
UG 6211, 2: 32–34 mm SL, Double Reef, Haputo Point, 6 December, 1969.

Dorsal rays I, 24; anal rays 14; pectoral rays 18; pored lateral line scales 29+6.

Pseudoplesiops sp. 2
UG 6212, 40.1 mm SL, 29 m, Blue Hole, off Orote Peninsula, 6 September, 1979.

Dorsal rays 27; anal rays 15; pectoral rays 18, upper three and lower two unbranched; pelvic rays, I, 3; caudal rays 18, upper three and lowermost unbranched; lateral line single, continuous. Color in life pink anteriorly, yellow posteriorly, fin membranes clear. We tentatively assign our specimen to this genus, which is poorly known and in need of revision.

APOGONIDAE

Archamia fucata (Cantor)
UG 5289, 3: 47–50 mm SL, 12–30 m, Apra Harbor near Gabgab Beach, 3 October, 1970.

Widespread in the Indo-West Pacific from the Red Sea east to Samoa and north to the Izu Islands.

Cheilodipterus lineatus (Linnaeus)
UG 5753, 30 mm SL, 3–8 m, Double Reef, off Haputo Point, 6 December, 1969.

Common in areas of rich coral growth below 3 m. Widespread in the Indo-West Pacific.

Siphamia versicolor (Smith & Radcliffe)
UG 2634, 27.2 mm SL, 3 m, Piti Channel, 16 February, 1980.

Lives in small groups among the spines of the sea urchin *Diadema setosum*. Known from Okinawa south to the Philippines and east to the Marshall Islands.

Siphamia fistulosa (Weber)
UG 5344, 24: 9–16 mm SL, 18 m, off seaplane ramp, Apra Harbor, among branches of *Pocillopora damicornis*, 15 December, 1970.

Known otherwise from the East Indies.

Apogonid species

Based on a photograph (Fig. 6) taken at 38 m in a cave between Facpi Point and Anae Island. Color in life yellow with a blue band running from above the eye to the caudal peduncle; base of caudal fin maroon, remaining fins clear. Occurs in small

aggregations in caves below 30 m.

EMMELICHTHYIDAE*

Emmelichthys karnellai Heemstra & Randall
UG 6213, 176 mm SL, from stomach of a *Caranx lugubris* caught in 165 m off Anae Island, 26 April, 1968.

Our specimen, which is in poor condition, has about 85 pored lateral line scales, 21 pectoral rays and 40 gill rakers on the first arch. Otherwise known from the Hawaiian Islands, Easter Island and the Philippines from 128 to 275 m (Heemstra & Randall, 1977; Randall, MS).

LUTJANIDAE

Randallichthys filamentosus (Fourmanior)
UG 6262, 523 mm SL, 219–274 m, "45° Bank", 13°39′N × 145°00′E, R. V. Typhoon cruise no. 7, 29 July, 1980.

Also known from New Caledonia and the Ryukyu and Hawaiian Islands where it has been confused with *Etelis* spp. Undoubtedly much more widespread.

CAESIONIDAE

Pterocaesio tile (Cuvier & Valenciennes)
UG 6214, 5: 146–157 mm SL, 21 m, Facpi Point, 21 March, 1978.

Not commonly observed at Guam. Occurs in large schools in deep lagoons, passes and along outer reef slopes. Widespread in the Indo-West Pacific.

NEMIPTERIDAE

Pentapodus macrurus (Bleeker)

Based on a photograph (Fig. 7) taken in 16 m at a large pinnacle north of Gabgab Beach, Apra Harbor. Fairly common in the Harbor, where it occurs in large schools. Known otherwise from the Ryukyu Islands and Southeast Asia (Masuda et al., 1975).

LETHRINIDAE

Gymnocranius griseus (Schlegel)

Based on a specimen (Fig. 8) trapped, tagged and released in 21 m off Facpi Point during 1978. Apparently rare at Guam. Widespread in the Indo-West Pacific.

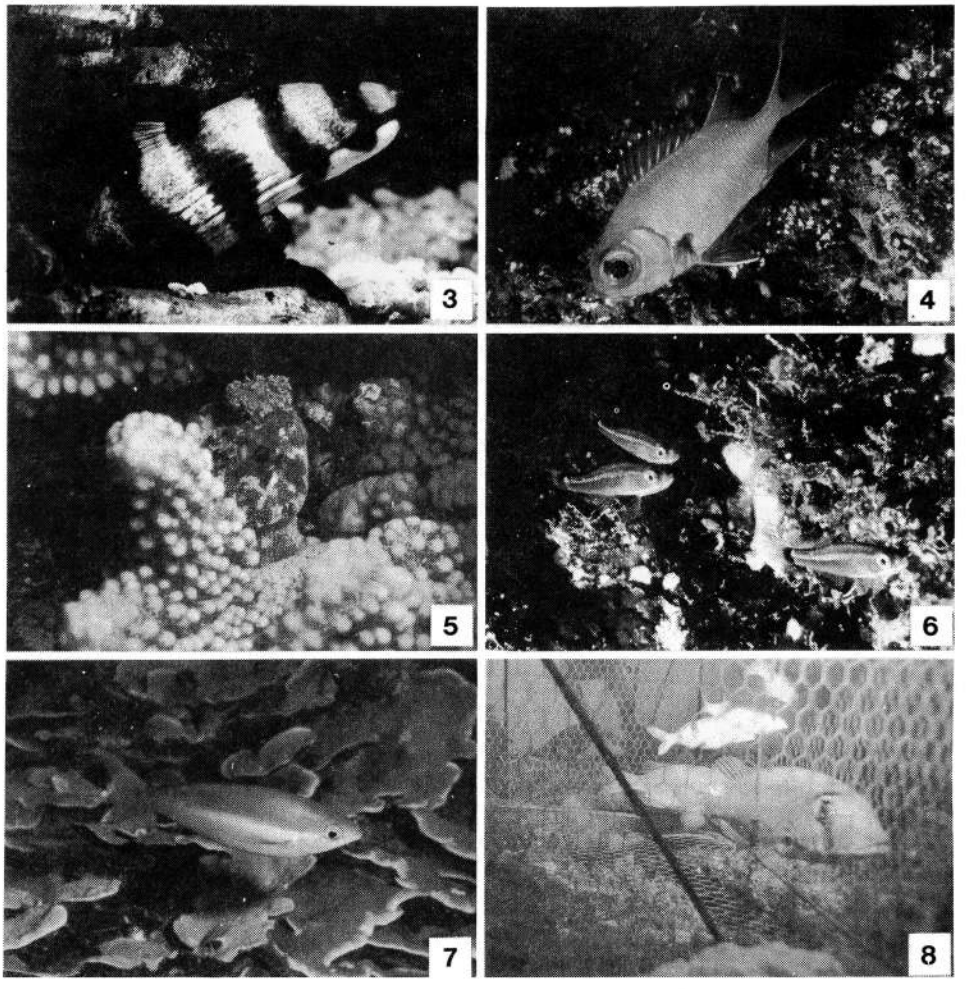


Fig. 3. *Echidna polyzona*, about 250 mm TL, from a reef flat on Guam.
Fig. 4. *Myripristis vittatus*, about 110 mm SL, at a depth of 28 m in the "Blue Hole".
Fig. 5. *Scorpaena albobrunnea*, about 50 mm SL, among the branches of *Pocillopora* sp. at a depth of 6 m, Luminao Reef.
Fig. 6. Apogonid sp., about 30 mm SL, at a depth of 38 m near Facpi Point.
Fig. 7. *Pentapodus macrurus*, about 150 mm SL, at a depth of 16 m on a coral pinnacle in Apra Harbor.
Fig. 8. *Gymnocranius griseus*, about 310 mm SL, in a fish trap in 21 m off Facpi Point. This specimen was tagged and released.

Lethrinus mahsena (Forsskål)

Based on a photograph (Fig. 9) of a fresh specimen, 261 mm SL, speared at a depth of about 8 m approximately 3 km southeast of Orote Point. The specimen was

subsequently lost, but the characters evident in the photograph agree well with accounts given by Sato (1971, 1978) for this species. Widespread in the Indo-West Pacific from the Red Sea to the Tuamotu Islands.

Lethrinus rubrioperculatus Sato
UG 6248, 219 mm SL, bottom fishing over deep water, collected with *Pristipomoides flavipinnis*, 31 July, 1980.

Generally caught in deeper water than the very similar *Lethrinus semicinctus* Valenciennes. Widespread in the Indo-West Pacific from the Red Sea to the Marshall Islands.

CHAETODONTIDAE

Chaetodon flavocoronatus Myers
BPBM 24790, 74.0 mm SL, holotype, 36 m, exposed shelf adjacent to vertical dropoff 1 km south of Orote Point, 30 July, 1980.

A formal description appears concurrently in this journal (Myers, 1980b). Known only from the holotype and observations at the type locality. Inhabits deep dropoffs at depths of 36 m or more. Closely related to *C. tinkeri* from the Hawaiian and Marshall Islands (Randall, MS) and *C. burgessi* from Palau.

Heniochus acuminatus (Linnaeus)
UG 6191, 165 mm SL, 75 m, Tarague Beach, 2 November, 1978.

Apparently rare in shallow water at Guam, although once observed in 3 m off Nimitz Beach. Widespread in the Indo-West Pacific.

POMACANTHIDAE

Centropyge vrolikii (Bleeker)
UG 6215, 75 mm SL, Guam, 1974, no other data.

Apparently rare at Guam. Widespread in the Indo-West Pacific from the Red Sea east to the Marshall Islands and New Hebrides, north to the Izu Islands. Hybrids of this species and *C. flavissimus* (Cuvier) are occasionally observed at Guam.

Genicanthus bellus Randall
UG 6216, 96 mm SL, 183 m, Adelup Point, 11 April, 1972.

Dorsal rays XV, 16; anal rays III, 17; pectroral rays 17; gill rakers 4+12. Known otherwise only from Tahiti, where it inhabits vertical dropoffs at 60 m or more, and Cocos-Keeling Atoll in the Indian Ocean (Randall, 1975).

Genicanthus watanabei (Yasuda & Tominaga)
UG 6217, 95.8 mm SL, 46 m, northwest Cocos Reef, 26 April, 1979.

Rare at Guam, where is occurs in pairs below 25 m along the outer reef slope. Known from the western and central Pacific from southern Japan and the Coral Sea to the Pitcairn Group (Randall, 1975).

POMACENTRIDAE

Amblyglyphidodon aureus (Cuvier)
UG 6218, 3: 23–25 mm SL, 17 m, under floats of wier net set in 21 m, north side of Facpi Point, 22 June, 1978.

The only adults observed occurred at a depth of 33 m along the edge of a submarine cliff off Saupan Point. Distributed in the Indo-Australian Archipelago and tropical West Pacific, east to Fiji and the Marshall Islands (Allen, 1975).

Chromis amboinensis (Bleeker)
UG 1377, 9: 19–55 mm SL, 27–36 m, northwest reef off Cocos Island, 18 June, 1968.

Common along the outer reef slope below 15 m. Widespread in the western Pacific, from the Indo-Australian Archipelago to Samoa and the Marshall Islands (Allen, 1975).

Chromis elerae Fowler & Bean
UG 6219, 41.2 mm SL, 29 m, Blue Hole, Orote Peninsula, 6 September, 1978.

Our specimen varies from the description given by Allen (1975) only in possessing 17 (rather than 16) tubed lateral-line scales and dark pelvic fins. The only individuals observed were aggregated at 29 m in a cave at the top of a submarine cliff. Recorded from Christmas Island, the Philippine Islands, Palau, New Guinea, Solomon Islands and Fiji (Allen & Steene, 1979).

Chromis vanderbilti (Fowler)
UG 6220, 2: 40.5–41.0 mm SL, 20 m, Asan, 28 September, 1979.

In addition to the specimens from Guam, we have also examined material from Anahatan in the Northern Mariana Islands (UG 5369). Widespread in the western Pacific, reaching east to the Hawaiian Islands (Allen, 1975) and north to the Izu Islands (Shepard and Moyer, 1980).

Chromis sp. 1
UG 5307, 2: 83.5–85.5 mm SL, 9–23 m, Tanguisson Point, 4 November, 1970.

Our specimens agree well with the description of Chromis species "A" given by Allen (1975), which probably represents a new species. It is abundant along the outer reef slope below 15 m in certain areas off the western coast of Guam. Forms loose aggregations a few meters above the substrate where it feeds on zooplankton. According to Allen (1975), it occurs in the Palau Islands, New Guinea, Solomon Islands, New Hebrides, Loyalty Islands, New Caledonia, Fiji, Samoa and the Society Islands.

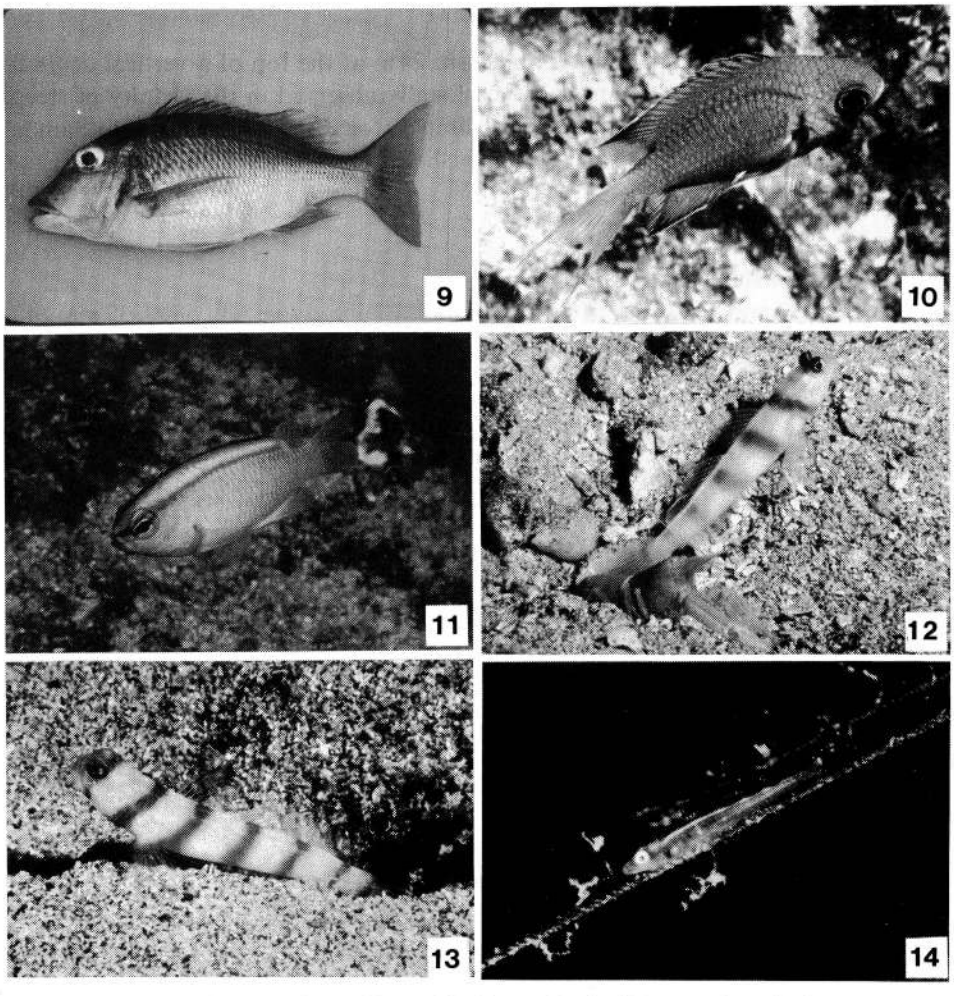


Fig. 9. *Lethrinus mahsena*, 261 mm SL, from a depth of 8 m near Orote Point.
Fig. 10. *Chromis* sp. 2, about 35 mm SL, at a depth of 7 m off Rizal Beach.
Fig. 11. *Chrysiptera caeruleolineatus*, about 35 mm SL, at a depth of 24 m at the "Blue Hole".
Fig. 12. *Amblyeleotris steinitzi*, about 55 mm SL, at a depth of 27 m off Facpi Point.
Fig. 13. *Amblyeleotris* sp., about 50 mm SL, at a depth of 18 m off Orote Peninsula.
Fig. 14. *Cottogobius* sp. 2, about 20 mm SL, at a depth of 17 m off Facpi Point.

Chromis sp. 2.

Based on a photograph (Fig. 10) taken in 7 m off Rizal Beach. On the basis of color pattern, we are unable to assign this species to any member of the genus *Chromis* known to us.

Chrysiptera caeruleolineatus (Allen)

Based on a photograph (Fig. 11) taken in 24 m at the top of a vertical dropoff near the Blue Hole, Orote Peninsula. Occasionally observed in the vicinity of steep outer reef slope dropoffs below 24 m. Distributed from New Guinea east to Samoa (Allen, 1975) and northwest to the Ryukyu Islands (Yoshino, 1976).

LABRIDAE

Cheilinus oxycephalus Bleeker
BPBM 17765, 87 mm SL, south of Uruno Point, 27 June, 1968; UG 5849, 37 mm SL, 10–12 m, Tanguisson Point, 16 September, 1972.

Inhabits lagoon and outer reef slopes from 3 to at least 33 m, generally in areas of rich coral growth. Widespread in the Indo-West Pacific from East Africa to Mangareva.

Cirrhilabrus sp.
UG 1723, 73 mm SL, 14 m, reef off Cocos Island, 30 March, 1966.

This species is presently undescribed and will be treated in a forthcoming review of Japanese *Cirrhilabrus* by J. W. Shepard and J. E. Randall. At Guam it is one of the most common labrids in depths greater than 15 m. Specimens have also been taken in southern Japan and the Philippine Islands.

Halichoeres hartzfeldi (Bleeker)
UG 6221, 99.5 mm SL, 18 m, south side of Orote Peninsula over sand and flat limestone pavement, 18 August 1978.

Observed only in the vicinity of the collecting site at Guam where it was fairly common between 15 and 20 m. Juveniles have been observed and photographed at 11 m in an area of small patch reefs on a sandy plain in Tanapag Lagoon, Saipan. Previous records apparently include only Indonesia and the Philippine Islands, but recently collected in Samoa.

Hologymnosus sp.
UG 6222, 208 mm SL, Guam, August, 1975.

The identity of the species at Guam is problematical. Recent authors have recognized only one species in the genus, *H. semidiscus* (Lacépède), but the presence of two distinctly different juvenile color forms in Japan and other localities suggests that more than one species is involved. Meristic and morphometric data from our limited Japanese and Mariana Island material are inconclusive; reliable identification of the species of *Hologymnosus* must await the completion of more detailed studies.

Labropsis sp.
UG 6244, 2: 14–26 mm SL, 23–24 m, among the branches of *Acropora,* Tanguisson Point, 16 July, 1980.

This species is the second undescribed *Labropsis* to be discovered at Guam. The first was recorded by Shepard and Meyer (1978) (Table 2). Both will be described in a forthcoming revision of the genus by J. E. Randall.

Pseudocheilinus octotaenia Jenkins
UG 4445, 77 mm SL, 20 m, Tanguisson Point, April 16, 1970

Apparently uncommon at Guam. Widespread in the Indo-West Pacific. Previous records include the Hawaiian, Marshall, Society and Rukyu Islands, Ducie Atoll and the Indian Ocean (Shepard and Meyer, 1978).

Pseudocheilinus tetrataenia Schultz
UG 4192, 32 mm SL, 3–9 m, Double Reef, off Haputo Point, 6 December, 1969.

In addition to the specimen from Guam, we have examined material from Saipan (UG 4880) and Guguan (UG 5942) in the Northern Marianas. Also known from the Hawaiian, Marshall and Society Islands (Schultz, in Schultz et al., 1960; Randall, 1973).

Pterogogus guttatus (Fowler & Bean)
UG 5290, 6: 26–37 mm SL, 12–30 m, Gabgab Beach, Apra Harbor, 3 October, 1970.

Most members of *Pterogogus* are poorly known and the genus is in need of revision. The small size of our specimens makes a direct comparison with the origianl description difficult. However, our material agrees well with the account of the species given by Schultz (in Schultz et al., 1960). Previously known from the Philippine and Marshall Islands.

Thalassoma fuscum (Lacépède)
UG 1754, 129 mm SL, 1.5 m, Cocos Island, 12 October, 1965.

According to Randall (1973), both *T. fuscum* and *T. purpureum* (Forsskål) were described from specimens in the terminal male coloration, and their very similar initial color phases have been collectively identified as *T. umbrostigma* (Rüppell) by previous authors. Both male color forms occur at Guam, but only *T. purpureum* (in part as *T. umbrostigma*) has previously been recorded from the island (cf. Appendix). Widespread in the Indo-West Pacific, as far east as the Hawaiian and Society Islands.

BLENNIIDAE

Cirripectes quagga (Fowler & Ball)
UG 4559, 8: 30–45 mm SL, reef front, Tanguisson Point, 6 May, 1970.

The status of this species is uncertain, pending a revision of *Cirripectes* (V. G. Springer, personal communication). Otherwise presently known from only Wake Island, the Marshall Islands and Samoa.

TRICHONOTIDAE

Trichonotus sp.
UG 6224, 34 mm SL, 10 m, Sella Bay, 30 August, 1978.

Dorsal rays 44; anal rays 41; pectoral rays 14. Lower jaw projects beyond snout. A conspicuous black spot present between first three dorsal elements. Sides with two longitudinal dark bands and a row of elongate dark ovals just beneath dorsal fin base. Our specimen may represent the juvenile of an unidentified *Trichonotus* observed in large aggregations over an expanse of dark sand in Sella Bay.

CALLIONYMIDAE

Callionymus xanthosemeion (Fowler)
UG 4338, 3: 39–42 mm SL, all females, 3 m, Ypao Beach, February, 1970; UG 4460, 2: 27–28 mm SL, male and female, "Mobile Beach", Apra Harbor, 18 April, 1970; UG 4519, 20 mm SL, female, Yacht Club, Apra Harbor, April 1970; UG 4586, 3: 28–37 mm SL, all ripe females, 0.6 M, Ypao Beach, 7 June 1970; UG 4744, 3: 35–38 mm SL, all males, 0.1–0.3 m, USO Beach, July, 1970.

We tentatively follow Schultz (in Schultz et al., 1966) in separating this species from *S. calliste* Jordan & Fowler. Apparently fairly common in protected shallow sandy areas along the shoreline. Known also from Japan, the Philippines and Samoa.

Diplogrammus goramensis (Bleeker)
UG 5746, 24 mm SL, 3–8.5 m, Double Reef, off Haputo Point, 6 December, 1969.

Common on sand flats from one to more than 10 m. Widespread in the Indo-West Pacific.

Synchiropus sp. 1.
UG 5764, 29 mm SL, 8 m, Double Reef, 5 October, 1968.

We also have four specimens (UG 5130), 11 to 28 mm SL, from Beach Cave Cove, Tinian. Dorsal rays IV, 8–9; anal rays 7–8; pectoral rays 20–21. In preservative, top of back with two prominent ocelli, each with a dark center, and sides of body with three irregular rows of large light-centered ocelli, resembling those of *S. picturatus* (Peters). In life, "scarlet below head and on breast" according to H. Larson.

Synchiropus sp. 2.
UG 5755, 20 mm SL, 21–24 m, Double Reef, 27 June, 1968.

Dorsal rays IV, 8; anal rays 6; pectoral rays 19; two spiny points on preopercular spine; no distinctive markings visible. Specimen in poor condition, having been dried, then rehydrated.

GOBIIDAE

Amblyeleotris guttatus (Fowler)
UG 6225, 2: 47–64 mm SL, 26 m, Facpi Point, 6–14 June 1978; UG 6226, 71 mm SL, 10 m, Sella Bay, 30 August, 1978.

Occurs singly or in pairs, inhabiting the burrows of alpheid prawns. Common in certain areas on sandy patches from 10 to at least 30 m. Otherwise known from the Caroline and Philippine Islands to Samoa.

Amblyeleotris steinitzi (Klausewitz)

Based on a photograph (Fig. 12) taken in 27 m off Facpi Point. In addition, one specimen was collected and sent to R. Lubbock who provided the identification. Occurs in pairs associated with an alpheid prawn and its burrow, often adjacent to burrows inhabited by *A. guttatus*. Fairly common in certain areas below 20 m. Widespread in the Indo-West Pacific from the Red Sea to the Marshall Islands and Samoa.

Amblyeleotris sp.

Based on a photograph (Fig. 13) taken in 18 m off the south side of the Orote Peninsula. This new species will be described by D. F. Hoese and J. E. Randall (personal communication). Occurs in pairs associated with an alpheid prawn and its burrow on sand patches below 17 m.

Amblygobius decussatus (Bleeker)
UG 6233, specimen in two pieces, 3 m, Cetti Bay, 7 February, 1980; UG 6264, 37 mm SL, 1.5 m, Sasa Bay, mud and rubble between scattered corals, 30 July, 1980.

Reported, but not collected, by Jones and Chase (1975). Found in quiet, turbid inshore waters, where it lives singly or in small groups. When disturbed, enters a burrow constructed in silty substrate. We also have specimens and photographs from Truk and Ponape. Previously known from the Philippines and Indonesia to the New Hebrides.

Cottogobius sp. 1.
UG 6250, 4: 14.1–14.4 mm SL, 1–3 m, on *Porites cocosensis*, Sasa Bay, 31 July, 1980.

First dorsal rays VI; second dorsal rays I, 7–8; anal rays I, 7; pectoral rays 14 (one with 14/15). Lives on the branches of *Porites cocosensis* in shallow protected areas.

Cottogobius sp. 2.

Based on a photograph (Fig. 14) taken in 17 m off Facpi Point. The individual photographed was one of several that had settled out on strands of string overgrown with algae. Certain members of this genus inhabit long strands of *Cirripathes* and other "whip corals".

Ctenogobiops pomastictus Lubbock & Polunin

Based on a photograph (Fig. 15) taken in 27 m off Facpi Point. Like species of *Amblyeleotris, Ctenogobiops* inhabits alpheid prawn burrows. Common on sandy patches from depths of 1 m inside the reef to at least 27 m on the outer reef slope. Otherwise known presently only from Lizard Island, Queensland, Australia.

Ctenogobiops tangaroai Lubbock & Polunin
UG 6227, 44.9 mm SL, 27 m, Pago Bay, 3 December, 1979.

First dorsal rays VI; second dorsal rays I, 11; anal rays I, 11; pectoral rays 19; branched caudal rays 14; pelvic rays I, 5. Somewhat common in sandy depressions on the outer reef slope off Pago Bay in depths from 21 to at least 30 m. Inhabits alpheid prawn burrows, often adjacent to those of *Amblyeleotris guttatus.*

Fusigobius sp.
UG 6251, 51.6 mm SL, 7 m, sand under ledge, Tanguisson Point, 21 May 1980.

First dorsal rays VI; second dorsal rays I, 9; anal rays I, 8; pectoral rays 17; about 24 longitudinal scale rows; scales absent on mid-line of nape. Very similar to *F. longispinus* Goren and *Fusigobius* sp. 3 of Hoese (in Allen and Steene, 1979). Found in sandy areas under ledges and in caves along the outer reef slope.

Istigobius spence (Smith)
UG 6232, 54.8 mm SL, 27 m, Pago Bay, 3 December, 1979.

Very similar in appearance to *I. ornatus* (Rüppell) (often placed in *Acentrogobius*), but has fewer predorsal scales (8–9 versus 10–11 in *ornatus*) and lacks free pectoral rays (Goren, 1978). Found from shallow, silty bays to a depth of at least 27 m on the outer reef slope, where it is common on sandy patches. We have also examined specimens from Tinian (UG 5136) and Saipan (UG 5225). Otherwise known from the Red Sea and South Africa to Indonesia.

Lotilia graciliosa Klausewitz

Based on a photograph (Fig. 16) taken at a depth of 1.5 m off Nimitz Beach. Occurs in sandy depressions of reef flats and outer reef slopes to a depth of at least 26 m. It is solitary and lives in association with an alpheid prawn, but unlike other prawn-associated gobies, may be observed hovering a few cm above the entrance of the burrow rather than resting on sand. Otherwise known only from the holotype

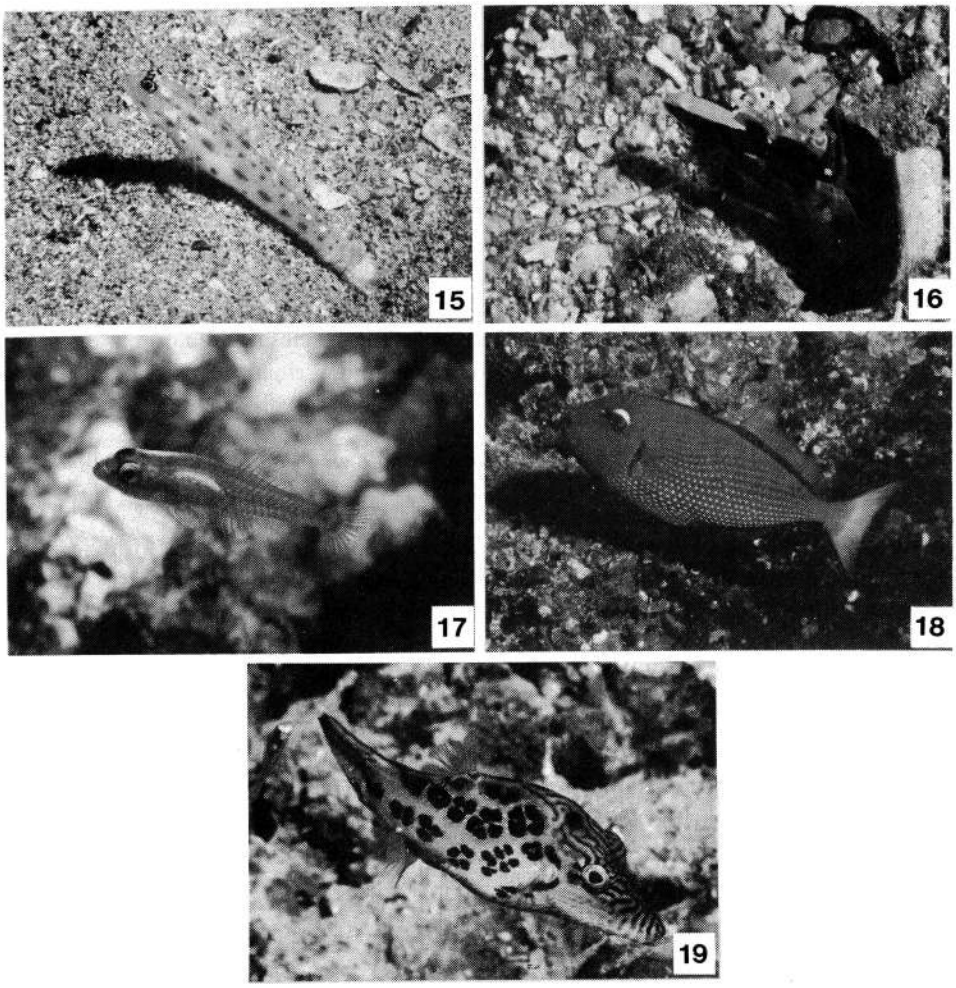


Fig. 15. *Ctenogobiops pomasticus*, about 40 mm SL, at a depth of 27 m off Facpi Point.
Fig. 16. *Lotilia graciliosa*, about 35 mm SL, at a depth of 1.5 m off Nimitz Beach.
Fig. 17. *Trimma* sp. 2, about 20 mm SL, at a depth of 14 m, Western Shoals.
Fig. 18. *Xanthichthys auromarginatus*, about 130 mm SL, at a depth of 30 m near Achae Point.
Fig. 19. *Canthigaster leoparda*, about 60 mm SL, at a depth of 30 m in the "Blue Hole".

collected in the Red Sea (Klausewitz, 1960).

Ptereleotris evides (Jordan & Hubbs)
UG 1528, 2: 75–83 mm SL, 30 m, northwest Cocos Reef, 30 June, 1968.

Common along outer reef slopes from 3 to more than 30 m. Widespread in the Indo-West Pacific.

Redigobius sp.
UG 5948, 2: 13–21 mm SL, Acfayan Bay at river mouth, 13 June, 1972.

First dorsal rays IV; second dorsal rays I, 10; anal rays I, 9; pectoral rays 17. Our assignment of this species to *Redigobius* must remain provisional.

Trimma sp. 1
UG 4234, 63: 11–24 mm SL, 3–6 m, Double Reef, Haputo Point, 6 December, 1969.

First dorsal rays VII; second dorsal rays I, 8–9; pectroral rays 17; longitudinal scale rows 23–25. The first dorsal spine is small and not readily apparent on many specimens. The coloration in life closely resembles the species figured on plate 89 L of Masuda et al. (1975). This *Trimma* appears to be undescribed.

Trimma sp. 2
UG 6242, 2: 8.4–15.4 mm SL, over *Acropora granulosa*, 14 m, Western Shoals, Apra Harbor, 28 March, 1980.

First dorsal rays IV; second dorsal rays I, 8; anal rays I, 9; pectoral rays 16. Occurs in aggregations above certain branching species of *Acropora* in depths from 12 to at least 20 m (Fig. 17). Another species which is apparently undescribed.

Valenciennea puellaris (Tomiyama)
UG 6228, 64.6 mm SL, 16 m, sand and rubble, south side of Orote Peninsula, August, 1978.

Occurs on patches of sand and rubble below 15 m along the outer reef slope. Otherwise known from the Ryukyu and Bonin Islands to Kochi Prefecture, Japan, New Caledonia and Samoa.

KRAEMERIIDAE

Kraemeria samoensis Steindachner
UG 6245, 25.5 mm SL, fine white sand along shoreline in about 5 cm, NCS Beach, 14 July, 1980.

Agrees well with the account by Schultz (in Schultz et al., 1966). Lives partially burrowed in fine sand. Widespread in the Indo-West Pacific from the Seychelles to Samoa.

NOMEIDAE

Psenes cyanophrys Cuvier & Valenciennes
UG 6263, 4: 43–48 mm SL, 2–5 m below surface at tuna aggregating bouy 3 km off Facpi Point, 13 June, 1980.

A large school of 100 or more juveniles ranging up to about 120 mm SL were

observed in the vicinity of a tuna appregating bouy. Juveniles feed on *Physalia*; adults are probably mesopelagic (Masuda et al., 1975). Worldwide, mainly in subtropical waters.

BALISTIDAE

Canthidermis maculatus (Bloch)
UG 5724, 87 mm SL, Guam, June, 1967, no other data.

Xanthichthys auromarginatus (Bennett)

Based on a photograph (Fig. 18) taken at a depth of about 30 m, southwest of Achae Point. Occurs near ledges and dropoffs below 20 m. Widespread in the Indo-West Pacific, from the Maldives to the Hawaiian Islands.

Xanthichthys caeruleolineatus Randall, Matsuura & Zama
UG 6190, 199 mm SL, 74 m, bottom fishing off Tarague Beach, 2 November, 1978.

Generally found in deeper water than other members of the genus. Otherwise known from widely scattered insular localities of the Indo-West Pacific, from the Agalega Islands southeast of the Seychelles (incorrectly reported as St. Brandon's Shoals in Randall et al., 1979; V. G. Springer, personal communication), to the Tuamotu Archipelago (Randall et al., 1979).

MONACANTHIDAE

Amanses scopas (Cuvier)
UG 4437, 143 mm SL, 3 m, Tanguisson Point, 10 April, 1970.

Observed occasionally along the reef margin and outer reef slope to a depth of 25 m. Widespread in the Indo-West Pacific.

TETRAODONTIDAE

Canthigaster coronata (Vaillant & Sauvage)
UG 6229, 76.8 mm SL, 11 m, Pago Bay, 17 October, 1979.

We have observed this species only once at Guam. Often confused in the literature with *Canthigaster valentini*, which is common at Guam. We have also examined a specimen from Agrihan Island, Northern Marianas (UG 5503). Widespread in the Indo-West Pacific.

Canthigaster epilampra (Jenkins)
UG 6230, 67.6 mm SL, 29 m, Blue Hole, Orote Peninsula, 6 September, 1978.

Occurs along steep outer reef slopes, usually below 15 m. Widespread, ranging from Rarotonga and the Hawaiian Islands to Palau and the Solomon Islands in the

Pacific and Christmas Island in the eastern Indian Ocean (Allen and Randall, 1977; Allen and Steen, 1979).

Canthigaster leoparda Lubbock & Allen

Based on a photograph (Fig. 19) taken at a depth of 30 m in the Blue Hole, a large cave off Orote Peninsula. Another individual was collected from the same location at 37 m and photographed, but was subsequently lost. This species has also been collected in Indonesia, the Philippines and Christmas Island (Allen, personal communication). Apparently inhabits caves below 30 m.

ADDITIONAL NEW RECORDS FROM THE SOUTHERN MARIANA ISLANDS

RHYNCHOBATIDAE*

Rhynchobatus djeddensis (Forsskål)

We have examined photographs on file with the Department of Marine Resources of the Commonwealth of the Northern Marianas showing a specimen collected in Tanapag Lagoon, Saipan. Widespread from the Red Sea to southern Japan, New Caledonia and Samoa.

MURAENIDAE

Gymnothorax marshallensis (Schultz)
UG 5218, 4: 125–186 mm TL, Unai Magpi reef front, Saipan, 18 August, 1980; UG 5975, 3: 148–178 mm TL, 5–10 m, among live corals, Guguan Island, 11 January, 1970.

Known otherwise from the Marshall Islands.

Gymnothorax pindae Smith
UG 5111, 103 mm TL, patch reef southwest of Tanapag Channel, Saipan, 17 August, 1970; UG 5179, 6: 46–100 mm TL, Beach Cave Cove, Tinian, 15 August, 1970.

Widespread from South Africa to the Society Islands and Midway Atoll.

SCORPAENIDAE

Scorpaenodes brocki (Schultz)
UG 4875, 32 mm SL, 1.8–15 m, Unai Magpi reef front, Saipan, 18 August, 1970.

Known otherwise from the Philippines and Mollucas to the Marshall Islands and Samoa.

SERRANIDAE

Liopropoma pallidum (Fowler)
UG 5140, 5: 44–58 mm SL, Beach Cave Cove, Tinian, 5 August, 1970: UG 5448, 50 mm SL, Anahatan, 14 February, 1971.

Known otherwise from the Society, Line and Marshall Islands.

POMACANTHIDAE

Centropyge nigriocellus Woods & Schultz
UG 5137, 43 mm SL, Beach Cave Cove, Tinian, 15 April, 1970.

Known otherwise from Johnston Atoll and the Society, Samoan, Line and Admiralty Islands.

LABRIDAE

Novaculichthys macrolepidotus (Bleeker)
UG 6235, 88.9 mm SL, 2.5 m, bed of *Halodule uninervis*, Tanapag Lagoon, Saipan, January, 1979.

Widespread from the western Indian Ocean to Samoa.

URANOSCOPIDAE

Uranoscopus kaianus Günther
UG 5951, 217 mm SL, 124–135 m, north side of "54 Fathom Bank", off northwest side of Rota, 25 October, 1973.

Previously reported as *Uranoscopus* sp. by Grigg and Eldredge (1975). Known otherwise from the Indo-Australian Archipelago.

GOBIIDAE

Gobiodon rivulatus Rüppell
UG 5224, 3: 15–22 mm SL, patch reef south of Tanapag Channel, Saipan, 17 August, 1970.

Hazeus unisquamis Gosline
UG 5181, 12 mm SL, Beach Cave Cove, northwest of Tinian Town, Tinian, 10 April, 1971.

MICRODESMIDAE

Gunnellichthys monostigma Smith
UG 6236, 88.9 mm SL, 2.5 m, fine sand near bed of the seagrass *Halodule uninervis*,

Tanapag Lagoon, Saipan, 26 January, 1979.

Widespread in the Indo-West Pacific from East Africa to the Society Islands.

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APPENDIX

Clarification of the identity of some fishes previously recorded from Guam.

Record	Present Allocation
CARCHARHINIDAE	
Carcharhinus menisorrah (Muller & Henle) Kami et al. (1968 : 96)	*Carcharhinus amblyrhynchos* (Bleeker) Randall (1973 : 171)
MURAENIDAE	
Anarchias leucurus (Snyder) Kami (1975 : 119)	*Anarchias seychellensis* Smith Randall & McCosker (1975 : 9–13)
Gymnothorax petelli (Bleeker) Kami (1971 : 223)	*Lycodontis rueppelliae* (McClelland) McCosker & Rosenblatt (1975 : 423)
Gymnothorax rupelli (McClelland) Schultz (in Schultz et al., 1953 : 121–122) Kami et al. (1968 : 98)	*Lycodontis* sp. This species is currently without an available name (McCosker & Rosenblatt, 1975 : 423)
Gymnothorax thyrsoideus (Richardson) Schultz (in Shultz et al., 1953 : 121–122) Kami et al. (1968 : 98)	*Gymnothorax* sp. This species may be undescribed (Randall, 1973 : 174)
ANTENNARIIDAE	
Antennarius altipinnis Smith & Radcliffe Schultz et al., (1966 : 145) Kami et al., (1968 : 129)	*Antennarius dorehensis* Bleeker UG specimens examined by T. W. Pietsch
Antennarius phymatodes Bleeker Kami (1971 : 217)	*Antennarius maculosus* Bleeker (T. W. pietsch, personal communication)
Phrynelox triantennatus nox (Jordan) Kami (1971 : 217)	*Antennarius pictus* (Shaw) UG specimens examined by T. W. Pietsch
HEMIRAMPHIDAE	
Hemiramphus marginatus Forsskål Kami et al. (1968 : 99)	*Hemiramphus archipelagicus* Collette & Parin Collette & Parin (1978 : 731)
HOLOCENTRIDAE	
Holocentrus laevis Günther Woods (in Schultz et al., 1953 : 214–215) Kami et al. (1968 : 100)	*Flammeo argenteus* (Valenciennes) Schimizu & Yamakawa (1979 : 137)
Holocentrus praslin (Lacépède) Kami et al. (1968 : 100)	*Adioryx ruber* (Forsskål) Schimizu & Yamakawa (1979 : 126)
Myripristis argyromus Jordan & Evermann Woods (in Schultz et al., 1953 : 205–206) Kami et al. (1968 : 101)	*Myripristis amaenus* (Castlenau) Greenfield (1974 : 8)

Appendix. (continued)

Record	Present Allocation
Myripristis chryseres Jordan & Evermann Kami (1971 : 221)	*Myripristis kuntee* Valenciennes Allen (in Allen et al., 1976 : 388)
Myripristis micropthalmus Bleeker Kami et al. (1968 : 101)	*Myripristis violaceus* Bleeker Greenfield (1974 : 12)
Myripristis multiradiatus Günther Kami et al. (1968 : 100)	*Myripristis borbonicus* Cuvier Allen (in Allen et al., 1976 : 388)
FISTULARIIDAE	
Fistularia petimba Lacépède Kami et al. (1968 : 101)	*Fistularia commersonii* Rüppell Fritzsche (1976 : 196–204)
SYNGNATHIDAE	
Corythoichthys flavofasciatus conspicillatus (Jenyns) Herald (in Schultz et al., 1953 : 273–275) Kami et al. (1968 : 101)	*Corythoichthys flavofasciatus* Rüppell Dawson (1977b : 309)
Corythoichthys intestinalis waitei (Jordan & Seale) Kami et al. (1968 : 101)	*Corythoichthys intestinalis* (Ramsay) Dawson (1977b : 311)
Ichthyocampus diacampus Schultz Kami (1971 : 226)	*Phoxocampus diacanthus* (Schultz) Dawson (1977a : 597)
Ichthyocampus kampeni Weber Kami (1971 : 226)	*Phoxocampus diacanthus* (Schultz) The record of *Ichthyocampus kampeni*, a junior synonym of *P. tetrophthalmus*, was based on a missidentification of *P. diacanthus* (C. E. Dawson, personal communication).
SCORPAENIDAE	
Scorpaenopsis gibbosa (Bloch & Schneider) Kami et al. (1968 : 125)	*Scorpaenopsis diabolus* Cuvier Eschmeyer & Randall (1975 : 305)
SERRANIDAE	
Caesioperca thompsoni Fowler Kami et al. (1968 : 104)	*Anthias (Mirolabrichthys) pascalus* (Jordan & Tanaka) We have examined the specimen cited by Kami et al. (1968).
Cephalopholis coatesi Whitley Kami et al. (1968 : 104)	*Cephalopholis sexmaculatus* (Rüppell) Hoese (in Allen et al., 1976 : 393)
Cephalopholis obtusaurus Evermann & Seale Kami et al. (1968 : 104)	*Cephalopholis* sp. The specimens cited by Kami et al. were examined by us and compared with recent material which corresponds with a currently undescribed species (J. E. Randall, personal communication).
Epinephelus elongatus Schultz Kami et al. (1968 : 104)	*Epinephelis tauvina* (Forsskål) Katayama (1960 : 84)

Appendix. (continued)

Record	Present Allocation
Epinephelus emoryi Schultz Kami et al. (1968 : 103)	*Epinephelis fasciatus* (Forsskål) Katayama (1960 : 79)
Epinephelus daemetii Günther Seale (1901 : 76–77) Kami et al. (1968 : 104)	*Epinephelus fuscoguttatus* (Forsskål) or *Epinephelus microdon* (Bleeker) Seale's specimen probably represents one of the species above, both of which occur at Guam and have frequently been confused with *E. daemelii* (misspelled by Seale) by previous authors. *E. daemelii* probably does not occur north of southern Queensland (Hoese, in Allen et al., 1976 : 393–394)
Holanthias chrysostictus (Günther) Kami (1975 : 120)	*Holanthias katayamai* Randall, Mauge & Plessis Kami's specimen was designated the holotype of *H. katayamai* (Randall et al., 1979 : 17)
Pteranthias longimanus Weber Kami (1975 : 120)	*Plectranthias nanus* Randall The specimen cited by Kami was examined by us.
Scalantarus chrysostictus Smith Kami et al. (1968 : 120)	*Holanthias katayamai* Randall, Mauge & Plessis The specimen cited by Kami et al. was subsequently designated as paratype of *H. katayamai* (Randall et al., 1979 : 17).
KUHLIIDAE	
Kuhlia taeniura (Cuvier & Valenciennes) Kami et al. (1968 : 103)	*Kuhlia mugil* (Bloch & Schneider) Randall (1973 : 187)
APOGONIDAE	
Apogon erythrinus Snyder Lachner (in Schultz et al., 1953 : 446–447) Kami et al. (1968 : 105)	*Apogon coccineus* Rüppell Randall (1973 : 183)
Apogon menatopterus Bleeker Kami et al. (1971 : 217)	*Sphaeramia orbicularis* (Cuvier) Kami's specimens were examined by us.
Apogon novae-guineae Valenciennes Kami et al. (1968 : 105)	*Apogon* sp. This species may be undescribed (J. E. Randall, personal communication).
Apogon synderi Jordan & Seale Lachner (in Schultz et al., 1953 : 453–455) Kami et al. (1968 : 105)	*Apogon kallopterus* Bleeker Randall (1973 : 183)
CARANGIDAE	
Carangoides ferdau jordani (Nichols) Kami et al. (1968 : 107)	*Carangoides orthogrammus* (Jordan & Gilbert) Smith-Vaniz (personal communication)
Scomberoides sancti-petri (Cuvier) Kami et al. (1968 : 106)	*Scomberoides lysan* (Forsskål) Smith-Vaniz & Staiger (1973)

Appendix. (continued)

Record	Present Allocation
LUTJANIDAE	
Lutjanus vaigiensis (Quoy & Gaimard) Kami et al. (1968 : 107)	*Lutjanus fulvus* (Bloch & Schneider) Randall (1973 : 189)
Pristipomoides microlepis Kami et al. (1968 : 108)	*Pristopomoides filamentosus* (Cuvier & Valenciennes) Kami (1973 : 107)
Rooseveltia brighami (Seale) Kami et al. (1968 : 108)	*Tropidinius zonatus* (Cuvier & Valenciennes) The specimen cited by Kami et al. was examined. *R. brighami*, described from the Hawaiian Islands, is a junior synonym.
POMADASYIDAE	
Plectorhinchus cuvieri (Bennett) Kami et al. (1968 : 109)	*Plectorhynchus lineatus* (Linnaeus) Examined by us.
Plectorhinchus chaetodontoides Lacepede Kami (1971 : 222)	*Plectorhynchus orientalis* (Bloch) Examined by us.
LETHRINIDAE	
Lethrinus rhodopterus Bleeker Schultz et al. (1953 : 554) Kami et al. (1968 : 107)	*Lethrinus harak* (Forsskål) Sato (1978 : 15)
MULLIDAE	
Mulloidichthys auriflamma (Forsskål) Kami et al. (1968 : 114)	*Mulloidichthys vanicolensis* (Cuvier & Valenciennes) Randall (1973 : 191)
Mulloidichthys samoensis (Günther) Kami et al. (1968 : 114)	*Mulloidichthys flavolineatus* (Lacépède) Randall (1973 : 191)
Parupeneus multifasciatus (Quoy & Gaimard) Kami et al. (1968 : 114)	*Parupeneus trifasciatus* (Lacépède) Examined by us.
CHAETODONTIDAE	
Chaetodon falcula Bloch Kami et al. (1968 : 109–110)	*Chaetodon ulietensis* Cuvier & Valenciennes Burgess (1978 : 608)
Chaetodon pelewensis Kner Kami et al. (1968 : 110)	*Chaetodon punctatofasciatus* Cuvier The specimen cited by Kami et al. was examined by us.
Hemitaurichthys zoster (Bennett) Kami (1971 : 219)	*Hemitaurichthys polylepis* (Bleeker) Burgess (1978 : 203)
Heniochus permutatus Cuvier Kami et al. (1968 : 110)	*Heniochus chrysostomus* Cuvier & Valenciennes Burgess (1978 : 238)

Appendix. (continued)

Record	Present Allocation
Megaprotodon strigangulus (Gmelin) Kami et al. (1968 : 109)	*Megaprotodon trifascialis* (Quoy & Gaimard) Burgess (1978 : 423)
POMACANTHIDAE	
Holacanthus cyanotis Günther Seale (1901 : 103) Kami et al. (1968 : 111)	*Centropyge flavissimus* (Cuvier) Fraser-Brunner (1933)
POMACENTRIDAE	
Abudefduf amabilis (DeVis) Kami et al. (1968 : 115)	*Chrysiptera leucopomus* (Lesson) Allen (1975 : 155)
Abudefduf saxatilis (Linnaeus) Woods & Schultz (in Schultz et al., 1960 : 84–85) Kami et al. (1968 : 115)	*Abudefduf vaigiensis* (Quoy & Gaimard) Hensley & Allen (1977 : 108)
Amphiprion bicinctus Rüppell Kami et al. (1968 : 116)	*Amphiprion chrysopterus* Cuvier The specimens cited by Kami et al. were examined by us.
Amphiprion ephippium (Bloch) Seale (1901 : 81) Fowler (1925 : 14) Kami et al. (1968 : 116)	*Amphiprion melanopus* Bleeker Allen (1972 : 88–92)
Amphiprion sebae Bleeker Fowler (1925 : 13) Kami et al. (1968 : 116)	*Amphiprion chrysopterus* Cuvier Allen (1972 : 146)
Amphiprion xanthurus Cuvier & Valenciennes Kami (1971 : 224)	*Amphiprion clarkii* (Bennett) Allen (1972 : 110)
Chromis dimidiatus (Klunzinger) Kami (1971 : 224)	*Chromis magaritifer* Fowler Allen (1975 : 86)
Chromis leucurus Gilbert Kami (1971 : 225)	*Chromis agilis* Smith We were unable to locate the specimens cited by Kami. *C. leucurus* is presently known only from the Hawaiian and Marquesas Islands (Allen, 1975). *C. agilis* is relatively common at Guam and has been confused with *C. leucurus* by many recent authors (Randall & Swerdloff, 1973). It seems probable that the record of *C. leucurus* from Guam was based on specimens of *C. agilis*, which is well represented in the UG fish collection.
Chromis ternatensis (Bleeker) Kami (1971 : 225)	*Chromis acares* Randall & Swerdloff The specimens cited by Kami were examined. They agree well with other specimens of *C. acares* from Guam.

Appendix. (continued)

Record	Present Allocation
Chromis vanderbilti (Fowler) Kami (1971 : 225)	*Chromis acares* Randall & Swerdloff The specimens cited by Kami were subsequently designated paratypes of *C. acares* (Randall & Swerdloff, 1973 : 331).
Chromis xanthochir (Bleeker) Kami (1971: 225)	*Chromis xanthura* (Bleeker) The specimens cited by Kami, now in the UG fish collection, agree well with the account of *C. xanthura* given by Allen (1975 : 91).
Pomacentrus albofasciatus (Schlegel & Müller) Woods & Schultz (in Schultz et al., 1960 : 108) Kami et al. (1968 : 114)	*Stegastes albifasciatus* (Schlegel & Muller) Allen (1975 : 138) Allen (personal communication) reports that *Stegastes* has precedence over the widely-used generic name *Eupomacentrus*.
Pomacentrus bifasciatus Bleeker Woods & Schultz (in Schultz et al., 1960 : 116) Kami et al. (1968 : 114)	*Dischistodus perspicillatus* (Cuvier) We follow Allen (1975) in including *P. bifasciatus* in the synonymy of *D. perspicillatus*. The account of Woods and Schultz, based on two specimens proported to be from Guam, seems accurate, but we have seen no *Dischistodus* at the island. The possibility of a locality error must be considered and the Guam record should remain provisional pending collection of further specimens.
Pomacentrus jenkinsi Jordan & Evermnann Kami (1971: 225)	*Stegastes fasciolatus* (Ogilby) Allen (1975 : 139)
Pomacentrus tripunctatuts Cuvier & Valenciennes Kami et al. (1968 : 115)	*Pomacentrus vaiuli* Jordan & Seale Kami et al. cited Seale's 1901 record of *Pomacentrus bankanensis* Bleeker from Guam and followed some previous authors in synonymizing it with *P. tripunctatus* (misspelled by Kami et al.). Seale's specimens were probably *P. vaiuli*, which is quite common at Guam. *P. bankanensis* and *P. tripunctatus*, both valid species, have not been found at the island.
CIRRHITIDAE	
Cirrhitichthys serratus Randall Kami et al. (1968 : 120)	*Cirrhitichthys falco* Randall Randall (1963) states that the type series of *C. serratus* came from the vicinity of a drydock in Pearl Harbor, Oahu which was hauled from Guam the previous year. We have never seen *C. serratus* at Guam nor can we identify any UG material as such. Since *C. oxycephalus* (which

Appendix. (continued)

Record	Present Allocation
	we also have never found at Guam) was also collected with the type series of *C. serratus*, it seems plausible that the drydock acquired its fauna prior to passing through Guam or that both species, which do not otherwise occur in the Hawaiian Islands, arrived in Pearl Harbor with some other vessel.
Paracirrhites typee Randall Kami (1971 : 219)	*Paracirrhites forsteri* (Bloch & Schneider) Randall (1973 : 187)
MUGILDAE	
Chelon axillaris Valenciennes Seale (1901 : 66) Kami et al. (1968 : 102)	*Valamugil seheli* (Forsskål) Synonymy presented in Kami et al., (1968), but *C. axillaris* inadvertently used as the senior synonym. We are unable to find this species in the material available to us and consider Seale's record doubtful.
Mugil cephalus Linnaeus Kami et al. (1968 : 103)	*Liza vaigiensis* (Quoy & Gaimard) The specimen cited by Kami was examined by us.
Neomyxus chaptalli (Eydoux & Souleyet) Kami et al. (1968 : 103)	*Neomyxus leuciscus* (Günther) Randall (1973 : 183)
LABRIDAE	
Cymolutes lecluse (Quoy & Gaimard) Fowler (1925 : 15) Kami et al. (1968 : 119)	*Cymolutes praetextatus* (Quoy & Gaimard) We have examined fresh material from Guam and Saipan and follow Schultz (in Schultz et al., 1960 : 133) in separating this species from *C. lecluse*, a Hawaiian endemic.
Halichoeres hoeveni (Bleeker) Kami (1971 : 221)	*Halichoeres biocellatus* Schultz The specimen cited by Kami was examined by us.
Halichoeres leparensis (Bleeker) Seale (1901 : 89) Kami et al. (1968 : 118)	Seale's record of this species from Guam seems doubtful. *H. leparensis* probably represents the juvenile/female form of *H. argus* (Bloch). We have observed neither of these distinctive color forms at Guam.
Halichoeres nebulosus (Cuvier & Valenciennes) Seale (1901 : 88) Kami et al. (1968 : 118)	*Halichoeres margaritaeceus* (Cuvier & Valenciennes) Another record by Seale which seems doubtful. *H. nebulosus* has not been observed by us at Guam and we conclude that Seale's specimens probably represent the similarly-patterned *H. margaritaeceus*.
Halichoeres nigropunctatus Seale Seale (1901 : 89)	*Macropharyngodon meleagris* (Valenciennes) Randall (1978 : 751)

Appendix. (continued)

Record	Present Allocation
Labrichthys cyanotaenia Bleeker Kami et al. (1968 : 119)	*Labrichthys unilineatus* (Guichenot) Randall & Springer (1973 : 284)
Macropharyngodon pardalis (Kner) Kami et al. (1968 : 118)	*Macropharyngodon meleagris* (Valenciennes) Randall (1978 : 751)
Stethojulis axillaris (Quoy & Gaimard) Kami et al. (1968 : 117)	*Stethojulis bandanensis* (Bleeker) Randall & Kay (1974 : 101–102)
Stethojulis linearis Schultz Kami et al. (1968 : 117)	*Stethojulis bandanesis* (Bleeker) Randall & Kay (1974 : 101–102)
Thalassoma umbrostigma (Rüppell) Schultz (in Schultz et al., 1960 : 189) Kami et al. (1968 : 118)	*Thalassoma purpureum* (Forsskål) Randall (1973 : 196)
SCARIDAE	
Scarus aeruginosus Cuvier & Valenciennes Schultz (in Schultz et al., 1960 : 249) Kami et al. (1968 : 120)	*Scarus* sp. *S. aeruginosus* in a junior synonym of *S. ferrugineus*, a species probably endemic to the Red Sea (Randall & Ormond, 1978: 239). We have been unable to determine the next available name for the widespread Indo-Pacific species mistaken for *S. aeruginosus*.
Scarus forsteri Cuvier & Valenciennes Schultz (in Schultz et al., 1960 : 246) Kami et al. (1968 : 119)	*Scarus psittacus* Forsskål Randall & Ormond (1978 : 239)
Scarus taeniurus Cuvier & Venciennes Schultz (in Schultz et al., 1960 : 245–246) Kami et al. (1968 : 119)	*Scarus psittacus* Forsskål Hobson (1974)determined that *S. forsteri* is the large male form of what recent authors have been calling *S. taeniurus* in the Pacific, thus both Pacific forms are referable to *S. psittacus*. The true *S. taeniurus* is an Indian Ocean species (J. E. Randall, personal communication).
BLENNIIDAE	
Enchelyurus caeruleo-punctatus Herre Kami (1975 : 116)	*Parenchelyurus hepburni* (Snyder) Springer (1972 : 12)
Entomacrodus incisolabiatus Schultz & Chapman Schultz & Chapman (in Schultz et al., 1960 : 332–334) Kami et al. (1968 : 121)	*Entomacrodus sealei* Bryan & Herre Springer (1967 : 98)
Entomacrodus aneitensis (Günther) Schultz & Chapman (in Schultz et al., 1960 : 337–338) Kami et al. (1968 : 121)	*Entomacrodus deccussatus* (Bleeker) Springer (1967 : 37)

Appendix. (continued)

Record	Present Allocation
Entomacrodus plurifilis Schultz & Chapman Schultz & Chapman (in Schultz et al., 1960 : 338–340) Kami et al. (1968 : 122)	*Entomacrodus striatus* (Quoy & Gaimard) Springer (1967 : 73)
Fallacirripectes minutus Schultz Kami (1971 : 218)	*Stanulus seychellensis* Smith Smith-Vaniz & Springer (1971 : 40)
GOBIIDAE	
Calumia biocellata Smith Kami (1975 : 117)	*Calumia godeffroyi* (Günther) Allen & Steene (1979 : 58)
SCOMBRIDAE	
Gymnosarda nuda (Günther) Kami et al. (1968 : 123)	*Gymnosarda unicolor* (Rüppell) Collette & Chao (1975 : 613)
ZANCLIDAE	
Zanclus canescens (Linnaeus) Kami et al. (1969 : 112)	*Zanclus cornutus* (Linnaeus) Kami (1971 : 215)
ACANTHURIDAE	
Acanthurus gahhm Kami et al. (1969 : 112)	*Acanthurus nigricaudus* Duncker & Mohr Allen & Steene (1979 : 62)
SIGANIDAE	
Siganus hexagonata Günther Seale (1901 : 111) Kami et al. (1968 : 113)	*Siganus punctatus* (Bloch & Schneider) (D. J. Woodland, personal communication)
Siganus marmorata (Quoy & Gaimard) Seale (1901 : 111) Fowler (1925 : 13) Kami et al. (1968 : 113)	*Siganus spinus* (Linnaeus) (D. J. Woodland, personal communication)
Siganus rostratus (Cuvier & Valenciennes) Kami et al. (1968 : 113)	*Siganus argenteus* (Quoy & Gaimard) (Randall, 1973 : 206)
Siganus sutor (Valenciennes) Fowler (1925 : 13) Kami et al. (1968 : 113)	*Siganus punctatus* (Bloch & Schneider) (D. J. Woodland, personal communication)
BALISTIDAE	
Balistes capistratus Shaw Kami et al. (1968 : 127)	*Sufflamen fraenatus* (Latreille) Berry & Baldwin (1966 : 445)
Melichthys buniva Bloch & Schneider Kami et al. (1968 : 127)	*Melichthys niger* (Bloch) Randall & Klausewitz (1973 : 57)
Rhinecanthus rectangulus (Bloch & Schneider) Kami et al. (1968 : 127)	*Rhinecanthus echarpe* (Lacépède) Matsuura (1980 : 55)

Appendix. (continued)

Record	Present Allocation
MONACANTHIDAE	
Amanses carolae Jordan & McGregor Kami et al. (1968 : 126)	*Cantherhines dumerili* (Hollard) Randall (1964 : 340)
Amanses sandwichiensis (Quoy & Gaimard) Kami et al. (1968 : 126)	*Cantherhines pardalis* (Rüppell) Randall (1964 : 355)
TETRAODONTIDAE	
Arothron aerostaticus (Jenyns) Kami (1975 : 121)	*Arotheron stellatus* (Bloch) Kami's specimen was examined by us.
Arothron alboreticulatus Tanaka Kami (1975 : 121)	*Arothron stellatus* (Bloch) Kami's specimen was examined by us.
Canthigaster cinctus Solander Kami et al. (1968 : 128)	*Canthigaster valentini* (Bleeker) The specimen cited by Kami et al. was examined. Tyler (1967) clarifies the status of the transversely barred species of *Canthigaster*.
Canthigaster margaritatus (Rüppell) Fowler (1925 : 21) Kami et al. (1968 : 128)	*Canthigaster solandri* (Richardson) *C. margaritatus* is a Red Sea endemic which has often been confused with *C. solandri* (Allen & Randall, 1977 : 482–483).
Canthigaster papua (Bleeker) Seale (1901 : 118–119) Kami et al. (1968 : 128)	*Canthigaster solandri* (Richardson) Allen & Randall (1977 : 481)