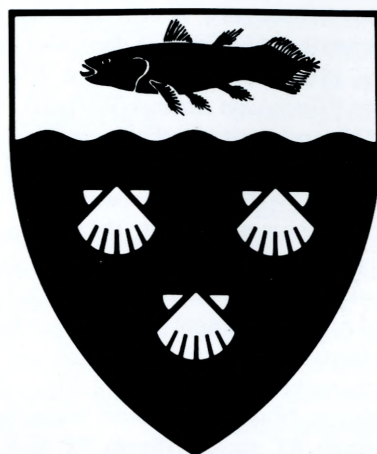


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A REVIEW OF THE GOBIOID FISHES OF THE MALDIVES

by

John E. Randall and Menachem Goren

ABSTRACT

Randall, John E. and Menachem Goren. 1993. A review of the gobioid fishes of the Maldives. *Ichthyological Bulletin of the J.L.B. Smith Institute of Ichthyology*, No. 58, 37 pages, 5 plates.

The following 84 gobioid fishes are reported from the Maldivian Islands (those preceded by asterisk represent new records). GOBIIDAE: *Amblyeleotris aurora* (Polunin & Lubbock), **A. diagonalis* Polunin and Lubbock, **A. perio-phthalma* (Bleeker), **A. steinitzi* (Klausewitz), *A. wheeleri* (Polunin & Lubbock), **Amblygobius hectori* (Smith), *A. semicinatus* (Bennett), **Asterropteryx semipunctatus* Rüppell, **A. spinosus* (Goren), **Bathygobius calitus* (Bennett), *B. cocosensis* (Bleeker), **B. cyclopterus* (Valenciennes), **Cabillus tongarevae* (Fowler), **Callogobius centrolepis* Weber, **C. sclateri* (Steindachner), **C. sp.*, **Cryptocentrus fasciatus* (Playfair & Günther), **Ctenogobiops crocineus* Smith, *C. feroculus* Lubbock & Polunin, **Eviota albolineata* Jewett & Lachner, **E. guttata* Lachner & Karnella, **E. nebulosa* Smith, **E. nigripinna* Lachner & Karnella, **E. prasina* (Klunzinger), **E. sebreei* Jordan & Seale, **E. zebrina* Lachner & Karnella, **E. sp.*, **Flabelligobius latruncularius* (Klausewitz), **Fusigobius duospilus* Hoese & Reader, **F. neophytus* (Günther), **F. sp. 1* (sp. A of Winterbottom & Emery, 1986), **F. sp. 2* (sp. B of Winterbottom & Emery, 1986), **Gnatholepis anjerensis* (Bleeker), **G. scapulo stigma* Herre, **Gobiodon citrinus* (Rüppell), **G. sp.* (*Chagos specimens identified as G. rivulatus* by Winterbottom & Emery, 1986), **Heteroleotris zanzibarensis* (Smith), **Istigobius decoratus* (Herre), **Macro-dontogobius wilburi* Herre, *Oplopomus caninoides* (Bleeker) (reported from Maldives by Regan, 1908), *O. oplopomus* (Valenciennes) (reported from Maldives by Regan, 1908, as *Hoplopomus acanthistius*), **Opua maculipinnis*, n. sp. (*Opua* E.K. Jordan is regarded as a senior synonym of *Oplopomops* Smith; the new species is characterized as follows: no dorsal spines filamentous, the third longest; 10 soft rays in second dorsal and anal fins; 27 scales in longitudinal series on body, 9 prodorsal scales; body depth 4.9 in SL, a midlateral row of five dusky blotches on body each containing a pair of dark brown spots, a large dusky spot under eye, and a large black spot posteriorly in first dorsal fin), **Palutrus reticularis* Smith, **Papillogobius reichei* (Bleeker), **Paragobiodon lacuniculus* (Kendall and Goldsborough), **P. modestus* (Regan), **Pleurosicya michelli* Fourmanoir, **Priolepis cinctus* (Regan), **P. nocturnus* (Smith), **P. semidoliatus* (Valenciennes), *P. sp.*, *Stonogobiops dracula* Lubbock & Polunin, **Sueviota lachneri* Winterbottom & Hoese, **Trimma emeryi* Winterbottom, **T. flammeum* (Smith), **T. naudei* Smith, **T. striata* (Herre), **T. taylori* Lobel, **T. tevegae* Cohen & Davis, **T. sp. 1*, **T. sp. 2*, **T. sp. 3*, **T. sp. 4* (these four species of *trimma* to be described by R. Winterbottom), **Trimmatom nanus* Winterbottom & Emery, **Valenciennesa helsdingenii* (Bleeker), **V. puellaris* (Tomiyama), *V. sexguttata* (Valenciennes), *V. strigata* (Broussonet), **V. sp.* (to be named by Hoese and Larson, in press), **Vanderhorstia ambanoro* (Fourmanoir), **V. ornatissima* Smith, **V. prealta* Lachner & McKinney.

ELEOTRIDIDAE: *Eleotris melanosoma* Bleeker.

MICRODESMIDAE: **Gunnellichthys curiosus* Dawson, **G. monostigma* Smith, *G. viridescens* Dawson, **Nemateleotris decora* Randall & Allen, *N. magnifica* Fowler, *Ptereleotris evides* (Jordan & Hubbs), *P. heteroptera* Bleeker, **P. microlepis* (Bleeker), **P. zebra* (Fowler), **P. sp.* (probably either *P. hanae* or *P. arabica*; specimen needed).

XENISTHMIDAE: *Xenisthmus polyzonatus* (Klunzinger).

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John E. Randall¹ and Menachem Goren²

INTRODUCTION

The fish family Gobiidae is the most speciose of all families of marine fishes and is particularly well represented in the tropical Indo-Pacific region. Very few fishes of this family and the related gobioid families Eleotrididae and Microdesmidae, however, have been reported from the Maldives. The purpose of the present paper is to review all the gobioid fishes known from this island republic which consists of a group of 26 atolls located southwest of the southern tip of India, arranged primarily in two north-south series from Kelai at 6°47'N to Addu at 0°42'S.

J. Stanley Gardner made the first collections of fishes in the Maldivian Islands in 1899-1900; his specimens were deposited in the British Museum (Natural History) (BMNH) and reported by Regan (1902, 1908); seven species are gobioids. A 33-mm specimen reported in his 1902 paper as *Periophthalmus* sp. was collected in 35 fathoms, hence probably not a species of this amphibious genus.

Large collections of fishes were made in the Maldives during the Xarifa Expedition of 1957-1958 (Klausewitz, 1958); these are deposited in the Senckenberg Museum, Frankfurt (SMF). Only two papers have dealt with the gobioids from these collections: Klausewitz (1960) described *Eleotriodes pallidus* (= *Valenciennesa sexguttatus*), and Klausewitz (1970) recorded *Ptereleotris tricolor* (= *P. evides*) from the Maldives.

Palmer (1963) listed two gobies from a collection of fishes in the Maldives made by Major W. W. Phillips.

The International Indian Ocean Expedition of 1964 resulted in collections of fishes from the Maldives; the fishes were deposited in the Field Museum of Natural History, Chicago (FMNH) and the California Academy of Sciences, San Francisco (CAS); a few species have been reported in systematic reviews, but only one gobioid, the microdesmid *Gunnellichthys viridescens* described by Dawson (1968) from specimens from the Seychelles and one from the Maldives.

Burgess and Axelrod (1973) illustrated three gobioid fishes from the Maldives, none with correct scientific names (one identified as an eleotrid is an undescribed species of the gobiid genus *Eviota*).

The senior author has made five trips to the Maldives in the period 1975-1988 to collect and photograph fishes, the two in 1988 with the assistance of Charles Anderson and others of the Marine Research Section of the Ministry of Fisheries and Agriculture of the Republic of Maldives; these collections were deposited in the Bernice P. Bishop Museum, Honolulu (BPBM). Specimens of 14 species of

Maldivian gobies were sent on exchange to the Royal Ontario Museum, Toronto (ROM).

Ronald Fricke collected five species of gobies in the Maldives in 1988 which are deposited in the Staatliches Museum für Naturkunde, Stuttgart (SMNS). He kindly made his data available and sent two unidentified specimens on loan to us, one of which is an undescribed species of *Eviota* and the other a juvenile *Bathygobius cyclopterus*.

Recent literature on Maldivian gobioids is as follows: Polunin and Lubbock (1977) reviewed the prawn-associated gobies from the Seychelles; they included as paratypes of their *Cryptocentrus aurora* (= *Amblyeleotris aurora*) two specimens from the Maldives collected by the senior author. Davis et al. (1977) recorded the microdesmid *Ptereleotris heteroptera* from the Maldives. In a revision of the gobiid genus *Stonogobiops*, Hoese and Randall (1982) reported *S. dracula* from the Maldives. Murdy and Hoese (1985) revised the gobiid genus *Istigobius*; they recorded *I. decoratus* from the Maldives. Randall and Hoese (1985) revised the microdesmid genus *Ptereleotris*, two species of which, *evides* and *heteroptera*, were listed from the Maldives. Allen and Steene (1987) illustrated seven species of gobioid fishes from the Maldives in colour, two of which were not previously reported from the islands. Anderson and Hafiz (1989) reported *Valenciennesa strigata* and *Nemateleotris magnifica* from the Maldives and illustrated both in colour. Two popular books on Maldivian fishes have been published recently which include brief accounts and colour illustrations of gobioid fishes. Nahke and Wirtz (1991) treated two gobies and two dart fishes, and Randall (1992) illustrated 11 gobies and four dart fishes. Thus a total of 21 Maldivian gobioids are known from published illustrations or the citing of specimens. Our documentation below will raise the total number of gobioid fishes from the archipelago to 84.

METHODS

The species accounts are presented alphabetically by genus and species under the four gobioid family headings. Lengths given for specimens are standard length (SL), measured from the front of the upper lip to the base of the caudal fin. Head length is taken from the front of the upper lip to the most posterior edge of the opercular membrane. Orbit diameter is the greatest fleshy diameter; interorbital width is the least bony width.

The scale count given as longitudinal scale series is the number of scales in diagonal rows from the upper end of the gill opening to the base of the caudal fin. Gill-raker counts were made on the first gill arch and include all rudiments; the upper-limb count is given first; the raker at the angle is included in the lower-limb count.

In the listing of Maldivian specimens, the locality preceding the name of the atoll is the nearest island to the collection site. Diagnostic data in the species accounts

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below are mainly from Maldives specimens. Four species of the genus *Trimma* and one of *Priolepis* appear to be undescribed; specimens of three of the *Trimma* and the *Priolepis* have been sent to Richard Winterbottom of the Royal Ontario Museum who is revising these genera. The fourth species of *Trimma* is represented only by underwater photographs; these were recognized by Winterbottom as one of his new species. Because specimens of *Trimma* are so small and easily damaged, only colour notes are given for these undescribed species. Winterbottom (1984) has provided excellent descriptions of twelve species of *Trimma* from the nearby Chagos Archipelago. We have referred the reader to this paper for diagnostic data and illustrations of species common to both archipelagoes. A revision of the goby genus *Valencienna* is in press by Douglass F. Hoese and Helen K. Larson; Bishop Museum material of this genus is on loan to Hoese. The diagnoses for the species of *Valencienna* are adapted from their manuscript. The diagnoses for the species of the microdesmid genus *Nemateleotris* are taken from Randall and Allen (1973) and of *Ptereleotris* from Randall and Hoese (1985).

Unless otherwise stated, the photographs were taken by the senior author. The locality for all but seven of the illustrated specimens is the Maldives Islands. Only those localities which are not the Maldives are listed in the figure captions. The length given for fishes in underwater photographs is the estimated total length (TL).

GOBIIDAE

Amblyeleotris aurora (Polunin & Lubbock)

Plate 1, Fig. A

Cryptocentrus aurora Polunin & Lubbock, 1977: 84, Figs. 13, 14 (type locality, Aldabra).

DIAGNOSIS: Dorsal fin rays VI-I,13; anal fin rays I,14; pectoral fin rays 18-20; pelvic fins joined by membrane only basally; scales cycloid anteriorly on body, becoming ctenoid posterior to base of sixth or seventh dorsal soft ray; lower-limb gill rakers 10 or 11; gill opening extending to a point about one-third distance from below posterior margin of preopercle to posterior edge of orbit; body elongate, the depth 5.7-7.0 in SL; caudal fin somewhat pointed, longer than head, its length 3.3-3.5 in SL.

Head and body whitish with 5 orange-red bars broader than interspaces: the first from nape across opercle, 3 on body, and a fifth on caudal-fin base; an elongate bright red mark above and behind posterior end of maxilla; indistinct yellow spots on postorbital head; caudal fin yellow with a blue-edged V-shaped extension from red caudal-base bar into middle of fin, and several blue-edged orange-red spots.

REMARKS: Polunin and Lubbock (1977) recorded this species from the Comoros, Seychelles, Maldives, and Born Island in the Andaman Sea on coarse sand substratum in the depths of 10-35 m. Allen and Steene (1987: Pl. 109, Fig. 1) illustrated it in colour. We have observed it living symbiotically in a burrow with the snapping shrimp *Alpheus randalli*.

MATERIAL: BPBM 18872, 2: 59-62 mm, Villingili, North Malé Atoll (paratypes of *Cryptocentrus aurora*); BPBM 32862, 2: 58-64 mm, Bathala, Ari Atoll; SMF 14412, 68.5 mm, Fusdu, Ari Atoll.

Amblyeleotris diagonalis Polunin & Lubbock

Plate 1, Fig. B

Amblyeleotris diagonalis Polunin & Lubbock, 1979: 245, Fig. 4 (type locality, Lizard Island, Great Barrier Reef).

DIAGNOSIS: Dorsal fin rays VI-I,13; anal fin rays I,13; pectoral fin rays 19-20; pelvic fins separate, linked only basally by membrane; predorsal scales reaching to above posterior margin of preopercle; scales cycloid anteriorly on body, becoming ctenoid posterior to base of fifth dorsal spine; lower-limb gill rakers 9-11; gill opening extending anteriorly to a point about three-fourths distance from posterior edge of preopercle to posterior edge of orbit; body depth 4.6-6.0 in SL; caudal fin longer than head, its length 2.7-3.1 in SL.

Head and body whitish with 5 narrow oblique dusky orange-red bars, the first from posterior nape onto opercle, the next 3 on body extending a short distance into dorsal fins, and the last on caudal peduncle; a diagonal dark reddish brown line from occiput to corner of mouth (usually broken into two segments); another dark brown line from front of mouth to eye; one to a few dark brown spots dorsally in each pale interspace on body; scattered small pale blue spots and short line segments on head.

REMARKS: The first specimens of this species were collected by the senior author in Sri Lanka and provided as paratypes to Polunin and Lubbock. Other type specimens are from the northern Great Barrier Reef, Madagascar, Sri Lanka, and Born Island, Andaman Sea. The Bishop Museum has specimens of this species from the Red Sea, Guadalcanal, and Flores, Indonesia and underwater photographs from Kenya and the Persian Gulf. Like other species of *Amblyeleotris*, *A. diagonalis* lives in symbiotic association with alpheid shrimps which prepare and maintain burrows in sand or sand and rubble areas. We have no specimens from the Maldives, but the species was observed in the lagoon of North Malé Atoll. One was caught in the lagoon off Furana Island and given to Mohamed Haleem, an aquarium fish collector in the Maldives.

Amblyeleotris periophthalma (Bleeker)

Plate 1, Fig. C

Eleotris periophthalmus Bleeker, 1853a: 477 (type locality, Jakarta).

Amblyeleotris maculata Yanagisawa, 1976: 147 (type locality, Sesoko Island, Okinawa).

DIAGNOSIS: Dorsal fin rays VI-I,12; anal fin rays I,12; pectoral fin rays 19-20; pelvic fins connected only at the base of fifth rays; no predorsal scales; head naked; scales on side of nape and anteriorly on body small and cycloid, becoming ctenoid posterior to fourth dorsal soft ray; lower-limb gill rakers 9 (6 counts); gill opening extending nearly to a vertical at rear edge of orbit; body depth 4.6-6.0 in SL; caudal fin usually slightly pointed, clearly longer than head, 2.8-3.3 in SL.

Head and body whitish to pale yellowish with 5 slightly oblique orange to red bars mottled with grey, the first from nape across operculum to throat; a curved orangish to reddish brown bar at caudal-fin base; dorsal part of pale interspaces of body with irregular brown spots; head and dorsal fins with dark-edged orange-yellow spots; two red spots at corner of mouth, one above and one below posterior end of maxilla.

REMARKS: A common species in the western Pacific from southern Japan to the Great Barrier reef, east to Samoa and west to the Maldives. Symbiotic with alpheid shrimps.

MATERIAL: BPBM 33074, 58 mm, lagoon off Malé, North Malé Atoll.

Amblyeleotris steinitzi (Klausewitz)

Plate 1, Fig. D

Cryptocentrus steinitzi Klausewitz, 1974a: 70, Figs. 1, 2 (type locality, Gulf of Aqaba, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I,12; anal fin rays I,12; pectoral fin rays 18-19; pelvic fins joined by membrane nearly half length of fifth rays; head and median part of nape naked; scales on side of nape and anteriorly on body cycloid to below base of third or fourth dorsal spines, becoming ctenoid posteriorly; lower-limb gill rakers 9-11; gill opening extending about three-fourths distance from posterior margin of preopercle to rear edge of orbit; body not very elongate, the depth 4.3-5.5 in SL; caudal fin rounded, slightly longer than head.

Head and body whitish with 5 slightly oblique dark orangish to reddish brown bars narrower than pale interspaces, the first from nape to throat; a vertically elongate dark orangish spot at caudal-fin base; pale interspaces of body with faint vertical yellow and bluish lines and small spots; dorsal fins with yellow dots.

REMARKS: A common widespread species which occurs from the Red Sea to Samoa and the Marshall Islands; in the western Pacific it ranges from southern Japan to the Great Barrier Reef. Bishop Museum specimens have been collected from depths of 2-43 m. Also symbiotic with alpheid shrimps. The only species of the genus recorded from the Chagos Archipelago by Winterbottom and Emery (1986).

MATERIAL: BPBM 18884, 4: 43-50 mm, lagoon, Villingili, North Malé Atoll; SMF 14413, 51 mm, Madewaru, Fadiffulu Atoll.

Amblyeleotris wheeleri (Polunin & Lubbock)

Plate 1, Fig. E

Cryptocentrus wheeleri Polunin & Lubbock, 1977: 88, Figs. 16, 17 (type locality, Aldabra).

DIAGNOSIS: Dorsal fin rays VI-I,12; anal fin rays I,12; pectoral fin rays 18-20; pelvic fins joined medially by membrane for nearly half length of fifth rays; predorsal scales extending to above posterior margin of preopercle; scales on body cycloid anteriorly, becoming ctenoid posterior to about base of sixth dorsal spine; lower-limb gill rakers 9-11; gill opening extending forward to a vertical about halfway between posterior margin of preopercle and

hind edge of orbit; body depth 4.5-5.2 in SL; caudal fin rounded, slightly longer than head.

Head and body whitish to pale yellowish with 6 slightly oblique dark reddish brown to red bars of about equal width to pale interspaces, the first behind eye diffuse and containing bright red and orange spots, the second from nape to opercle also with red spots; a vertically elongate dark spot at caudal-fin base; a prominent red spot behind corner of mouth; numerous small pale blue spots on head, body, and fins except the pectorals; dorsal fins with small red and/or yellow spots.

REMARKS: This appears to be the most common shallow-water species of *Amblyeleotris*, in the coral reef environment, but it can occur at depths greater than 30 m. On specimens from deeper water the bars of the body are bright red. *A. wheeleri* occurs from East Africa to Fiji and the Marshall Islands; in the western Pacific it ranges from the Great Barrier Reef to southern Japan. Usually found in rubble areas near or within coral reefs and in symbiotic association with alpheid shrimps. We have no specimens from the Maldives, but several photographs of *A. wheeleri* were taken underwater there, one of which is presented as Plate 1, Fig. E. Allen and Steene (1987: Pl. 100, Fig. 2) illustrated the species in colour from the Maldives (misidentified as *A. fasciatus*).

Amblygobius hectori (Smith)

Plate 1, Fig. F

Seychellea hectori Smith, 1956a: 726, Fig. 3 (type locality, Mah, Seychelles).

DIAGNOSIS: Dorsal fin rays VI-I,15 (one with an abnormal count of 9); anal fin rays I,15; pectoral fin rays 15-16; pelvic fins fully joined by membrane, without a frenum; longitudinal scale series 57 (n = 1); ctenoid scales dorsally on body posterior to base of sixth dorsal spine; predorsal scales extending forward to above rear edge of orbit; cheek and opercle naked; gill rakers 0 + 7; gill opening ending at a vertical below posterior third of opercle; head distinctly pointed; an outer row of prominent curved canines anteriorly in both jaws, the most lateral of the lower jaw enlarged and strongly recurved (see Smith, 1956a: Fig. 3); body depth 4.2-4.9 in SL; first and second dorsal spines prolonged (but not free of membrane).

Upper two-thirds of head and body with 4 broad dark brown stripes (middle of stripes on head may be orange) alternating with 4 yellow lines; lower third of head and body bluish grey; lower 2 brown stripes connected by a narrow curved orange band at base of caudal fin; a large black spot rimmed in yellow in first dorsal fin, and a larger one at rear base of second dorsal fin and adjacent body; a series of 3 or 4 yellow-edged black spots dorsally on caudal peduncle and caudal-fin base.

REMARKS: Known from the Red Sea (Goren, 1979), islands of the western Indian Ocean, the Philippines, and southern Japan. Smith (1959: pl. 10 J) and Randall (1983: 163; 1992: 152) illustrated it in colour. It is a solitary, reef-dwelling fish that is usually seen hovering a short distance above the substratum. Winterbottom and Emery (1986) reported the gut contents of one specimen from the Chagos Archipelago

as fine unbranched filamentous algae with some harpacticoid copepods, ostracods, amphipods, and nematodes.

MATERIAL: BPBM 32951, 2: 26-29 mm (smaller specimen damaged), Embudu, South Malé Atoll; ROM 54952, 4: 26.6-31.5 mm, Huraa, North Malé Atoll.

Amblygobius semicinctus (Bennett)

Plate 1, Fig. G

Gobius semicinctus Bennett, 1833: 32 (type locality, Mauritius).

DIAGNOSIS: Dorsal fin rays VI-I, 13 or 14; anal fin rays I, 13 or 14; pectoral fin rays 19-20; pelvic fins fully joined by membrane, with a frenum; longitudinal scale series 52-57; scales ctenoid posterior to a line from slightly behind upper base of pectoral fin to base of sixth dorsal spine; nape and upper third of opercle scaled, the rest of head naked; predorsal scales extending into posterior interorbital space; gill rakers 0 + 6-7; gill opening extending to below posterior third of opercle; body depth 3.3-4.1 in SL; snout obtusely rounded; dentition similar to that of *A. hectori*; second to fourth dorsal spines prolonged and filamentous.

Body greyish brown, paler on abdomen, with small blue-green spots and short lines on ventral half of head and 2 or 3 longitudinal series of small whitish spots on back; 4 or 5 narrow dark bars usually present on upper half of body; a dark brown band from front of snout to eye, continuing posterior to eye as a double band; above this on nape 3 parallel series of dark-edged orange spots (the uppermost median on nape); females with 6 or 7 black-edged pale blue-green bars on lower part of body between pelvic fins and midbase of anal fin; a dark reddish spot as large as eye in middle of first dorsal fin and another at upper base of caudal fin (some specimens with one 1-3 additional dark spots in fin).

REMARKS: This species is known from Mozambique and islands of the western Indian Ocean. Like the related *Amblygobius albimaculatus* of the Red Sea and East Africa and *A. phalaena* of the western and central Pacific, *A. semicinctus* is often seen in pairs. It excavates a burrow, generally beneath rock or rubble, by moving out mouthfuls of sand; it

is usually encountered hovering a short distance above the bottom. Burgess and Axelrod (1973: 634, Fig. 94) illustrated a Maldives specimen (misidentified as *A. albimaculatus*) in colour. Winterbottom and Emery (1986) examined the gut contents of a 65-mm specimen from the Chagos Archipelago; they found mainly fine, unbranched, filamentous algae and harpacticoid copepods; also present were polychaetes, tanaids, decapod shrimps, amphipods, and nematodes (which may have been parasites).

MATERIAL: BPBM 32952, 72 mm, Embudu, South Malé Atoll; SMF 5368, 2: 93-94 mm, Madewaru, Fadiffulu Atoll; SMF 14400, 73 mm, Hittadu, Addu Atoll.

Asterropteryx semipunctatus Rüppell

Fig. 1

Asterropteryx semipunctatus Rüppell, 1830: 138, Pl. 34, Fig. 4 (type locality, Massaua, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I, 10; anal fin rays I, 9; pectoral fin rays 17-18; pelvic fins connected only basally by membrane; longitudinal scale series 23-24; head scaled; scales on body ctenoid except ventrally in front of paired fins; gill rakers 4-5 + 9-10; gill opening ending below middle of opercle; 3-4 enlarged spines on preopercle just above angle; body relatively deep for a goby, the depth 3.0-3.6 in SL; third dorsal fin spine prolonged and filamentous in both sexes; caudal fin rounded, slightly shorter than head.

Head and body grey with longitudinal series of irregular blackish spots; some individuals with a blackish band extending from eye to upper middle of body; small bright blue spots on body (mostly on ventral half), lower half of head and on median fins.

REMARKS: This goby is found throughout the tropical Indo-Pacific region. It usually occurs in shallow protected waters in silty dead-reef areas.

MATERIAL: BPBM 33037, 2: 20-24 mm, lagoon side of Huraa, North Malé Atoll; CAS 56689, 28 mm, Hulele, North Malé Atoll; SMF 14401, 18 mm, Weligandu, Rasdu Atoll; SMF 14402, 21 mm, Hittadu, Addu Atoll.

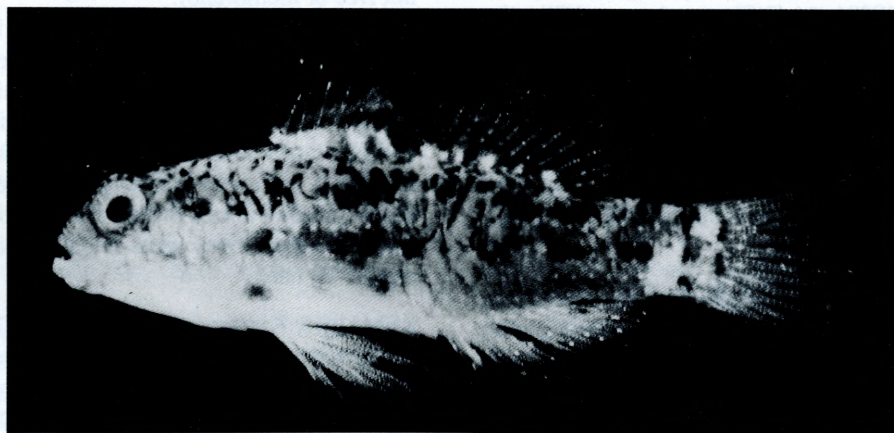


Figure 1. *Asterropteryx semipunctatus*, BPBM 33037, 24 mm SL.

Asterropteryx spinosus (Goren)

Fig. 2

Oplopomus spinosus Goren, 1981: 96, Fig. 2 (type locality, Ile Maitre, New Caledonia).

DIAGNOSIS: Dorsal rays VI-I,9 or 10 (usually 10); anal rays I,9; pectoral rays 17-19; pelvic fins joined only basally by membrane; longitudinal scale series 24 (most scales missing on Maldives specimens); head scaled; scales on body ctenoid except for those in front of paired fins; gill rakers 3-4 + 8-9; gill opening extending nearly to a vertical at posterior margin of preopercle; a large spine at corner of preopercle with 3 (rarely 2 or 4) lesser spines above it (as illustrated for *Asterropteryx* sp. by Prince Akihito in Masuda et al., 1984: Fig. 53); body depth 3.8-4.0 in SL; third and fourth dorsal spines filamentous, the fourth longest; caudal fin rounded, slightly longer than head.

Colour whitish, the body densely blotched with light orangish brown; head with numerous small dusky orange spots; a blackish bar extending ventrally from eye, its anterior edge touching posterior end of maxilla; a diagonal blackish line from eye across side of lips; a dusky spot behind eye; a short vertical blackish streak at base of caudal fin; a black spot on first dorsal membrane about one-third distance to margin.

REMARKS: This species has been collected in New Caledonia, southern Japan, Philippines (BPBM 28699, 24 mm), Palau Islands (BPBM 31363, 6: 20-26 mm), Caroline Islands (BPBM 28232, 22 mm), Marshall Islands (BPBM 17753, 29 mm), and the Maldives. Specimens have been taken from the depth range of 3-15 m. The illustration and the above colour note are from the specimen from the Marshall Islands. The Maldives specimens show only the blackish markings in preservative.

MATERIAL: FMNH 78918, 2: 23.5-24 mm, Kudahamda Channel entrance, South Nilandu Atoll.

Bathygobius coalitus (Bennett)

Plate 1, Fig. H

Gobius coalitus Bennett, 1831: 166 (type locality, Mauritius).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 18-20, the upper four free and branching at

base; pelvic fins forming a disc with a well-developed frenum, the central portion of which is smoothly concave; longitudinal scale series 37-38; predorsal scales about 18, extending to within a half orbit diameter of hind edge of eyes; operculum naked; scales on nape and anterior to paired fins cycloid, the remaining scales ctenoid; gill rakers 1 + 7-8; gill opening reaching to below posterior margin of preopercle; no fleshy flap extending from cheek into notch posteriorly in upper lip; no posterior flap on anterior nostrils; body depth 4.3-4.7 in SL; caudal fin rounded, about equal to head length.

Body greyish olive, shading to whitish ventrally, with blackish blotches forming approximate longitudinal rows, and a small bluish white spot on each scale; cheeks with small whitish spots; small blackish spots forming approximate rows on rays of caudal and dorsal fins.

REMARKS: Indo-Pacific. *B. albopunctatus* (Valenciennes, 1837) is a junior synonym (Douglass F. Hoese, pers. comm.). Our Maldives specimens are all from shallow water, mostly from seaward reefs.

MATERIAL: BPBM 33109, 67 mm, Malé, North Malé Atoll; SMF 14403, 47 mm, Hittadu, Addu Atoll; SMF 14404, 42 mm, SMF 14406, 3: 24-34 mm, SMF 14409, 7: 15-19 mm, Welingandu, Rasdu Atoll; SMF 14410, 26 mm (no locality other than Maldives).

Bathygobius cocosensis (Bleeker)

Fig. 3

Gobius cocosensis Bleeker, 1854: 47 (type locality, Nova Selma, Cocos-Keeling Islands).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 18-19, the upper 4 or 5 rays branched to base and having free ends; pelvic disc with a well-developed frenum, the free edge smoothly concave; posterior end of pelvic disc nearly or just reaching anus; longitudinal scale series 37-38; predorsal scales 10-12, reaching to or almost to a vertical at posterior margin of preopercle; operculum scaleless; scales cycloid on nape, thorax, and abdomen, and ctenoid elsewhere; gill rakers 1 + 7-8; gill opening reaching to below middle of opercle; no fleshy flap extending from edge of cheek into notch at posterior end of upper lip; no posterior flap on anterior nostril; body depth 4.3-5.5 in SL; caudal fin rounded, about equal to head.

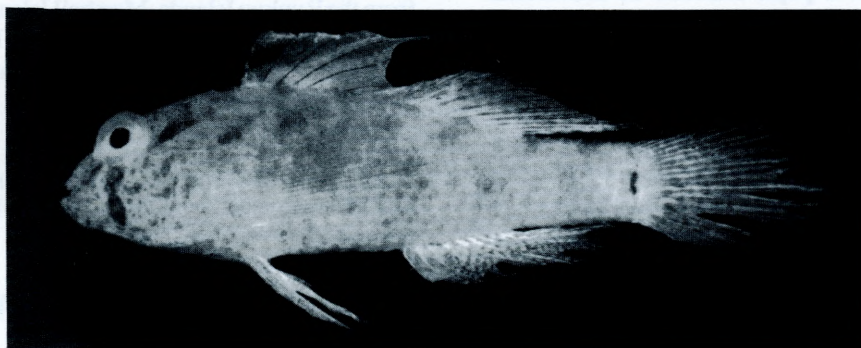


Figure 2. *Asterropteryx spinosus*, BPBM 17753, 29 mm SL, Marshall Islands.

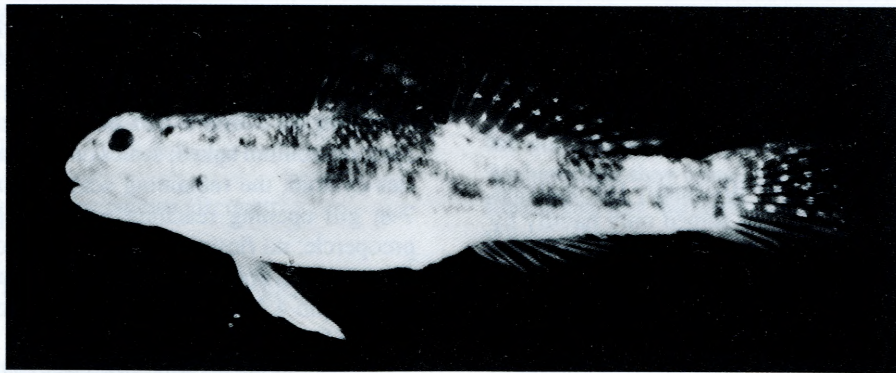


Figure 3. *Bathygobius cocosensis*, BPBM 33107, 31 mm SL.

Body mottled brown with a midlateral row of blackish blotches nearly as large as eye and longitudinal rows of small bluish white spots; head mottled brown with numerous small whitish spots and flecks; dorsal fins with an outer pale yellow zone.

REMARKS: *Bathygobius cocosensis* ranges throughout the Indo-Pacific region from East Africa to the Hawaiian Islands and Pitcairn Group. The Maldives specimens reported as *B. fuscus* by Palmer (1963) were examined at The Natural History Museum, London and reidentified as *B. cocosensis*. Winterbottom and Emery (1986) reported the gut contents as polychaetes, isopods, amphipods, and brachyurans. Typically found inshore on seaward reef flats and pools on exposed rocky shores.

MATERIAL: BMNH 1962.1.22.74-78, 5: 21-35 mm, Gan, Addu Atoll; BPBM 33107, 4: 25-33 mm, Malé, North Malé Atoll; SMF 14405, 4: 37-56 mm, Naifaru, Fadiffulu Atoll.

Bathygobius cyclopterus (Valenciennes)

Plate 1, Fig. I

Gobius cyclopterus Valenciennes in Cuvier & Valenciennes, 1837: 59 (type locality, New Ireland).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 20-22, the upper 5 with free ends and the sixth partly free; upper 4 rays with 3 branches, the fifth with 4; pelvic disc nearly round, reaching about half distance to anus, the frenum with a convexity in central portion, varying from convex to pointed as in Fig. 6 E of Akihito and Meguro, 1980; longitudinal scale series 37-38; predorsal scales 18-20, extending to within a pupil diameter of interorbital space; upper part of opercle scaled; scales on nape, thorax, and abdomen cycloid, the remaining scales ctenoid; gill rakers 1 + 7-8; gill opening reaching forward to below middle of opercle; a small fleshy double flap extending from edge of cheek into notch at posterior end of upper lip; a posterior flap on anterior nostril; body depth 4.4-5.0 in SL; head depressed; caudal fin rounded, about equal in length to head without snout. Body light grey-brown with irregular dark brown longitudinal lines following scale rows on upper three-fourths of body (more evident on males) and four broad squarish dark brown bars on upper half of body (darker on females), the largest below first dorsal fin; a small dark brown spot behind eye, another (or a double spot) above upper end of preopercular margin, and one just ante-

rior to upper end of gill opening; small dark brown spots basally on dorsal and caudal fins, the outer part mainly yellow.

REMARKS: Ranges from East Africa to Samoa (Wass, 1984) and the Hawaiian Islands. Our specimens were collected, along with *B. cocosensis* and *B. coalitus*, in tide pools at low tide on the seaward reef flat in 0-0.2 m.

MATERIAL: BPBM 33108, 4: 35-47 mm, Malé, North Malé Atoll.

Cabillus tongarevae (Fowler)

Glossogobius tongarevae Fowler, 1927: 27, fig. 4 (type locality, Tongareva).

DIAGNOSIS: Dorsal fin rays VI-I,8 or 9; anal fin rays I,8; pectoral fin rays 17; pelvic disc fringed laterally; pelvic frenum present; longitudinal scale series 26; head, nape, and prepectoral region naked; scales on body ctenoid a short distance posterior to pectoral-fin base; gill opening ending at level of lower end of pectoral-fin base; body depth 6.0-6.2 in SL; head broader than deep and very flat ventrally; head length 3.0-3.05 in SL; eyes large, 3.0-3.05 in head; caudal fin rounded, its length 1.1 in head; pelvic disc reaching anus.

Colour and pore patterns similar to Figs. 23 and 24 of Winterbottom and Emery (1986); the most conspicuous markings are a broad dusky bar below eye, a narrow blackish bar basally on caudal fin, and in one specimen a black spot basally on first dorsal fin between second and fifth spines.

REMARKS: Other than the type locality of Tongareva (also known as Penrhyn Island), this species has been reported from the Ryukyu Islands, Marshall Islands, Queensland, and the Chagos Archipelago. Gosline and Brock (1960) provisionally identified three small specimens from the Hawaiian Islands as *Cabillus tongarevae*; these, however, represent an undescribed species of the genus.

MATERIAL: FMNH 78924, 26 mm, channel between Maro and Mafiliflauri Islands, Fadiffolu Atoll; FMNH 78974, 2: 24-27 mm, Himmafushi, North Malé Atoll.

Callogobius centrolepis Weber

Fig. 4

Callogobius centrolepis Weber, 1909: 157 (type locality, Bawean, Sulawesi); Weber, 1913: 481, fig. 99.



Figure 4. *Callogobius centrolepsis*, SMF 14414, 39 mm SL (E. Haupt).

DIAGNOSIS: Dorsal fin rays VI-I,7; anal fin rays I,7; pectoral fin rays 17; pelvic fins nearly reaching anus, fully united, with a well-developed frenum; longitudinal scale series 28; predorsal scales 8; cycloid scales on nape, opercle, cheek and anterior to paired fins; remaining scales ctenoid; gill opening ending below pectoral-fin base; prominent papillose ridges on head; both nostrils tubular; sensory pores in tubes: nasal pores at about level of upper fifth of eye; anterior interorbital pore above anterior fourth of eye; posterior interorbital pore above middle of eye; supraotic pore at level of middle of eye; anterior otic pore at level of lower margin of eye; posterior otic and intertemporal pores present; anterior and posterior temporal pores absent; body depth 4.8 in SL; height of dorsal fins less than body depth; caudal fin shorter than head.

Colour in alcohol: head and body yellowish; several, irregular, faint dark bars on body; papillose ridges on head dark brown; dorsal fins dark brown with rows of pale spots; remaining fins dark brown.

REMARKS: Known previously only from the holotype from Indonesia and several specimens reported from the Chagos Archipelago by Winterbottom and Emery (1986).

MATERIAL: SMF 14414, 39 mm, Maldive Islands (no atoll locality given).

Callogobius sclateri (Steindachner)

Fig. 5

Eleotris sclateri Steindachner, 1880: 157 (type locality, Society Islands).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 16 or 17; pelvic fins variously joined medially, from only basally to two-thirds length of fifth rays; no pelvic frenum; longitudinal scale series 27-28; predorsal scales increasing in size anteriorly, extending into interorbital space; cheek and operculum scaled; ctenoid scales on body commencing below base of sixth dorsal spine (those anteriorly cycloid); gill rakers 1 + 5-6; gill opening ending below middle of opercle; head depressed; lower jaw projecting; posterior end of maxilla just reaching below front edge of orbit; papillose ridges on head as diagrammed by Akihito in Masuda et al., 1984: Fig. 136; cephalic pores in short tubes at positions as indicated by Akihito's Fig. 6; body depth 4.7-5.5 in SL; caudal fin rounded, its length equal to or shorter than head; dorsal fins lower than body depth; pelvic fins 1.4-1.6 in head.

Body light grey-brown with three irregular dark brown bars: one below first dorsal fin, one at base of caudal fin, and an oblique one passing from below posterior half of second dorsal fin to just behind anal fin; a few irregular dark brown spots on head and body; papillose ridges on head dark brown; membranes of median fins darkly pigmented with pale spots; a large black spot basally in first dorsal fin. Juveniles are more contrastingly marked, the ground colour paler and the bars darker than on adults.

REMARKS: The most common and widespread species of the genus, ranging from East Africa to French Polynesia; in the western Pacific from the Great Barrier Reef to southern Japan. Maldives specimens have been collected from lagoon reef or rubble areas in the depth range of 1-35 m.

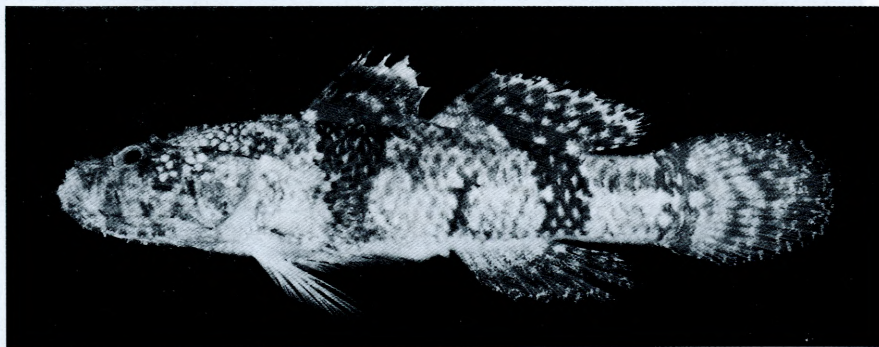


Figure 5. *Callogobius sclateri*, BPBM 8601, 29 mm SL, Society Islands.

Callogobius sclateri was assigned to various genera such as *Mucogobius* by Schultz (1943) and *Gobiomorphus* by Herre (1953a). This goby is obviously very cryptic in its habits, for we have never observed it alive underwater. We took no photograph of this species in the Maldives; we present as Text Fig. 5 a photograph of a specimen from the Society Islands with a colour pattern comparable to our Maldives material.

MATERIAL: BPBM 32863, 10 mm, Bathala, Ari Atoll; BPBM 32915, 20 mm, Maaniyafushi, South Malé Atoll; BPBM 33058, 3: 25-35 mm, Huraa, North Malé Atoll; BPBM 33098, 14 mm, Villingili, North Malé Atoll; FMNH 97787, 29 mm, Dunidu, South Malé Atoll; FMNH 97798, 26 mm, Bushy Island, Addu Atoll; SMF 14411, 32 mm, Weligandu, Rasdu Atoll.

Callogobius sp.

Fig. 6

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 16; pelvic fins joined only basally; longitudinal scale series 32, the scales ctenoid posterior to pectoral fins; prepectoral region, cheek, opercle, and nape with small cycloid scales; 14 predorsal scales extending to posterior interorbital space and not notably larger anteriorly; gill opening ending only a short distance below pectoral base, on a vertical from tip of opercular spine; head depressed; mouth oblique, the lower jaw projecting, the maxilla reaching a vertical at anterior edge of orbit; papillose ridges on head damaged but clearly similar to those of *C. sclateri*; body depth 4.7 in SL; head length 3.15 in SL; orbit diameter 4.0 in head; longest dorsal spine 2.25 in head; longest dorsal soft ray 1.8 in head; caudal fin rounded and short, 1.2 in head; pelvic fins nearly reaching anus, 1.3 in head.

Body whitish with 3 irregular dark brown bars, one beneath first dorsal fin and extending basally into centre of fin; one below posterior half of second dorsal fin, and the third posteriorly on caudal peduncle (all bars contain a few pale spots); head and pale interspaces of body with irregular dark brown blotches; fins pale with faint dusky markings.

REMARKS: This specimen (BPBM 34402, 33 mm) appears to represent an undescribed species; it differs from *C. sclateri* in scale counts and other characters as given in the diagnoses. It was collected in the lagoon of North Malé Atoll at the west end of Villingili Island on a sand and rubble bottom in 1 m.

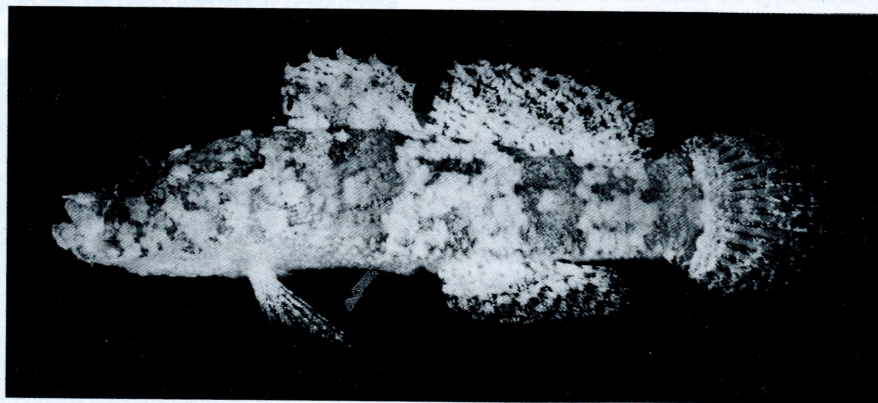


Figure 6. *Callogobius* sp., BPBM 34402, 33 mm SL.

Cryptocentrus fasciatus (Playfair & Günther)

Plate 1, Fig. J

Gobiosoma fasciatum Playfair & Günther, 1867: 72 (type locality, Zanzibar).

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,9; pectoral fin rays 17; pelvic disc with a frenum; longitudinal scale series 77; scales cycloid; head naked except for a few embedded scales dorsoanteriorly on opercle; nape scaled, the predorsal scales extending to within an eye diameter of interorbital space; gill rakers 3 + 12; gill opening extending forward to below corner of preopercle; body depth 4.6 in SL; head 3.15 in SL; snout blunt and short, its length equal to orbit diameter; longest dorsal spine 1.55 in head; caudal fin rounded, 1.15 in head; pelvic disc nearly reaching anus, 1.3 in head.

Head and body whitish with 5 dark brown bars, the first from nape across opercle, the next 3 on body, broader than whitish interspaces, each containing a whitish spot adjacent to base of one of the dorsal fins, and the narrow fifth bar centered on caudal-fin base; head with numerous blue dots and short diagonal lines; basal three-fourths of anal fin black with 2-8 longitudinal bright blue lines. The brown bars of some individuals are so broad that they may fuse except dorsally where a whitish spot remains between adjacent bars. A second colour phase is entirely yellow with the dark bars faintly showing, but bright blue spots on head and bright blue lines in anal fin still evident.

REMARKS: This species, like others of the genus, lives symbiotically in a burrow with alpheid shrimps. It is known from East Africa to the islands of Melanesia and the Great Barrier Reef. Two individuals of this goby sometimes share the same burrow, and they may be one of each colour pattern.

MATERIAL: BPBM 34398, 73 mm, Gaa Gandu Islet in the lagoon of North Malé Atoll.

Ctenogobiops crocineus Smith

Plate 2, Fig. A

Ctenogobiops crocineus Smith, 1959: 191, Pl. 11 K (type locality, Mahé, Seychelles).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,11; pectoral fin rays 19; pelvic fins fully joined, the disc with a

frenum; longitudinal scale series 51-52; scales dorsally on body posterior to base of fifth or sixth dorsal spines ctenoid (ctenoid scales in middle of body extending nearly to base of pectoral fin); head, nape, prepectoral area, and thorax naked; gill rakers 3 + 10-11; gill opening reaching forward to below posterior edge of orbit; body depth 5.0-5.3 in SL; head length 2.95-3.0 in SL; mouth oblique, the lower jaw protruding, the maxilla extending slightly posterior to a vertical at centre of eye; dorsal fin spines slender, the first two longest, 1.4-1.7 in head; caudal fin slightly pointed, equal to head length; pelvic disc just reaching origin of anal fin.

Head and body whitish with 3 longitudinal series of yellowish brown spots on upper half of body, those of midlateral row largest and horizontally elongate; a prominent elliptical yellow-brown spot above upper end of gill opening; diagonal rows of broken brownish yellow lines and spots on snout and head as illustrated by Lubbock and Polunin, 1977: Fig. 2.

REMARKS: *Ctenogobiops crocineus* was recorded by Lubbock and Polunin (1977) from the Red Sea, Seychelles, and Great Barrier Reef, and Polunin and Lubbock (1977) observed it in the Comoro Islands and Mitsio Islands (NW of Madagascar). Yoshino and Senou (1983) reported it from the Ryukyu Islands, and Winterbottom and Emery (1986) from the Chagos Archipelago. The senior author photographed the species underwater off Kenya. Like others of the genus, it is symbiotic with alpheid shrimps.

MATERIAL: BPBM 32953, 39 mm, Embudu, South Malé Atoll; BPBM 33059, 55 mm, Huraa, North Malé Atoll.

Ctenogobiops feroculus Lubbock & Polunin

Plate 2, Fig. B

Ctenogobiops feroculus Lubbock & Polunin, 1977: 509, Pl. 2, Figs. 5, 8 (type locality, Ile Amédée, Grand Récif Ouest, New Caledonia).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,11; pectoral fin rays 19; pelvic fins fully united, with a frenum; longitudinal scale series 52-54; scales cycloid anteriorly on body, becoming ctenoid posterior to base of third or fourth dorsal spines; head, nape, and region anterior to paired fins naked; gill rakers 2 + 9; gill opening extending to below posterior margin of preopercle; body depth 4.9-5.7 in SL; head length 3.2-3.6 in SL; mouth oblique, the lower jaw slightly projecting, the maxilla ending below or slightly posterior to centre of eye; dorsal fin spines slender, the first and second longest, their length greater than body depth; caudal fin rounded, its length about equal to head length; pelvic disc reaching anal fin origin.

Body whitish with 3 rows of dark yellowish brown spots: a midlateral row of 7 spots, the first 4 or 5 of which are horizontally elongate; a row of spots along back, some of which are elongate, and a row just below it, many as double spots forming a triangle with a spot of upper row; a few large horizontally elongate dark yellowish brown spots on head, with at most one on snout; a prominent white spot basally on pectoral fins.

REMARKS: *Ctenogobiops feroculus* was described from specimens from New Caledonia, the Seychelles, and the Red Sea. Yoshino and Senou (1983) corrected previous misidentifications of specimens of this species from the Ryukyu Islands. Allen and Steene (1987: Pl. 111, Fig. 8) illustrated it from New Britain. Their record of *C. maculosus* from the Maldives (Pl. 113, Fig. 1), however, is a misidentification of *C. feroculus*. Myers (1988) listed the species from the Mariana Islands. It coexists with snapping shrimps on sand and rubble substrata in the protected shallow water of lagoons and bays. The Bishop Museum specimen was collected on a lagoon reef flat in 1 m.

MATERIAL: BPBM 34403, 35 mm, Villingili, North Malé Atoll; SMF 4583, 2: 31-45 mm, Addu Atoll.

Eviota albolineata Jewett & Lachner

Eviota albolineata Jewett & Lachner, 1983: 783, Figs. 1, 2 (type locality, Tahiti).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays modally 18, most rays branched; pelvic fin rays I,4, with 6-12 branches on fourth ray; cephalic sensory pore system complete. Colour highly variable (see Jewett and Lachner, 1983).

REMARKS: Jewett and Lachner examined 998 specimens of this species from the Tuamotu Archipelago to East Africa, including the Seychelles and Chagos Archipelago, for the description, but they designated only ones from the Society Islands as types. Ronald Fricke of the Staatliches Museum für Naturkunde, Stuttgart collected two specimens from a tidepool on the east side of Kandoomafushi Island, South Malé Atoll in December, 1988.

MATERIAL: SMNH 8460, 2: 29 mm, Kandoomafushi, South Malé Atoll.

Eviota guttata Lachner & Karnella

Plate 2, Fig. C

Eviota guttata Lachner & Karnella, 1978: 9, Fig. 5 (type locality, Massaua, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 17 (lower 12 branched); pelvic fin rays I,5, the fifth ray 5 in length of fourth ray; cephalic pore system complete (Lachner and Karnella, Fig. 4a).

Colour in alcohol pale, with dusky pigment on post-orbital head forming faint bars to level of lower edge of eye, this pattern progressively fainter on anterodorsal part of body; a dusky streak posteriorly from lower edge of eye; a small U-shaped dusky spot medially on chin below eye; a series of 7 small dusky spots ventrally on body between origin of anal fin and base of caudal fin. In life translucent green with 3 large red spots (subequal to eye) on side of body beneath pectoral fin, followed by 7 smaller red spots (becoming smaller posteriorly) along lower side of body, the last ending posteriorly on ventral edge of caudal peduncle; a second series of 9 red spots along side of body, becoming smaller posteriorly, and commencing with one behind eye as large as pupil, the third to eighth spots horizontally elongate, the ninth on caudal peduncle.

REMARKS: The Bishop Museum specimen was taken in the outer surge zone of the seaward reef in 1-1.5 m. Previously known only from the Red Sea and Gulf of Oman.

MATERIAL: BPBM 33007, 18 mm, Malé, North Malé Atoll; ROM 54956, 3: 15-18 mm, Huraa, North Malé Atoll; ROM 54961, 2: 15-16 mm, North Malé Atoll.

Eviota nebulosa Smith

Eviota nebulosa Smith, 1958: 141, Fig. 3 (type locality, Pinda, Mozambique).

DIAGNOSIS: Dorsal fin rays VI-I,8; anal fin rays I,8; pectoral fin rays modally 16, the eleventh through fifteenth usually branched; pelvic fin rays I,4, with a rudimentary fifth ray, the pelvic disc nearly reaching origin of anal fin; cephalic pore system complete.

Colour in alcohol very similar to *E. nigripinna* (see below), but the dusky pigment dorsally on the body shows the outline of the scales, and the vertically elongate blackish spot posteriorly on caudal peduncle is mainly on the upper half of the peduncle; first dorsal fin of males not black.

REMARKS: The above diagnosis was taken from Lachner and Karnella (1980). Our only Maldives specimen was sent to Richard Winterbottom of the Royal Ontario Museum who made the identification.

MATERIAL: ROM 54944, 13 mm, Maaniyafushi, South Malé Atoll.

Eviota nigripinna Lachner & Karnella

Plate 2, Fig. D

Eviota nigripinna Lachner & Karnella, 1980: 37, Figs. 15, 18, 19 (type locality, North Island, Agalega Islands).

DIAGNOSIS: Dorsal fin rays VI-I,8; anal fin rays I,8; pectoral fin rays 15-16, the lower 5 or 6 rays branched; pelvic fin rays I,4, the fourth ray with 6 branches, the fins reaching anus; cephalic pore system complete; first dorsal fin not elevated, the longest spine about 2 in head length.

Colour in alcohol: pale with a transverse blackish bar across posterior interorbital space and continuing adjacent to posterior edge of eye; nape with 4 transverse bars, progressively shorter posteriorly, each formed by 2 parallel brown lines containing a variable number of melanophores; a scattering of dark pigment spots on cheek vaguely forming diagonal bands; body with 6 internal dark bars, the last and darkest on caudal peduncle; 6 small dusky spots ventrally on body posterior to origin of anal fin. In life this fish is translucent whitish with red markings except the internal bars which are blackish. Our largest specimen, presumably a male, has a blackish first dorsal fin.

REMARKS: *Eviota nigripinna* is known from the Agalega Islands, Comoros, Mascarenes, and the Chagos Archipelago. The five Bishop Museum specimens were collected at the same shallow seaward reef area as *E. guttata*.

MATERIAL: BPBM 33008, 2: 12-13 mm, BPBM 33082, 3: 11-15 mm, Malé, North Malé Atoll; CAS 58713, 12 mm, Funidu, North Malé Atoll.

Eviota prasina (Klunzinger)

Plate 2, Fig. E

Eleotris prasinus Klunzinger, 1871: 481 (type locality, Quseir, Egypt, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 15-16, the lower 7 branched; pelvic fin rays I,4, the fourth ray with 11 branches, the fins reaching anus; cephalic sensory pore system 2 of Lachner and Karnella, 1980: Fig. 4b (intertemporal pores absent).

Colour in life green with prominent orange-red spots on head and 2 red spots, one above the other, on pectoral-fin base; nape and upper half of body finely flecked with red.

REMARKS: Lachner and Karnella (1980) recorded this species from many localities from the Red Sea and coast of East Africa to the western Pacific, where it ranges from southern Japan to Lord Howe Island and Norfolk Island. Localities in the Indian Ocean include the Seychelles, Chagos Archipelago, and Sri Lanka. These authors documented the variation in colour and meristic data throughout the range (the populations at Lord Howe and Norfolk show the greatest level of differentiation). The Bishop Museum specimens were collected from the seaward reef in less than 0.3 m. Ronald Fricke collected three specimens from a tidepool at low tide at South Malé Atoll.

MATERIAL: BPBM 32898, 14 mm, Villingili, North Malé Atoll; BPBM 33110, 19 mm, Malé Island, North Malé Atoll; SMF 20434, 12 mm, Rasdu Atoll; SMNS 8462, 3: 13-15 mm, Kandoomafushi, South Malé Atoll.

Eviota sebreei Jordan & Seale

Plate 2, Fig. F

Eviota sebreei Jordan & Seale, 1906: 390, Fig. 80 (type locality, Pago Pago, American Samoa).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 16-17, none branched; pelvic fin rays I,5, the fifth ray about 1.4 in the fourth; fourth ray with numerous branches; pelvic fins reaching origin of anal fin; cephalic sensory pore system 6 of Lachner and Karnella (1980: Fig. 4c, hence lacking the nasal pores and the posterior interorbital); body slender, the depth about 5.5-6 in SL; snout more pointed than for most species of *Eviota*.

Colour in life: translucent with a lateral maroon stripe ending in a black spot at caudal-fin base; a series of 8 white spots along upper edge of maroon stripe (the anterior ones slightly horizontally elongate) and several below stripe in abdominal region; a broad transverse maroon bar across postorbital head connecting with the maroon stripe on body and containing a middorsal white line, and one extending posteriorly from eye; a red band on snout passing anteriorly from front of eye. Preserved specimens pale with some dark pigment dorsally on head and behind eye; a black spot at caudal base with an extension of dark pigment into lower part of fin.

REMARKS: This species has been recorded by Lachner and Karnella from Samoa and the Marshall Islands to the Comoro Islands and Red Sea. Winterbottom and Emery (1986)

reported it from the Chagos Archipelago, giving the depth range as 0-33 m.

MATERIAL: ROM 54949, 2: 14-15 mm, Huraa, North Malé Atoll.

Eviota zebrina Lachner & Karnella

Plate 2, Fig. G

Eviota zebrina Lachner & Karnella, 1978: 15, Figs. 2b, 10, 11 (type locality, Curieuse Island, Seychelles).

DIAGNOSIS: Dorsal fin rays VI-I, 9, the first two spines filamentous (in our specimen reaching beyond caudal-fin base); anal fin rays I, 8; pectoral fin rays 15, none branched; pelvic fin rays I, 4, with a rudimentary fifth ray; fourth pelvic ray with 4 branches; pelvic fins reaching origin of anal fin; cephalic pore system number 2 of Lachner and Karnella (1980: Fig. 4 b); body slender, the depth 5.6 in SL.

Colour in alcohol of specimen from 25-30 m: pale yellowish with some dusky pigment in posterior interorbital space and behind eye, and some on lower part of opercle; a black spot at midbase of caudal fin, and large black spots and blackish streaks in fin; two blackish circles nearly as large as pupil, one behind the other, on abdomen beneath pectoral fin; second dorsal, anal, and pectoral fins dusky; distal three-fourths of filamentous first two dorsal spines with a series of 13 transverse blackish spots.

Colour when fresh: head except ventrally and nape red, this colour continuing as a broad band across pectoral region, then narrowing and continuing midlaterally to end in black spot at base of caudal fin; nape and dorsal part of body above stripe translucent with narrow red edges on scales and a series of 14 small middorsal red spots; lower caudal peduncle and region of body between stripe and base of anal fin with 7 large red spots alternating with translucent interspaces of about the same size, the more posterior spots mixed with progressively more blackish pigment; an adjacent yellow spot above and below black basicaudal spot; filamentous first two dorsal spines with small red cross bands, becoming darker red distally; caudal fin with a large black spot in lower basal part of fin linked with a broad dusky streak to basicaudal spot; 2 dark angular bands containing black spots in outer part of fin; second dorsal and anal fins light red, the anal with a whitish margin. Colour of a shallow-water individual shown in Plate 2, Fig. G.

REMARKS: This species is known from the Red Sea, islands of the tropical Indian Ocean, western Australia and the Great Barrier Reef. Our Maldives record and the diagnosis above are based on a single specimen. Because its colour was dominated by red and because of the very long first two dorsal spines, it was initially believed to be another species. The specimen was sent on loan to Susan L. Jewett of the National Museum of Natural History, Washington, D. C. who identified it as *E. zebrina*. Evidently the preponderance of red is related to the specimen living in moderately deep water.

MATERIAL: BPBM 32916, 15 mm, Maaniyafushi, South Malé Atoll.

Eviota sp.

DIAGNOSIS: Dorsal fin rays VI-I, 9; anal fin rays I, 8; pectoral fin rays 16, none branched; pelvic fin rays I, 5, the fifth ray one-fourth length of fourth ray, the first to fourth rays with numerous branches; cephalic sensory pore system as in *E. seebrei*; body slender, the depth 6.0-6.3 in SL.

Colour in preservative: pale with dusky pigment in posterior interorbital space and behind eye, a faint dusky line across lower cheek, and some dusky pigment ventrally on body at base of anal fin and lower caudal peduncle, expanding slightly posteriorly. Colour in life translucent grey with an orange stripe extending posteriorly from lower half of eye, becoming broadly purplish, edged with yellow, as it cross abdomen (with more purplish above), continuing diffusely again in orange along lower side of body posterior to anus, and ending on ventral third of caudal fin except for a pale blue lower margin of fin; a large diffuse yellow spot behind eye; snout and chin dusky yellow; anal fin, middle zone of caudal fin, and base of dorsal fins yellow.

REMARKS: Winterbottom and Emery (1980: Fig. 33) reported this goby from the Chagos Archipelago as *Eviota* sp. A, indicating that it will be described by Jewett and Lachner. Burgess and Axelrod (1973: Fig. 93) illustrated a specimen of this species which they identified only as an eleotrid. The Bishop Museum specimens were collected with rotenone on reefs at depths of 20-48 m; one sent on loan by Ronald Fricke of the Staatliches Museum für Naturkunde was collected on sponges at the vertical edge of a coral reef in 12 m.

MATERIAL: BPBM 34392, 15 mm, Furana, North Malé Atoll; BPBM 35034, 5: 13-16 mm, Maaniyafushi, South Malé Atoll; ROM 54957, 6: 12-14 mm, Huraa, North Malé Atoll; SMNS 8457, 15 mm, Maafushi, South Malé Atoll.

Flabelligobius latruncularius (Klausewitz)

Plate 2, Fig. H

Eilatia latruncularia Klausewitz, 1974b: 206, Figs. 1-4 (type locality, Sinai Coast, Gulf of Aqaba, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I, 10; anal fin rays I, 8; pectoral fin rays 17; pelvic fins fully fused to form a disc which nearly reaches anus; pelvic frenum well-developed; longitudinal scale series 49; scales ctenoid posterior to origin of second dorsal fin; head and region anterior to paired fins naked; small scales posteriorly on nape (about 7 predorsal scales); gill rakers 2 + 3; gill opening extending forward nearly to a vertical at posterior edge of preopercle; body elongate, the depth 5.8 in SL; head 3.3 in SL; snout short, about three-fourths orbit diameter, 4.3 in head; front of first dorsal fin elevated, 1.2 in head, the first 3 spines about equally long and not free from membrane (in adult males, however, the first 3 spines are filamentous); caudal fin rounded, its length slightly shorter than head.

Body whitish with 3 large dark brown blotches on upper three-fourths of body, the first triangular in shape, extending below first dorsal fin, the next below anterior part of second dorsal fin, the third centred below end of second dorsal fin base, and the irregular fourth posteriorly on side of caudal peduncle; head brown except lips and ventrally where whitish; head, body, and all fins with small brown-edged yellow spots.

REMARKS: This species was previously known only from the northern Red Sea. Our one female specimen was collected on a sand and rubble bottom in the lagoon at a depth of 28 m; it was symbiotic in a burrow with the snapping shrimp *Alpheus randalli*.

MATERIAL: BPBM 34400, 42 mm, Gaa Gandu Islet, North Malé Atoll.

Fusigobius duospilus Hoese & Reader

Plate 2, Fig. I

Fusigobius duospilus Hoese & Reader, 1985: 2, Figs. 1, 2 (type locality, Escape Reef, Great Barrier Reef).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 18-19; pelvic fins united, with a small weak frenum; longitudinal scale series 24-25; scales on body ctenoid except for region anterior to paired fins; no scales on operculum; no predorsal scales, but cycloid scales on side of nape to above posterior preopercular margin; gill rakers 2 + 5-6; gill opening extending forward nearly to a vertical at posterior margin of preopercle; body depth 4.7-5.0 in SL; head length 3.0-3.05 in head; snout pointed, about equal to eye diameter, 3.4-3.6 in head; interorbital space extremely narrow; lower jaw slightly projecting; mouth oblique, the maxilla reaching slightly posterior to a vertical at front edge of orbit; caudal fin rounded, its length slightly shorter than head; pelvic fins reaching anal-fin origin.

Head and body whitish with scattered orange-yellow dots; a small black spot centrally on caudal-fin base; a small blackish-edged yellow spot above pectoral-fin base; two prominent black spots in outer part of first dorsal fin, one on first membrane and the other on fifth.

REMARKS: Hoese and Reader described *Fusigobius duospilus* from 179 specimens collected at many localities from South Africa and the Seychelles to the Marianas and Gilbert Islands (Kiribati). The two Bishop Museum specimens from the Maldives were taken from a lagoon reef in 15 m.

MATERIAL: BPBM 32978, 2: 33-35 mm, Furana, North Malé Atoll.

Fusigobius neophytus (Günther)

Plate 2, Fig. J

Gobius neophytus Günther, 1877: 174, Pl. 108, Fig. E (localities of syntypes: Pohnpei; Apia, Western Samoa; Huahine; Tahiti).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 18; pelvic fins joined by membrane (easily torn), reaching origin of anal fin; pelvic frenum poorly developed; longitudinal scale series 24; scales on body ctenoid except prepectoral area and thorax where cycloid; no scales on operculum; no predorsal scales, but cycloid scales extending anteriorly on side of nape nearly to eye; gill rakers 2 + 6; gill opening nearly reaching a vertical at posterior margin of preopercle; body depth 4.5-4.6 in SL; head length 3.2-3.3 in SL; snout pointed, about equal to orbit diameter, 3.2 in head; interorbital space extremely narrow; lower jaw projecting; mouth oblique, the maxilla reaching a vertical below ante-

rior edge of orbit; caudal fin rounded, about equal to head length.

Head and body translucent with small blackish yellow spots; a black spot smaller than pupil at midbase of caudal fin; a short vertical blackish streak often present on midside of caudal peduncle; a series of 10 small blackish yellow spots middorsally on body; a blackish streak from lower edge of eye across mouth; a U-shaped blackish mark dorsally on snout; a small blackish spot anteriorly in outer part of first dorsal fin; two blackish yellow spots, one above the other, on pectoral-fin base.

REMARKS: This species occurs throughout most of the Indo-Pacific region from the Red Sea and East Africa to French Polynesia; it is absent from the Hawaiian Islands (the species of *Fusigobius* reported from there as *neophytus* is undescribed). The typical habitat is sand and rubble adjacent to patch reefs in lagoons or bays. Bishop Museum specimens have been collected in the depth range of 0.5-25 m. Winterbottom and Emery (1986) reported the gut contents of one specimen from the Chagos Archipelago as harpacticoid copepods, amphipods, and a polychaete.

MATERIAL: BPBM 33061, 37 mm, Huraa, North Malé Atoll; BPBM 32956, 2: 41-43 mm, Embudu Island, South Malé Atoll; CAS 58735, 2: 42-44 mm, Hulele, North Malé Atoll; SMF 14423, 43 mm, Addu Atoll; SMF 14424, 22 mm, Weligandu, Rasdu Atoll.

Fusigobius sp. 1

Plate 3, Fig. A

DIAGNOSIS: Dorsal fin rays I,9; anal fin rays I,8; pectoral fin rays 19-20; pelvic fins united by membrane for at least half their length, reaching origin of anal fin; pelvic frenum very small and weak; longitudinal scale series 24-25; scales on body ctenoid except pre-pectoral region and thorax where cycloid; no scales on head and none on midline of nape; cycloid scales on side of nape reaching forward to above posterior margin of preopercle; gill rakers 1 + 7-8; gill opening extending forward nearly to a vertical at posterior margin of preopercle; body depth 4.9-5.2 in SL; head 3.05-3.3 in SL; snout pointed, equal to or slightly longer than orbit diameter, 3.3-3.5 in head; interorbital space extremely narrow; caudal fin rounded, its length about equal to or slightly longer than head.

Head and body translucent; scattered small orange-yellow spots on head, body (except ventrally), and dorsal and caudal fins, the spots on head larger, some elliptical, mainly in 4 slightly oblique rows; a blackish-edged orange-yellow spot smaller than pupil at midbase of caudal fin; first membrane of first dorsal fin with a prominent black spot two-thirds distance to margin.

REMARKS: Winterbottom and Emery (1986) labelled this goby "species A", pending a revision of the genus by Douglass F. Hoese. Their 21 specimens from the Chagos Archipelago were collected in the depth range of 3-26 m, mainly from reef-tops and drop-offs. One had a small brachyuran crab in its gut. Our four specimens were taken in 20-48 m, one from the sandy floor of a cave on the seaward side of an atoll islet. Allen and Steene (1987: Pl. 113, Fig. 3) illustrated this species in colour.

MATERIAL: BPBM 32906, 54 mm, Villingili, North Malé Atoll; BPBM 32917, 23 mm, Maaniyafushi, South Malé Atoll; BPBM 33060, 34 mm, Huraa, North Malé Atoll; BPBM 34389, 47 mm, Furana, North Malé Atoll.

Fusigobius sp. 2

Plate 3, Fig. B

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,9; pectoral fin rays 18; pelvic fins joined at least one-third their length, reaching anal fin origin; pelvic frenum very small and weak; longitudinal scale series 24; scales on body ctenoid except prepelvic and thoracic regions where cycloid; no scales on operculum; no median scales on nape; cycloid scales on side of nape extending to above upper end of preopercular margin; gill rakers 1 + 7; gill opening ending below middle of opercle; body depth 4.55 in SL; head length 3.05 in SL; snout pointed, shorter than orbit diameter, 4.2 in head; caudal fin rounded, nearly as long as head.

Body translucent, the head, body, and dorsal and caudal fins densely covered with small blackish yellow spots; a blackish spot nearly as large as pupil at midbase of caudal fin and another above base of pectoral fin; a blackish line from lower edge of eye across side of lips.

REMARKS: Winterbottom and Emery (1986) collected 9 specimens of this goby in lagoons of the Chagos Archipelago in 0.5-32 m. They designated it as "species B", pending a revision of the genus by Douglass F. Hoese. Our specimen was taken from a lagoon reef in 8-10 m.

MATERIAL: BPBM 32955, 27 mm, Embudu, South Malé Atoll.

Gnatholepis anjerensis (Bleeker)

Plate 3, Fig. C

Gobius anjerensis Bleeker, 1850: 251, Fig. 11 (type locality, Anjer).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,11; pectoral fin rays 15-16; pelvic fins fully joined to form a disc, the fins reaching to or slightly posterior to origin of anal fin; pelvic frenum well-developed but very thin; longitudinal scale series 27-29; head scaled except snout and chin; scales on body ctenoid except small cycloid scales anterior to paired fins; median predorsal scales cycloid, extending to posterior interorbital space; scales on side of nape, opercle, and posteriorly on preopercle ctenoid; those on cheek below eye cycloid; gill rakers 1 + 3; gill opening extending forward only to below posterior half of opercle; body depth 4.05-4.3 in SL; head 3.1-3.25 in SL; snout obtuse, 2.95-3.15 in head; orbit diameter 3.6-3.75 in head; mouth terminal or lower jaw slightly inferior; mouth oblique, the maxilla nearly or just reaching a vertical at front edge of orbit; posterior part of lower lip with a conspicuous ventrally directed flap; caudal fin rounded, its length about equal to head length.

Life colour of illustrated specimen: whitish with 3 longitudinal rows of dark brown blotches (the smallest spots in a row along back) mostly interconnected to form irregular bars; superimposed on this pattern are longitudinal rows of dark orangish brown dots; cheek, operculum, and ventral half of body with some scattered small pale blue spots; a

small bright orange-yellow spot broadly edged in blackish above upper base of pectoral fin, and another smaller yellow spot at upper end of preopercular edge; a black line across interorbital, and a black bar below eye; an oblique red line on lower part of opercle, and a blackish yellow horizontal line on pectoral-fin base; head finely flecked with dark orangish brown spots; dorsal and caudal fins with numerous reddish brown spots; anal fin pale yellowish with 2 rows of elongate reddish spots; paired fins pale, finely peppered with dark brown.

REMARKS: The description of *Gobius anjerensis* Bleeker is based on a drawing, and no type specimen exists. Bleeker (1874) selected *anjerensis* as the type species of his new subgenus *Gnatholepis*, now widely recognized as a genus. Some authors such as Winterbottom and Emery (1986) and Hoese (1986) have preferred not to assign a species name to this widespread and common goby until a badly needed revision of the genus is published. Other authors such as Randall (1983), Akihito (in Masuda et al., 1984) and Myers (1989) have applied the name *anjerensis* to it. David W. Greenfield and Peter J. Miller (pers. comm.) intend to select a specimen of this species as the neotype of *G. anjerensis*.

Winterbottom and Emery (1986) examined the holotype of *Gnatholepis cauerensis* (Bleeker) from Sumatera and concluded it is the same as their specimens from the Chagos Archipelago which are conspecific with the specimens as here diagnosed. The senior author has examined syntypes of *Gnatholepis deltoides* (Seale, 1901) from Guam in the Bishop Museum and determined that it is also a junior synonym of *G. anjerensis*.

MATERIAL: BPBM 34404, 3: 32-34 mm, Villingili, North Malé Atoll; CAS 66708, 2: 40-42 mm, Hulele, North Malé Atoll; SMF 14389, 40 mm, Welignadu, Rasdu Atoll; SMF 14390, 24 mm, Welignadu, Rasdu Atoll; SMF 14391, 36 mm, Fusdu, Ari Atoll; SMF 14392, 2: 39-42 mm, Naifarua, Fadiffulu Atoll; SMF 14393, 2: 32-39 mm, Weligandu, Rasdu Atoll; SMF 14394, 35 specimens, Weligandu, Rasdu Atoll.

Gnatholepis scapulostigma Herre

Plate 3, Fig. D

Gnatholepis scapulostigma Herre, 1953b: 193 (type locality, Enewetak Atoll, Marshall Islands).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,11; pectoral fin rays 17; pelvic fins fully joined to form a disc which reaches origin of anal fin; pelvic frenum well-developed, but very thin; longitudinal scale series 26; scales on body ctenoid except small cycloid scales anterior to paired fins; cycloid scales on head extending on nape and cheek to rear edge of eye; gill rakers 1+4; gill opening extending anteriorly to below middle of opercle; body depth 4.7-5.0 in SL; head length 3.15-3.35 in SL; snout obtuse, about equal to orbit diameter, 3.2-3.35 in head; mouth terminal to inferior, and oblique, the maxilla reaching a vertical at anterior edge of orbit; posterior part of lower lip with a ventrally directed flap; caudal fin rounded, as long as or longer than head length.

Body whitish with 7 longitudinal rows of small brownish orange spots following scale rows, those on dorsal part of body continuing onto nape (spots dorsally on body

more brown, and those ventrally more orange); six dusky blotches along the fifth and sixth rows of spots, the spots within the blotches larger and more intensely pigmented; a small brownish orange spot at midbase of caudal fin; a diffuse white blotch in each space between blackish blotches; a series of 11 irregular white blotches dorsally on head and body; a blackish blotch containing a bright yellow spot above base of pectoral fin; a blackish line across interorbital space, continuing through eye, and extending ventrally from eye (the part below eye orange on some individuals); a dusky spot centred on this line below eye; a horizontal dark-edged orange line on pectoral fin base, continuing slightly diagonally onto opercle; dorsal and caudal fins with small brownish orange spots.

REMARKS: This species is provisionally identified as *Gnatholepis scapulostigma*, following such recent authors as Akihito (in Masuda et al., 1984), Myers (1989), and Allen in Randall et al. (1990). As mentioned above, a revision of the genus is needed. Although we have underwater photographs of this species from a pale sandy bottom in the Maldives, we have presented one from Mauritius taken of an individual on a darker substratum, because it shows the characteristic markings more clearly. The Bishop Museum specimens were collected in 27-48 m.

MATERIAL: BPBM 34390, 2: 21-29 mm, Furana Island, North Malé Atoll; BPBM 34574, 2: 20-22 mm, Maaniyafushi, South Malé Atoll; ROM 54945, 19 mm, Maaniyafushi, South Malé Atoll; ROM 54959, 19 mm, Huraa, North Malé Atoll.

Gobiodon citrinus (Rüppell)

Gobius citrinus Rüppell, 1838: 139, Pl. 32, Fig. 4 (type locality, Massaua, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,8; pectoral fin rays 18-19; pelvic disc small and cup-like, not approaching anus, the frenum well developed; no scales; body deep, the depth 2.3-2.7 in SL, and compressed, the width 1.9-2.2 in depth; gill opening ending ventrally at level of about twelfth pectoral ray; first dorsal fin highest anteriorly; caudal fin rounded, shorter than head.

Ground colour evidently variable, brown to bright yellow; a small black spot at upper end of opercular membrane; two blue lines extending ventrally from eye, another from nape across opercle, and a fourth across pectoral base; a blue line at base of dorsal and anal fins.

REMARKS: Like others of the genus, this species lives among the branches of live coral. Also characteristic is the production of toxic mucus.

MATERIAL: CAS 58728, 2: 20-45 mm, Hulele, North Malé Atoll; SMF 14419, 18 mm, Hittadu, Addu Atoll.

Gobiodon sp.

Plate 3, Fig. E

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,8; pectoral fin rays 17-18; pelvic disc small, reaching about two-thirds distance to anus; frenum well-developed; no scales; body depth 2.7-3.0 in SL; gill opening ending at level of lower 2 or 3 pectoral rays; margin of first dorsal fin

rounded, the third and fourth spines longest; caudal fin rounded, shorter than head. Head and body yellow-orange, becoming pale yellowish on lower part of head and abdomen, with numerous irregular vertical blue lines on head and anterior half of body.

REMARKS: The Bishop Museum specimens are clearly conspecific with those from the Chagos Archipelago identified as *Gobiodon rivulatus* by Winterbottom and Emery (1986: 40, Figs. 60, 61). However, Rüppell described *rivulatus* as emerald green with a labyrinth-like pattern of carmine red lines, hence very different from the colour pattern of this species.

MATERIAL: BPBM 32918, 15 mm, Maaniyafushi, South Malé Atoll; BPBM 32957, 3: 10-32 mm, Embudu, South Malé Atoll.

Heteroleotris zanzibarensis (Smith)

Plate 3, Fig. F

Satulinus zanzibarensis Smith, 1958: 160, Fig. 16 (type locality, Zanzibar).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 18, the upper 3 rays largely free of membrane; pelvic fins fully joined, with a frenum, reaching three-fourths distance to anus; longitudinal scale series 27-28, the anterior scales small, commencing a short distance behind gill opening; scales on body ctenoid posterior to base of fourth or fifth soft dorsal ray; head, nape, thorax, and abdomen naked; first gill arch connected to inner face of buccal cavity by a membrane; gill opening ending at lower base of pectoral fin; body depth 4.4-5.6 in SL; head length 3.0-3.2 in SL; head depressed, the width 1.3-1.35 in length; caudal fin rounded and short, 3.8-4.0 in SL.

Head and body whitish with 4 irregular blackish bars on upper three-fourths of body, the largest and darkest beneath first dorsal fin, the second below anterior part of second dorsal fin, the third on anterior caudal peduncle, and the narrow fourth at caudal-fin base; first 3 bars with edges much darker than centres (the second and third represented mainly by the margins); a broad oblique blackish band extending across cheek from eye; first dorsal fin with 2 broad blackish bands, the last membrane black on basal two-thirds and bright yellow on outer third.

REMARKS: Smith (1958) described this species from a single 23-mm specimen from a tidepool at Zanzibar. Hoese (1986) recorded it from "East Africa south to Inhaca, Seychelles, Mauritius and St. Brandon's Shoals." Richard Winterbottom (pers. comm.) collected it in the Comoros. The three specimens of the present report were taken with rotenone in the surge zone of a seaward reef in 1-1.5 m. Ronald Fricke collected a specimen in 0.5-1 m in a lagoon with a bottom of sand and coral.

MATERIAL: BPBM 33006, 2: 22-23 mm, North Malé Atoll; ROM 60686, 17 mm, same locality; SMNS 9927, 17 mm, Kandoomafushi, South Malé Atoll.

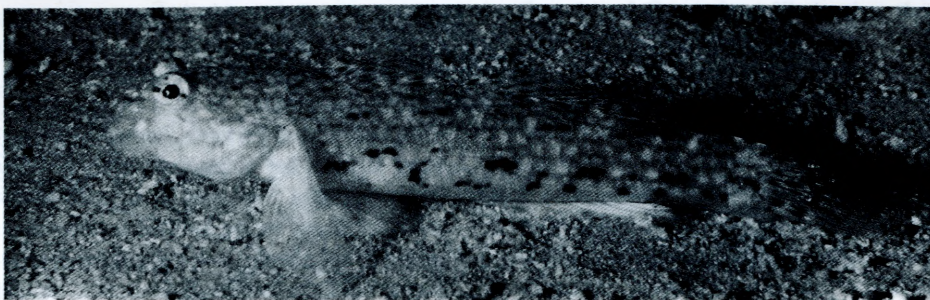


Figure 7. *Istigobius decoratus*, 90 mm TL.

Istigobius decoratus (Herre)

Fig. 7

Rhinogobius decoratus Herre, 1927: 181, Pl. 13, Fig. 3 (type locality, Leyte, Philippines).

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,9; pectoral fin rays 18-19; pelvic fins fully joined to form a disc which reaches anus; pelvic frenum well-developed; longitudinal scale series 28; scales on body ctenoid except region anterior to paired fins; scales on nape reaching interorbital space (ctenoid to above posterior opercle); gill rakers 0 + 5-6; gill opening extending forward to below anterior part of opercle; body depth 5.0-5.9 in SL; head short for the genus, 3.5-4.0 in SL; front of snout obtuse; mouth inferior; caudal fin rounded, as long as or longer than head.

Upper two-thirds of body brown, with a squarish white spot in scale centres; lower third of head and body white; a midlateral row of double dark brown spots on body; a row of smaller dark brown spots on upper side, and a series of small dark brown spots of variable size just under midlateral row; some irregular dark markings on head, the most characteristic an inverted oblique U above corner of mouth; fins except pelvics with small dark brown spots.

REMARKS: This species is the most wide-ranging of the genus, occurring from the Red Sea to South Africa and east to the Marshall Islands and Samoa; in the western Pacific from the Ryukyu Islands to the Great Barrier Reef and Lord Howe Island. It is typically found on sandy substrata next to reefs in lagoons and bays. Murdy (1985) gave the depth range as 1-18 m; one of our Bishop Museum specimens was taken in 20 m.

MATERIAL: BPBM 18941; 72 mm, Vaadu, South Malé Atoll; BPBM 32958, 65 mm, Embudu, South Malé Atoll; FMNH 77461, 3: 32-63 mm, Himmafushi, North Malé Atoll.

Macrodontogobius wilburi Herre

Macrodontogobius wilburi Herre, 1936: 279, Pl. 1, Fig. 2 (type locality, Koror, Palau Islands).

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,9; pectoral fin rays 16; pelvic fins fully joined, reaching past origin of anal fin, with a well-developed frenum; longitudinal scale series 27-31 (after Murdy, 1985; too many scales missing from specimen to count); scales on nape extending to posterior interorbital space, the predorsal scales 7; operculum and cheek fully scaled; scales ctenoid except prepectoral region and thorax; gill opening ending slightly below

pectoral-fin base; body depth 5.4 in SL; head length 3.4 in SL; head width three-fourths head length; head depth two-thirds head length; mouth terminal to inferior, slightly oblique; caudal fin rounded, longer than head, 3.3 in SL.

Light grey with a midlateral series of five paired dark brown spots and numerous small brown spots, a concentration of these small spots forming a line above and below lateral series of spots; some large dark brown blotches on check and lower opercle; dorsal and caudal fins with numerous small brown spots; anal fin with dark reddish spots basally; pelvic fins with four dark brown transverse bands.

REMARKS: This goby is known from the Seychelles to Samoa and the Line Islands (Murdy, 1985). Randall and Randall (1987) recorded it from the Marshall Islands. It has been illustrated in colour by Masuda et al. (1984), Murdy (1985), and Randall et al. (1990). It is usually seen in shallow sandy areas in lagoons and bays near coral reefs.

MATERIAL: FMNH 96312, 30 mm, Wilingili, Addu Atoll

Oplopomus caninoides (Bleeker)

Gobius caninoides Bleeker, 1852: 274 (type locality, Amboin).

REMARKS: Recorded from the Maldives in 27-36 fathoms by Regan (1908: 241) as *Hoplopomus caninoides*. No Maldives material examined by us.

Oplopomus oplopomus (Valenciennes)

Gobius oplopomus Valenciennes in Cuvier & Valenciennes, 1837: 66 (type locality, Massaua, Red Sea).

REMARKS: Four specimens of this goby were described as a new species, *Hoplopomus acanthistius*, by Regan (1908: 242, pl. 29, Fig. 3). They were collected from 27 fathoms at Mulaku, Maldives. The description and figure leave no doubt that the specimens are *Oplopomus oplopomus*. We have examined no Maldives material; however, the senior author took an overexposed underwater photograph of one individual on a white sand bottom in the lagoon of North Malé Atoll. Another underwater photograph is reproduced in colour in Randall et al. (1990).

Opua maculipinna, n. sp.

Figs. 8, 9

HOLOTYPE: BPBM 32876, male, 37.3 mm SL, Maldivian Islands, Ari Atoll, lagoon east of Vihamaafaru Reef, coral knolls and sand, 20 m, spear, John E. Randall, 7 March 1988.

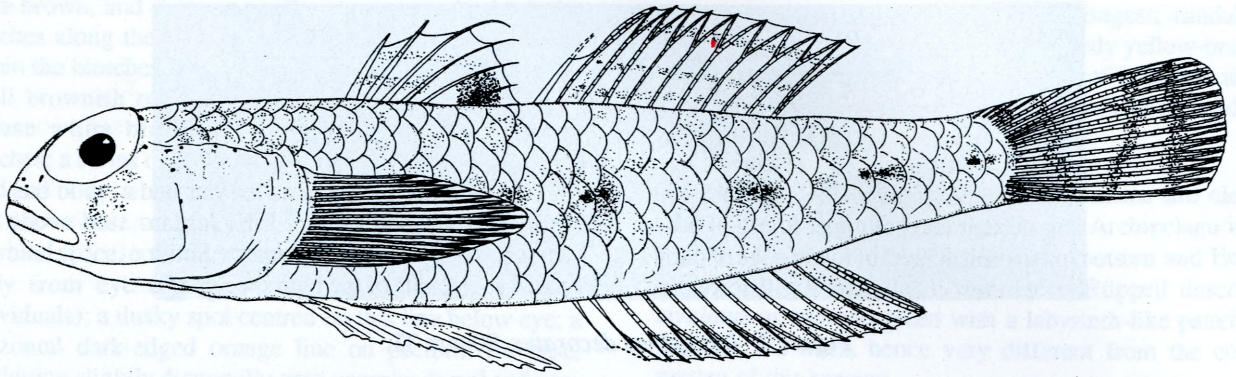


Figure 8. Holotype of *Opua maculipinna*, BPBM 32876, 37.3 mm SL.

DIAGNOSIS: Dorsal fin rays VI-I,10, the first spine of each fin notably stout and rigid; anal rays I,10; pectoral fin rays 17; longitudinal scale series 27; head naked; scales on nape extending to posterior interorbital space, the predorsal scales 9; scales of nape and body ctenoid except prepectoral region and area around base of pelvic fins; body depth 4.9 in SL; head length 3.3 in SL; snout short, 4.0 in head; third dorsal spine longest, 1.8 in head; caudal fin rounded, shorter than head, 3.95 in SL. Body pale with a midlateral row of 5 dusky blotches, each containing a close-set pair of dark brown spots; numerous small brown spots and flecks on postorbital head and body; a large dusky blotch under eye; a black spot covering most of outer three-fourths of fifth membrane of first dorsal fin.

DESCRIPTION: Dorsal fin rays VI-I,10, the first spine rigid, pungent, and thicker than succeeding spines, the spine of second dorsal fin comparably strong; anal fin rays I,10, the first spine not stout; all dorsal and anal soft rays

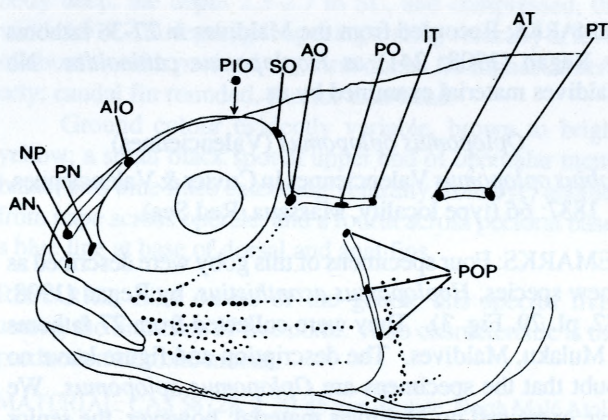


Figure 9. Diagram of sensory papillae and pores on head of *Opua maculipinna*. AN — anterior nostril; PN — posterior nostril; NP — nasal pore; AIO — anterior interorbital pore; PIO — posterior interorbital pore; SO — supra-otic pore; AO — anterior otic pore; PO — posterior otic pore; IT — inter-temporal pore; AT — anterior temporal pore; PI — posterior temporal pore; POP — preopercular pores.

branched, the last to base; pectoral fin rays 17, the upper 3 and lowermost unbranched; pelvic fin rays I,5, the fins fully joined medially; pelvic frenum well-developed, but thin, extending posteriorly two-thirds length of pelvic spine; branched caudal rays 13; upper and lower procurrent caudal rays 8, the posterior 2 segmented; longitudinal scale series 27; transverse scales from base of first dorsal fin to origin of anal fin 9; circumpeduncular scales 12; head naked except for scales on nape which extend to posterior interorbital space; predorsal scales 9, the most posterior notched at back; median prepelvic scales 4; scales on body ctenoid except anteriorly on abdomen and in front of paired fins; scales on nape ctenoid; fins naked except basally on caudal and pectoral fins; gill rakers 2 + 8, the two on upper limb and the last on lower-limb very small; pseudobranchial filaments 8; branchiostegal rays 5; dorsal fins pterygiophore formula (following Birdsong et al., 1988) 3-22110; vertebrae 10 + 16.

Body depth 4.9 in SL; body width 1.45 in depth; head length 3.3 in SL; head width 6.1 in SL; snout 4.0 in head; dorsal profile of head strongly and evenly convex; orbit diameter 3.0 in head; eyes oriented as much dorsally as laterally, the bony interorbital space very narrow, 23 in head; least depth of caudal peduncle 2.95 in head; length of caudal peduncle 1.6 in head; predorsal length 2.7 in SL; preanal length 1.75 in SL; prepelvic length 3.2 in SL.

Mouth oblique, forming an angle of about 20° to axis of body, the lower jaw slightly projecting; maxilla reaching a vertical at front edge of pupil, the upper jaw length 2.8 in head. Anterior half of upper jaw with an outer row of 6 slightly enlarged slender incurved canine teeth on each side, this row continuing with progressively smaller canines; three inner rows of lesser teeth anteriorly in upper jaw, those of innermost row notably longer than teeth of two middle rows; rows of teeth gradually narrowing to a single row posteriorly in jaw; lower jaw with 7 canine teeth on one side and 8 on the other, the most posterior (two on one side and one on the other) enlarged and strongly recurved, the remaining teeth more slender and incurved, like anterior upper teeth; inner rows of teeth of lower jaw comparable to those of upper. Tongue truncate, its anterior end free from floor of buccal cavity.

Preopercular margin rounded with no spines or serrae. Nostrils in front of centre of eye, the anterior tubular without a posterior flap. Pores of cephalic sensory system as follows: nasal pore large, above base of anterior nostril, directly in front of posterior nostril; anterior interorbital pore above anterior edge of pupil; posterior interorbital pore slightly anterior to a vertical at posterior edge of orbit; supraotic pore next to orbit at level of upper fourth of orbit; anterior otic pore next to orbit at level of lower edge of pupil; posterior temporal pore in vertical alignment with lower two of the three preopercular pores along the posterior margin preopercle; anterior temporal pore between the anterior otic and posterior temporal pores; upper preopercular pore at level of lower edge of orbit; a pore at each end of the detached posterior oculoscapular canal. Pattern of sensory papillae on head as illustrated in Text Fig. 9; noteworthy are 6-7 near-horizontal rows of papillae in suborbital region extending posteriorly from above hind part of maxilla (in addition to a row of papillae following curvature of lower edge of orbit) and a double series of papillae behind posterior margin of preopercle which curve part way around corner of preopercle.

Origin of first dorsal fin above third near-vertical row of longitudinal scale series; first dorsal spine 2.8 in head; second dorsal spine 1.9 in head; third dorsal spine longest, 1.8 in head; origin of second dorsal fin in vertical alignment with anus, the stout initial spine 3.45 in head; third dorsal soft ray longest, 1.85 in head; origin of anal fin below base of first dorsal soft-ray; anal spine not thick, somewhat curved, its length 4.25 in head; third anal soft-ray longest, 2.25 in head; caudal fin rounded, shorter than head, 4.95 in SL; ninth pectoral ray longest, reaching a vertical through anus, 4.15 in SL; pelvic spine 3.6 in head; pelvic fins reaching slightly posterior to genital papilla, 4.1 in SL. Genital papilla simple, one-half orbit diameter long.

Colour in alcohol: body pale yellowish with a midlateral row of 5 faint dusky blotches, each containing a pair of prominent close-set brown spots, the blotches progressively smaller posteriorly, the last centred on base of caudal fin; small diffuse brown spots in rows following longitudinal scale rows on postorbital head and upper three-fourths of body; a large irregular dusky blotch extending ventrally from eye, the pointed lower part reaching slightly below and posterior to rear end of maxilla; opercle with diffuse dusky pigment; some small dusky blotches and flecks on snout and upper lip, and a pair of small dusky blotches on chin; first dorsal fin pale with 2 rows of brown spots on membranes and a large black spot covering most of fifth membrane above a basal triangular clear area; sixth membrane dusky, and tips of spines dusky; second dorsal fin pale with 3 longitudinal rows of small brown spots; anal fin pale on basal half with a row of small brown spots, the outer half dusky; caudal fin pale with 3 irregular vertical bands formed by dusky spots on membranes; two dusky spots basally near upper and lower edges of caudal fin; tips of central caudal rays dusky; pectoral fins pale with a dusky blotch dorsally on base and a lesser dusky blotch on rays posterior to it; pelvic fins dusky, pale at margins.

The only notation made on the colour of this goby when fresh was the prominent black spot posteriorly in the

first dorsal fin; it is unlikely that there was any obvious chromatic colour in life.

REMARKS: We name this species *Opua maculipinna* from the Latin *macula* for spot and *pinna* for fin, in reference to the black spot in the first dorsal fin.

Douglass F. Hoese called our attention to the possibility that the genus *Opua* E.K. Jordan (1925) might be a senior synonym of *Oplopomops* Smith (1959). We compared specimens of the type species of each of these genera, *Opua nephodes* E.K. Jordan, 1925 and *Oplopomus diacanthus* Schultz, 1943, and can confirm that they are congeneric. *Opua* is therefore no longer a monotypic genus endemic to the Hawaiian Islands. It is closely related to *Oplopomus* Valenciennes, differing chiefly in the lack of spines on the margin of the preopercle.

In addition to *Opua maculipinna*, the genus is represented by two species outside the Hawaiian Islands, *O. atherinoides* (Peters, 1855), described from Mozambique, and *O. elati* (Goren, 1984) from the northern Red Sea. In proposing the genus *Oplopomops*, Smith (1959: 189) indicated "with little doubt" that *Oplopomus diacanthus* Schultz is a junior synonym of *O. atherinoides* (he had 4 specimens of *atherinoides* from the Seychelles). Yatsu and Hayashi (1978) recorded *Oplopomops atherinoides* from the Ryukyu Islands and tentatively agreed that *atherinoides* and *diacanthus* are conspecific.

Opua maculipinna differs from *O. atherinoides* in having the third dorsal spine longest (second spine distinctly longest in *atherinoides* and may be greatly prolonged and filamentous, presumably in adult males), in greater body depth, in the pattern of sensory papillae on the head (compare the drawings of the papillae of *O. atherinoides* by Yatsu and Hayashi, 1978: Fig. 3, and Akihito in Masuda et al., 1984: Fig. 91 with our Text Fig. 9; note in particular the pattern of papillae on the cheek and the double row of papillae just behind the upper preopercular edge of *maculipinna*, curving ventrally to partially follow the rounded corner), and in colour. The basic colour pattern of *atherinoides* and *maculipinna* is very similar (but then so it is with some species of *Istigobius*, *Ctenogobiops*, and *Macrodon-togobius wilburi*). There are, however, two salient differences: the prominent black spot posteriorly in the first dorsal fin of *maculipinna* is not found on *atherinoides*, and *maculipinna* lacks the diagonal blackish line on the cheek as seen on *atherinoides*.

Goren (1984) described *Oplopomus elati* from 5 specimens taken while dredging for invertebrates in the depth range of 27-80 m off Eilat, Israel at the northern end of the Gulf of Aqaba. At first glance, the Maldives specimen of *Opua maculipinna* was believed to be this species. In general form and colour, including a black spot on the first dorsal fin, the two seemed the same. Upon close examination, however, we have concluded that *maculipinna* is a valid species. *O. elati* differs in having 23-25 scales in longitudinal series (27 for *maculipinna*), 6-7 predorsal scales (9 for *maculipinna*), 7 transverse scale rows (9 for *maculipinna*), and 1 + 5 gill rakers (2 + 8 for *maculipinna*). In addition, there is difference in the pattern of papillae on the head.

Palutrus reticularis Smith

Palutrus reticularis Smith, 1959: 208, Fig. 27 (type locality, Pinda, Mozambique).

DIAGNOSIS: Dorsal fin rays VI-I,8; anal fin rays I,7; pectoral fin rays 14, the tips of upper 3-4 rays free; pelvic fins joined, nearly reaching anus; pelvic frenum present; longitudinal scale series 27, the ctenoid scales commencing just behind upper base of pectoral fin; predorsal scales 10; no scales on cheek or opercle; body depth 5.5 in SL; head length 3.35 in SL; head width 5.0 in SL; five prominent papillae projecting downward from beneath posterior half of lower lip; mouth oblique, the lower jaw slightly projecting; maxilla extending to below front of pupil; second dorsal spine slightly prolonged; caudal fin slightly rounded, 3.5 in SL.

Body whitish with a row of black dots just below midlateral line, and a few scattered dark dots elsewhere on body; a dark brown spot about size of pupil slightly above center of caudal-fin base; a dark brown spot about half area of eye behind upper part of orbit; rays of second dorsal fin with small dark brown spots; pelvic fin membranes dusky.

REMARKS: *Palutrus reticularis* has been recorded only from Mozambique, Seychelles, the Red Sea, and the Ryukyu Islands. The colour pattern of the one Maldives specimen of this species is very similar to Pl. 354 G of Akihito (in Masuda et al., 1984), labelled *Bathygobius meteori*. *Acentrogobius meteori* Klauswitz and Zander, described from the Farasan Islands, Red Sea, is a junior synonym (D. F. Hoese via Richard Winterbottom, pers. comm.).

MATERIAL: FMNH 96312, 17 mm, Fadiffolu Atoll.

Papillogobius reichei (Bleeker)

Plate 3, Fig. G

Gobius reichei Bleeker, 1853b: 509 (type locality, Padang, Sumatera).

DIAGNOSIS: Dorsal fin rays VI-I,7 or 8; anal fin rays I,7 or 8; pectoral fin rays 16-18; pelvic fins fully united, with a well-developed frenum, the fins nearly or just reaching origin of anal fin; longitudinal scale series 27-28; scales on body ctenoid except anterior abdomen and in front of paired fins where cycloid; no scales on head; predorsal scales 0-4; cycloid scales on side of nape extending anteriorly to above center of opercle; gill rakers 0 + 7-8; gill opening ending below posterior margin of preopercle; body depth 5.2-5.6 in SL; head length 3.5-3.6 in SL; snout gently sloping, its dorsal profile forming an angle of about 35° to axis of body; snout length of adults about equal to orbit diameter, 4.2-4.35 in head; a double series of papillae from ventroposterior edge of orbit to corner of mouth and another posterior to upper preopercular edge; males with second dorsal spine prolonged and filamentous; caudal fin rounded, shorter than head length, 4.0-4.2 in SL.

Body olivaceous, shading to whitish ventrally, with a midlateral row of 5 dark brown blotches about as large as pupil, the last ending adjacent to a black spot at midbase of caudal fin; head, upper half of body, second dorsal, and caudal fins with small yellowish brown spots; an oblique blackish line following aforementioned suborbital double

series of papillae, and another from ventroanterior edge of eye to upper lip and continuing onto chin; a large irregular dark brown blotch centrally in first dorsal fin.

REMARKS: This species is widely distributed from the western Pacific to South Africa. One of our two specimens was taken in 1 m on sand bottom and the other from a freshwater lake. We have supplemented our diagnosis with data from two specimens from a shallow mangrove area at Kosi Bay, Natal (BPBM 27342, 46-47 mm); a photograph of the larger of these two gobies is presented herein as Plate 3, Fig. G.

Most recent authors have classified this species in the genus *Favonigobius* Whitley. Gill and Miller (1990) established the new genus *Papillogobius*, designating their new species *punctatus* from Western Australia as the type species; they classified three other known species formerly in *Favonigobius* in *Papillogobius*, among them *reichei*.

MATERIAL: SMF 21601, 2: 24-34 mm, Weligandu, Rasdu Atoll; SMF 14407, 3: 38-44 mm, lake at Kuludu, Miladummadulu Atoll.

Paragobiodon lacunicolus (Kendall & Goldsborough)

Fig. 10

Ruppellia lacunicola Kendall & Goldsborough, 1911: 318, Pl. 6, Fig. 1 (type locality, Fakarava, Tuamotu Archipelago).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 21; pelvic fins united to form a disc which reaches genital papilla; pelvic frenum well-developed; longitudinal scale series 22, the scales ctenoid; no scales on head, nape, prepectoral region, thorax, and midventrally on abdomen; gill opening ending ventrally at level of lowermost one or two pectoral rays; body depth 3.0-3.2 in SL, the width about 1.7 in depth; dorsal profile of head steep and strongly convex; numerous fleshy papillae on snout and cheek; caudal fin rounded and short, about three-fourths head length.

Colour in alcohol: body whitish; head grey; median and pectoral fins black. In life, the head is orangish and the body tan.

REMARKS: This species is wide-ranging in the Indo-Pacific region from East Africa to French Polynesia, but there are relatively few records.

MATERIAL: SMF 5325, 2: 16-17 mm, Addu Atoll.

Paragobiodon modestus (Regan)

Fig. 11

Gobiopterus modestus Regan, 1908: 242, Pl. 29, Fig. 1 (type locality, Egmont and Salomon, Chagos Archipelago).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,9 or 10; pectoral fin rays 21-22; pelvic fins joined to form a circular disc that nearly or just reaches anus; pelvic frenum well-developed; longitudinal scale series 23-24, the scales ctenoid; no scales on head, thorax, pre-pectoral region, and midventrally on abdomen; gill opening ending ventrally at level of third to seventh lowermost pectoral rays; body depth 3.7-4.2 in SL, the width about 1.5 in depth; dorsal profile of head strongly convex, the snout obtuse; numerous small papillae

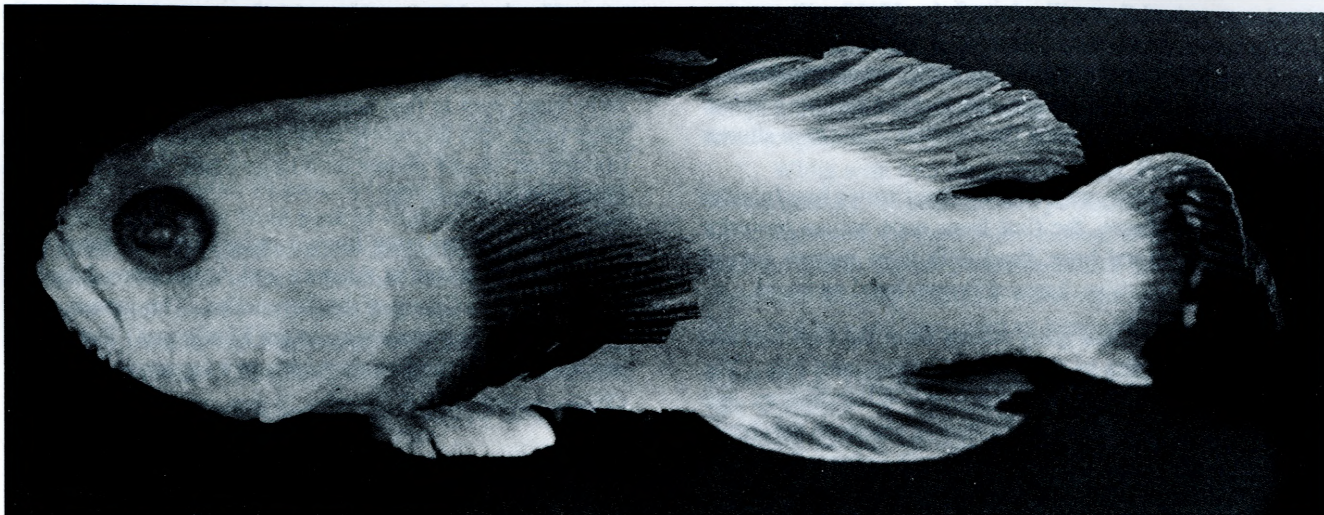


Figure 10. *Paragobiodon lacunicolus*, SMF 4325, 17 mm SL (E. Haupt).



Figure 11. *Paragobiodon modestus*, BPBM 32979, 20 mm SL.

on head and nape; caudal fin rounded and short, about three-fourths length of head. Head and nape brownish orange, grading into black anteriorly on body; all fins black.

REMARKS: As explained by Winterbottom and Emery (1986), Douglass F. Hoese informed them that Regan's syntypes of *modestus* from the Chagos Archipelago include 4 species of *Paragobiodon*. Hoese intends to select one of the specimens of the species here diagnosed as the lectotype of *modestus*. Yoshino and Yamamoto (in Masuda et al., 1984) noted that this species lives among the branches of live coral of the genus *Pocillopora*. Known from East Africa to the Marshall Islands.

MATERIAL: BPBM 32979, 2: 19-20 mm, Furana, North Malé Atoll; CAS 58726, 2: 13-15 mm, Hulele, North Malé Atoll; SMF 5324, 2: 17-18 mm. Addu Atoll.

Pleurosicya micheli Fourmanoir
Plate 3, Fig. H

Pleurosicya micheli Fourmanoir, 1971: 499, Fig. 8 (type locality, Lifou, Loyalty Islands).

REMARKS: Günter Spies photographed a goby in the Maldive Islands which he was not able to identify. He sent his colour slide, via Joachim Frische, to the senior author who recognized it as a species of *Pleurosicya* and passed the slide on to Helen K. Larson of the Northern Territory Museum, Darwin. She identified the fish as *P. micheli*. In her revision of the genus (Larson, 1990), she recorded the species from the Seychelles to Fiji and the Hawaiian Islands; it is generally commensal on hard corals.

Priolepis cinctus (Regan)
Plate 3, Fig. I

Gobiomorphus cinctus Regan, 1908: 240 (type locality, Salomon, Chagos Archipelago).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,9; pectoral fin rays 18-19; pelvic fins broadly joined by a basal membrane extending about half length of fifth rays, the fins reaching anus; no pelvic frenum; longitudinal scale series 34-35; scales on nape extending into posterior interorbital space, the predorsal scales 15-16; scales dorsally on opercle, none on cheek; all scales ctenoid except for cycloid scales

anterior to paired fins; gill rakers 3-4 + 12-13; gill opening ending below posterior margin of preopercle; body depth 4.2-4.6 in SL; head length 3.0-3.2 in SL; head broader than deep; mouth strongly oblique, the maxilla reaching below anterior edge of orbit; caudal fin rounded, equal to or shorter than head.

Body light grey with 8 dark-edged brown bars broader than pale interspaces, the first from nape across posterior opercle and pectoral base; head with three narrow curved brown bars and a short diagonal brown band on snout.

REMARKS: This small goby occurs from the Red Sea and coast of East Africa to the Gilbert Islands and Fiji. The closely related *Priolepis squamogena* Winterbottom and Burrige, 1989, which differs by having scales on the cheek, occurs on the Pacific Plate east to French Polynesia, but not at the Hawaiian Islands where the endemic *P. eugenius* is found. Although often taken in rotenone stations, we have never observed *P. cinctus* alive underwater. The two Bishop Museum specimens from the Maldives were collected in 1.5 and 35 m.

MATERIAL: BPBM 33083, 20 mm, Malé, North Malé Atoll; BPBM 33099, 25 mm, Villingili, North Malé Atoll; SMF 14421, 2: 14-28 mm, Fusdu, Ari Atoll.

Priolepis nocturna (Smith)

Fig. 12

Ctenogobius nocturnus Smith, 1956a: 723, Fig. 2 (type locality, Aldabra).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 20; pelvic fins united only basally, without a frenum, nearly reaching anus; longitudinal scale series 28; head and median predorsal region naked; small embedded cycloid scales extending to above middle of opercle; cycloid scales along base of first dorsal fin, pre-pectoral region, thorax, and ventrally on abdomen; ctenoid scales commencing on side of body below base of second dorsal spine; gill rakers 4 + 14; gill opening ending below posterior margin of preopercle; body depth 3.0 in SL; head 3.05 in SL; mouth oblique, the lower jaw protruding, the maxilla extending to below anterior edge of orbit; caudal fin rounded, about equal to head.



Figure 12. *Priolepis nocturna*, BPBM 18867, 39 mm SL.

Head and body white with 5 narrow black bars, the first across interorbital and extending ventrally from eye, the second from nape across opercle, the third beginning in a large black spot in first dorsal fin, the fourth beginning in a large black spot anteriorly in second dorsal fin, and the last oblique on caudal peduncle; a large black spot dorsally on basal part of caudal fin.

REMARKS: Previously known only from the three type specimens collected at Aldabra and Assumption Island in the Cosmoledo Group of the Seychelles. The senior author has also collected specimens in the Marquesas. The Maldives specimen was taken on rubble in a lagoon in 7 m.

MATERIAL: BPBM 18867, 39 mm, Villingili, North Malé Atoll.

Priolepis semidoliata (Valenciennes)

Plate 3, Fig. J

Gobius semidoliatus Valenciennes, in Cuvier & Valenciennes, 1837: 67 (type locality, Vanikoro Island).

DIAGNOSIS: Dorsal fin rays VI-I,8; anal fin rays I,7; pectoral fin rays 18-19; pelvic fins joined medially by membrane for at least half their length (membrane easily torn), without a frenum, the fins reaching to or slightly beyond anus; longitudinal scale series about 27 (one approximate count only, as most scales missing); no scales on head, nape, prepectoral area, or thorax; scales appear to be ctenoid posterior to about middle of first dorsal fin; gill rakers 2 + 11-12 (two counts); gill opening extending forward slightly anterior to a vertical through posterior edge of preopercle; body depth 3.4-3.9 in SL; head length 2.9-3.0 in SL; head width about equal to head depth; mouth strongly oblique, the lower jaw projecting, the maxilla reaching to or slightly posterior to a vertical at front edge of orbit; caudal fin rounded, about equal to head length.

Head and body light brownish yellow with narrow dark-edged bluish white bands as follows: an oblique one on snout, 3 crossing interorbital space and passing ventrally from eye, the last bifurcating behind eye and sending a band across middle of nape; one on nape above upper end of gill opening, bifurcating as it passes ventrally, with one branch crossing operculum and the other extending to lower base of pectoral fin; a diagonal band passing downward and

posteriorly from origin of first dorsal fin; a short vertical band from beneath posterior part of first dorsal fin, and a faint short one from origin of second dorsal fin.

REMARKS: This tiny species ranges from the Red Sea and coast of East Africa to the western Pacific. Like others of the genus, it is cryptic; we have not seen it alive underwater. Our specimens came from a surge channel on the seaward reef in 1.5 m. Two close relatives might be expected in the Maldives: *Priolepis inhaca* (Smith, 1949) which has been recorded from nearby Minicoy, the southernmost of the Laccadive Islands (Lakshadweep), by Jones and Kumaran (1968) and from the Chagos Archipelago by Winterbottom and Emery (1986); and *P. compita* Winterbottom (1985), described from the Chagos Archipelago.

MATERIAL: BPBM 33084, 3: 13-15 mm, Malé, North Malé Atoll.

Priolepis sp.

Plate 4, Fig. A

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,7; pectoral fin rays 18; pelvic fins joined medially on at least basal half by membrane, reaching origin of anal fin; no pelvic frenum; longitudinal scale series 28; predorsal scales 15, extending into posterior interorbital space; head naked; scales ctenoid except region anterior to paired fins; gill rakers 3 + 13; gill opening extending a short distance anterior to posterior margin of preopercle; depth of body 4.2 in SL; head length 2.85 in SL; head width about equal to head depth; mouth strongly oblique, the lower jaw projecting, the maxilla reaching slightly posterior to front edge of orbit; caudal fin rounded, slightly shorter than head.

Body, including nape orangish brown with 8 dark-edged vertical pale blue lines, the first from origin of first dorsal fin and the last at caudal-fin base; head orange-yellow with 4 dark-edged pale blue lines, 3 of which cross interorbital space and continue ventrally from eye, one starting from posterior edge of eye and curving over occiput; in addition, one from nape across opercle; all fins yellow, the median fins with rows of small dark brownish red spots.

REMARKS: This species is under study by Richard Winterbottom. Our single specimen was collected with rotenone on a rubble bottom in the Ari Atoll lagoon at a depth of 35 m.

MATERIAL: BPBM 32864, 20 mm, Bathala, Ari Atoll.

Stonogobiops dracula Polunin & Lubbock

Plate 4, Fig. B

Stonogobiops dracula Polunin & Lubbock, 1977: 74, Figs. 6-8 (type locality, Mahé, Seychelles).

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,9; pectoral fin rays 17-19; pelvic fins joined medially to form a disc which reaches anus; pelvic frenum present; longitudinal scale series 84-94; head, thorax, and pectoral base naked; nape naked except for a few embedded scales posteriorly on side; all scales cycloid; gill rakers 3 + 12-14; gill opening extending anterior to posterior edge of preopercle; gill membranes united, forming a free fold across isthmus;

maxilla extending posterior to eye; teeth on vomer and palatines, those on vomer large; body depth 4.7-5.4 in SL; margin of first dorsal fin rounded, the third and fourth spines longest, 5.0-5.85 in head; caudal fin rounded, about equal to head length.

White with four dark brown bars, the first from nape across opercle, the second from posterior part of first dorsal fin to abdomen, the third from midbase of second dorsal fin, and the fourth across posterior caudal peduncle (the first three bars slightly slanted); white interspace between bars bisected by a red line; front of head yellow.

REMARKS: This species is known only from the Seychelles and Maldives. It lives symbiotically in a burrow with the snapping shrimp *Alpheus randalli*. It has been observed in the depth range of 15-37 m. The diagnosis above was adapted from Hoese and Randall (1982).

MATERIAL: BPBM 18079, 34 mm (paratype), Villingili, North Malé Atoll.

Sueviota lachneri Winterbottom & Hoese

Sueviota lachneri Winterbottom & Hoese, 1988: 9, Figs. 6-8 (type locality, Salomon Atoll, Chagos Archipelago).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 16-17, the lower 2 simple, at most 6 above these branched; pelvic fins joined basally by a membrane, without a frenum, the fins reaching to or slightly posterior to anus; fifth pelvic ray branched, the tips branched again; first to fourth rays with 2-4 branches; longitudinal scale series 26; head, nape, a triangular zone above upper end of gill opening to midbase of first dorsal fin, pectoral-fin base, and region around and anterior to pelvic fins naked; scales ctenoid posteriorly on body, the most anterior ones on side nearly to axil of pectoral fins; gill opening extending ventrally only to lower base of pectoral fin; preopercular pores 2; body depth 4.5-5.0 in SL.

Body orangish, the scales rimmed with darker orange; head pale orangish with large orange-red blotches on operculum and nape; a series of 7 dusky orange-red spots ventrally on body posterior to origin of anal fin; dorsal and caudal fins with small bright red spots; anal fin orange-red with a blue streak covering most of first, fourth, and seventh interradial membranes.

REMARKS: *Sueviota lachneri*, the type species of the genus, was described from specimens from the Chagos Archipelago, but nontype material was identified as this species from the Great Barrier Reef, Fiji, New Guinea, and the Philippines. The Maldives specimens were collected on a lagoon reef in 8-10 m.

MATERIAL: BPBM 32954, 7: 13-21 mm, Embudu, South Malé Atoll.

Trimma emeryi Winterbottom

Trimma mendelssohni (non Goren): Winterbottom, 1984: 706, Figs. 4, 22 (Chagos Archipelago).

Trimma emeryi Winterbottom, 1985: 752, Fig. 5 (type locality, Salomon Atoll, Chagos Archipelago).

REMARKS: See Winterbottom (1984 and 1985) for diagnosis and illustrations. The Bishop Museum specimen was collected on a steep rocky slope in 48 m.

MATERIAL: BPBM 34394, 16 mm, Furana, North Malé Atoll; ROM 54942, 18 mm, Maaniyaafushi, South Malé Atoll.

Trimma flammeum (Smith)
Plate 4, Fig. C

Zonogobius flammeus Smith, 1959: 209, Pl. 10 G (type locality, Pinda, Mozambique).

Trimma macrophthalma (non Tomiyama): Winterbottom, 1984: 705, Figs. 20, 21 (Chagos Archipelago).

REMARKS: See Winterbottom (1984) for diagnosis and drawings (as *Trimma macrophthalma*).

MATERIAL: BPBM 32920, 7: 13-19 mm, Maaniyafushi, South Malé Atoll; ROM 54947, 14: 16-21 mm, Maaniyafushi, South Malé Atoll; ROM 54955, 47: 11-22 mm, Huraa, North Malé Atoll; ROM 54960, 10 mm, North Malé Atoll.

Trimma naudei Smith
Plate 4, Fig. D

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

REMARKS: See Winterbottom (1984: 708, Figs. 5, 23) for diagnosis and illustrations.

MATERIAL: BPBM 32922, 3: 20-22 mm, Maaniyafushi, South Malé Atoll; ROM 54948, 4: 20-24 mm, Maaniyafushi, South Malé Atoll; ROM 54951, 3: 14-23 mm, Huraa, North Malé Atoll.

Trimma striatum (Herre)
Plate 4, Fig. E

Coronogobius striatus Herre, 1945: 81 (type locality, Coron, Busuanga Island, Philippines).

DIAGNOSIS: Dorsal fin rays VI-I,9; anal fin rays I,8; pectoral fin rays 16-17; pelvic fins nearly fully united, reaching to or slightly beyond origin of anal fin with a small weak frenum; longitudinal scale series 24-25; median predorsal region, cheek, and opercle naked; scales on side of nape extending forward nearly to eye; scales ctenoid except those anteriorly on nape, on thorax, and prepectoral area; gill rakers 4-5 + 14-15; gill opening ending below centre of eye; body depth 4.0-4.3 in SL; head length 3.15-3.35 in SL; snout 4.3-4.6 in head; mouth oblique, the lower jaw projecting, the maxilla reaching below front edge of pupil; most specimens with second dorsal fin spine prolonged and filamentous; caudal fin truncate, about as long as head.

Purplish brown, each scale with a red spot; head with 6 bright red stripes which extend a short distance onto anterior body.

REMARKS: In addition to the Philippines, *Trimma striata* is known from New Caledonia and the Great Barrier Reef (Randall et al., 1990: 408), Palau Islands and Papua New Guinea; Plate 4, Fig. E is a photograph of a specimen from the latter locality. Maldives specimens were collected from reefs at depths of 20-30 m.

MATERIAL: BPBM 32920, 8: 16-20 mm, Maaniyafushi, South Malé Atoll; ROM 54943, 20 mm, Maaniyafushi, South Malé Atoll; ROM 54950, 2: 16-20 mm, Huraa, North Malé Atoll.

Trimma taylori Lobel
Plate 4, Fig. F

Trimma taylori Lobel, 1979: 3, Figs. 1-3, 5 (type locality, Oahu, Hawaiian Islands).

REMARKS: See Lobel (1979) and Winterbottom (1984) for diagnosis and illustrations. Winterbottom extended the range of *Trimma taylori* from Hawaii to the Chagos Archipelago. The senior author has collected and photographed it in Indonesia. Generally found in caves or under ledges, often in small aggregations. The Maldives specimen was obtained on a steep rocky slope in 48 m.

MATERIAL: BPBM 34396, 17 mm, Furana, North Malé Atoll.

Trimma tevegae Cohen & Davis
Plate 4, Fig. G

Trimma tevegae Cohen & Davis, 1969: 321, Figs. 1, 2 A, 3 (type locality, Dawapia Rocks, Simpson Harbor, Rabaul, New Britain).

REMARKS: See Cohen and Davis (1969) for diagnosis and illustrations. Winterbottom (1984) wrote that *T. caudomaculata* Yoshino and Araga (1975) appears to be a junior synonym. Comparison of Plate 4, Fig. G and other colour photographs of *tevegae* with Plate 89, Fig. M of Masuda et al. (1975) would seem to confirm this.

Trimma sp. 1
Plate 4, Fig. H

DIAGNOSIS: Life colour translucent orangish grey with widely scattered orange-red dots on head and to varying degree on body (on some, only anteriorly), and one such dot posteriorly on first dorsal fin; iris orange-red with an inner rim of light yellow and 3-4 green spots dorsally on eye.

REMARKS: Collected on a steep rocky slope in 48 m; to be described by Richard Winterbottom.

MATERIAL: BPBM 34397, 18 mm, Furana Island, North Malé Atoll.

Trimma sp. 2

DIAGNOSIS: Life colour of body grey with numerous yellow-orange spots; front of head red.

REMARKS: Collected at the same 48-m station as the preceding; to be described by R. Winterbottom.

MATERIAL: BPBM 34395, 16 mm, Furana, North Malé Atoll.

Trimma sp. 3

DIAGNOSIS: Life colour light red, shading to whitish ventrally on head and abdomen; a small black spot at upper end of gill opening; spines and rays of fins light red; iris red with a narrow inner yellow rim.

REMARKS: Specimens were collected on a reef in 25-30 m. This species will be described by R. Winterbottom.

MATERIAL: BPBM 32919, 5: 14-20 mm, Maaniyafushi, South Malé Atoll.

Trimma sp. 4

Plate 4, Fig. I

DIAGNOSIS: Life colour whitish with a broad red stripe from eye across pectoral region, and narrowing as it passes along lower side of body to end at caudal-fin base; a broad diagonal yellow stripe on side of snout; interorbital red-orange anteriorly, becoming yellow posteriorly, and continuing as a narrow yellow band mid-dorsally to origin of first dorsal fin; fins colourless; iris red, the upper edge of eye bright blue.

REMARKS: The record from the Maldives is based on underwater photographs, one of which is shown as Fig. 50. This species will also be described by R. Winterbottom.

Trimmatom nanus Winterbottom & Emery

Trimmatom nanus Winterbottom & Emery, 1981: 143, Figs. 4-6 (type locality, Salomon Atoll, Chagos Archipelago).

REMARKS: The shortest known vertebrate. See Winterbottom and Emery (1981) for diagnosis and illustrations.

MATERIAL: ROM 54989, 8.7 mm, Huraa, North Malé Atoll.

Valenciennesa helsdingenii (Bleeker)

Plate 4, Fig. J

Eleotrioides helsdingenii Bleeker, 1858: 212 (type locality, Goram, Indonesia).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,11; pectoral fin rays usually 22-23; longitudinal scale series 127-146; pectoral-fin base and prepelvic area usually completely scaled in adult; margin of first dorsal fin low and rounded, the third and fourth spines longest; caudal fin truncate to slightly emarginate, the fin length 2.1-5.0 in SL; caudal ray immediately above and one just below 3 central caudal rays prolonged in adults.

Body olivaceous on back, shading to whitish below, with 2 narrow orangish black stripes, one from front of snout through eye to end of upper caudal filament, and the second from front of upper lip, across cheek and opercle, to end of lower caudal filament; a large white-edged black spot in outer posterior part of first dorsal fin.

REMARKS: Ranges from East Africa to the Marquesas and from Japan to New South Wales, but not reported from many intervening areas. Largest specimen, 154 mm SL. The photograph of Plate 4, Fig. J was taken of a fish from Mauritius. The Maldives specimen was collected in 32 m.

MATERIAL: BPBM 18898, 99 mm, Huraa, North Malé Atoll.

Valenciennesa puellaris (Tomiyama)

Plate 5, Fig. A

Eleotriodes puellaris Tomiyama in Tomiyama and Abe, 1956: 1136, Pl. 224, Fig. 575 (type locality, Kiragawa, Kochi Prefecture, Japan).

DIAGNOSIS: Dorsal fin rays VI-I,11-13; anal fin rays I,11-13 (usually 12); pectoral fin rays 19-22; longitudinal scale

series 72-91; pectoral base naked; prepectoral area usually fully scaled; first dorsal fin moderately elevated, the third spine longest (may be filamentous in juveniles); caudal fin rounded, about equal to head length.

Body whitish with 6 narrow orange bars on upper half and a narrow pale orange stripe, edged in pale blue, on lower side of posterior half; head orangish white with numerous dark-edged pale blue spots, those on cheek and operculum horizontally elongate and arrange in 3 rows; an elongate orange spot posteriorly on maxilla and a smaller orange spot on lower posterior edge of opercle.

REMARKS: This species is one of the most common of the genus throughout its range from the Red Sea south to Madagascar and east to the Marshall Islands and Samoa; in the western Pacific from Japan to the southern Great Barrier Reef. It is replaced in the Persian Gulf by a new species which is being described by Hoese and Larson (in press). *Valenciennesa puellaris* varies considerably in colour pattern in different parts of its range (variation discussed in detail by Hoese and Larson). Like other species of the genus, it builds a burrow by carrying out mouthfuls of sand and is usually seen in pairs.

MATERIAL: BPBM 18900, 94 mm, Huraa, North Malé Atoll.

Valenciennesa sexguttata (Valenciennes)

Fig. 13

Eleotris sexguttatus Valenciennes in Cuvier & Valenciennes, 1837: 254 (type locality, Sri Lanka).

Eleotris pallidus Klauswitz, 1960: 7, Fig. 1 (type locality, Madewaru, Fadiffulu Atoll, Maldives).

DIAGNOSIS: Dorsal fin rays VI-I,11-13; anal fin rays I,11-13; pectoral fin rays 19-21; longitudinal scale series 71-94; pectoral base usually naked or partly scaled; prepectoral region usually partly to fully scaled; margin of first dorsal fin pointed, the third spine longest (but not filamentous); caudal fin rhomboid, about equal to head length.

Head and body whitish with a narrow faint pale pink to light red stripe from beneath pectoral fin to lower side of caudal peduncle; a second even fainter stripe from above base of pectoral to upper side of caudal peduncle, the two stripes joined by faint narrow pink to light red bars; head with 6-10 dark-edged pale blue spots; a small black spot distally on first dorsal fin between third and fourth spines.

REMARKS: Widespread from the Red Sea and coast of East Africa to the Marshall Islands and Samoa, where it was described as *V. violifera* by Jordan and Seale (1906) and illustrated in colour on their Pl. 52, Fig. 2. *Valenciennesa sexguttata* is a shallow-water species usually found on fine silty sand in lagoons or bays. It is very pale when on white sand, and the markings described above are very difficult to see (except for the black spot on the tip of the first dorsal fin).

MATERIAL: Madewaru, Fadiffulu Atoll: SMF 4841-43, 4: 34-82 mm; SMF 4758-59, 2: 57 and 36 mm (holotype and paratype of *Eleotriodes pallidus* Klauswitz). Weligandu, Rasdu Atoll: SMF 14415, 18 mm; SMF 11416-17, 2: 35-54 mm.



Figure 13. *Valenciennea sexguttata*, two adults (Charles Anderson).

Valenciennea strigata (Broussonet)

Plate 5, Fig. B

Gobius strigatus Broussonet, 1782: 1, Pl. 1 (type locality, Tahiti).

DIAGNOSIS: Dorsal fin rays VI-I,17-19; anal fin rays I,16-19; pectoral fin rays 20-23; longitudinal scale series 101-126; region in front of paired fins fully scaled in adults; second and third dorsal spines longest, prolonged into filaments at SL greater than 35 mm; caudal fin rounded to rhomboid, about equal to head length.

Body light grey dorsally, shading to white ventrally; front of head bright yellow (sometimes the yellow extending to pectoral-fin base); a black-edged bright blue stripe from mouth across cheek and opercle; small dark-edged pale blue markings on head, pectoral base, and below pectoral fin.

REMARKS: The most widely distributed species of the genus, occurring from East Africa (but not the Red Sea) to the Tuamotu Archipelago; in the western Pacific it ranges from the Ryukyu Islands to Sydney, New South Wales. This species is usually encountered in shallow outer-reef areas, generally in less than 6 m (though known as deep as 24 m). The substratum is often more rubble than sand. The pairs tend to hover a few cm above the bottom in the vicinity of their burrow. Like others of the genus, this species feeds by filtering small animals from mouthfuls of sand. Burgess and Axelrod (1973: Figs. 91, 92) illustrated a specimen in colour from the Maldives as *Eleotroides strigatus*.

MATERIAL: SMF 5335, 2: 87-91 mm, Madewaru, Fadiffulu Atoll.

Valenciennea sp.

Plate 5, Fig. C

DIAGNOSIS: Dorsal fin rays VI-I,12; anal fin rays usually I,12; pectoral fin rays 18-20; longitudinal scale series 67-85; pectoral base naked; prepelvic area naked or partly scaled; margin of first dorsal fin rounded, the third to fifth spines subequal; caudal fin rounded, about equal to head length.

Life colour whitish with a narrow yellow stripe, edged in pale blue anteriorly, from behind eye to upper caudal-fin base and continuing as a faint broken orange streak to end of fin; a second narrow yellow stripe from pectoral-fin base

to lower base of caudal fin, also continuing as a faint broken orange streak to end of fin; a dark-edged blue stripe from beneath front of eye to end of opercle.

REMARKS: This is the smallest species of the genus; the largest known specimen measures 54 mm SL, and females as small as 25 mm may be mature. It will be described by Hoese and Larson (in press), with a type locality of Lizard Island, Great Barrier Reef; it ranges from the Seychelles to the Marshall Islands. Like the preceding species, it tends to hover a short distance above the substratum.

MATERIAL: BPBM 32808, 47 mm, Gaa Gandu Islet, lagoon of North Malé Atoll.

Vanderhorstia ambanoro (Fourmanoir)

Fig. 14

Cryptocentrus ambanoro Fourmanoir, 1957: 245, Fig. 159 (type locality, Ambanoro Bay, Nossi-bé, Madagascar).

DIAGNOSIS: Dorsal fin rays VI-I,13; anal fin rays I,13; pectoral fin rays 17; pelvic fin rays I,5, the fins fully joined, with a well-developed frenum; longitudinal scale series about 85; small scales present anterior to paired fins; head and nape naked; scales cycloid; gill rakers 1-2 + 10-11; gill opening extending anterior to posterior edge of preopercle; body elongate, the depth 5.5-6.1 in SL; head length 3.3-3.6 in SL; first dorsal fin rhomboid, the height slightly less than that of second dorsal fin; caudal fin bluntly pointed, subequal to head; pelvic fins not reaching anus, 4.5-5.6 in SL.

Head and body white with a row of 8-9 blackish blotches smaller than pupil on body at level of upper end of gill opening, and another row of smaller spots along back; numerous faint pale blue dots on upper side of body; pale blue and yellow spots and irregular lines on nape and operculum; second dorsal fin and posterior upper and lower edges of caudal fin with a narrow, blue-edged, dark reddish submarginal band.

REMARKS: The Maldives record of this species is the underwater photograph shown in Fig. 14 which was taken in the lagoon of North Malé Atoll. The diagnosis is based on Bishop Museum specimens from the Red Sea, Kenya, Palau, and the Marshall Islands. Specimens have been collected in depths of 1-20 m, generally in lagoons or bays

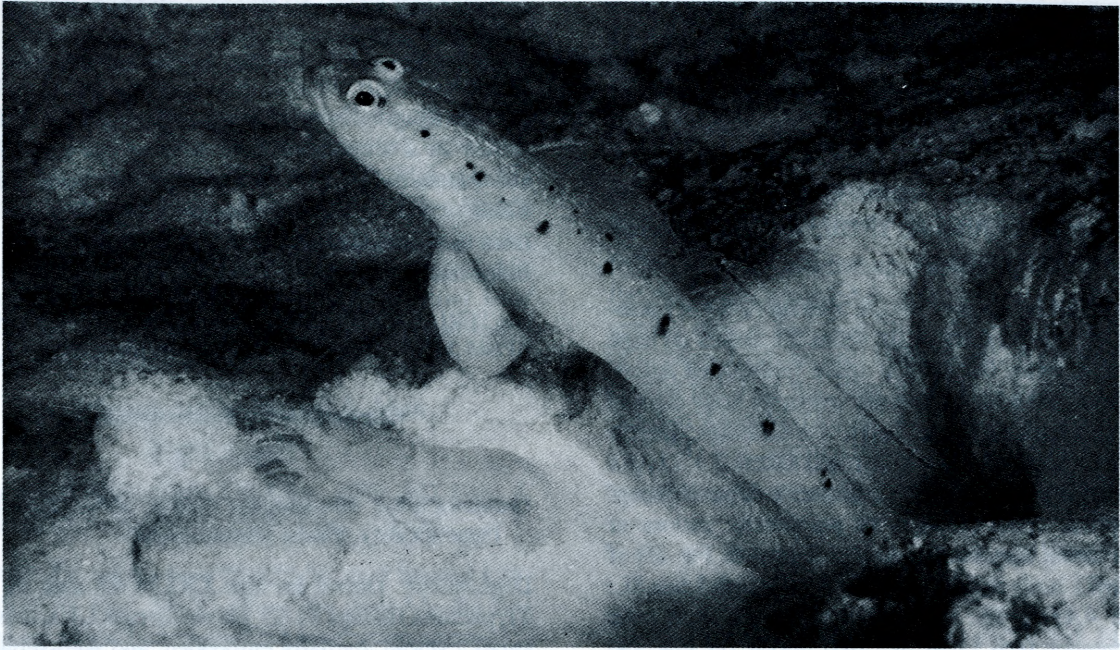


Figure 14. *Vanderhorstia ambanoro*, 120 mm TL.

on silty white sand substrata. Like others of the genus *Vanderhorstia*, this goby shares a burrow with alpheid shrimps.

Vanderhorstia ornatissima Smith

Vanderhorstia ornatissima Smith, 1959: 192, Pl. 10 C (type locality, Pinda, Mozambique).

DIAGNOSIS: Dorsal fin rays VI-I,13-14; anal fin rays I,13; pectoral fin rays 17-19; pelvic fins fully joined, with a well-developed frenum, reaching origin of anal fin; longitudinal scale series 52-65; nape and head naked; scales ctenoid posterior to front third of second dorsal fin; gill rakers 2-3 + 7-9; gill opening ending below a point slightly anterior to hind edge of preopercle; body elongate, the depth 6.2-6.8 in SL; third dorsal spine prolonged and filamentous; caudal fin pointed, about 2.7 in SL.

Body light greenish grey dorsally, shading to white ventrally, with 3 longitudinal rows of dusky blotches containing yellow flecks, the blotches bordered on each side or encircled by blue lines, the first row midlateral, the other two along back forming triangular groups, 2 of the lower row with one from the upper row; rest of body with numerous small blue spots and occasional small dusky spots; head with short diagonal blue lines bordered by yellow.

REMARKS: This species occurs from East Africa to Guam (Kami, 1975), Samoa (Wass, 1984), and Society Islands (R. Winterbottom pers. comm.). It lives symbiotically in a burrow with alpheid shrimps in protected waters of lagoons and bays, generally on silty sand. We have no specimens from the Maldives. The Maldives record is based on the underwater photograph of Allen and Steene (1987, pl. 114, fig. 8) taken at Villingili, North Malé Atoll at a depth of 2 m. The diagnosis is from Smith (1959), Winterbottom and Emery (1986), and specimens in the Bishop Museum from Samoa.

Vanderhorstia prealta Lachner & McKinney
Plate 5, Fig. D

Vanderhorstia prealta Lachner & McKinney, 1981: 965, Figs. 1, 2 (type locality, D'Arros Island, Amirante Group, Seychelles).

DIAGNOSIS: Dorsal fin rays VI-I,10; anal fin rays I,10; pectoral fin rays 18; pelvic fins fully joined, with a well-developed frenum, nearly reaching origin of anal fin; longitudinal scale series 65 (anterior scales embedded and difficult to count; count of about 54 given by Lachner and McKinney); head and nape naked; scales cycloid; gill rakers 4 + 7; gill opening extending forward to below middle of opercle; body depth 5.35 in SL; head length 3.55 in SL; snout short, less than orbit diameter, 4.5 in head; first dorsal fin extremely elevated, the second and third spines longest, 1.6 in SL, the origin of fin over upper pectoral-fin base; caudal fin slightly pointed, 2.65 in SL.

Dark brown, the head, nape, and pectoral-fin base finely dotted with whitish; first dorsal fin dark grey-brown with dark brown spots along spines, those over posterior part of fin elongate and yellowish brown; second dorsal fin yellowish brown with a narrow submarginal dark-edged bluish white stripe and three rows of dark-edged blue spots in lower half of fin, those of lower row smallest and at extreme base of fin; caudal fin dark brown, yellowish brown dorsally, with three diagonal dark-edged blue streaks on upper third of fin, the uppermost pale, and narrow blue bands paralleling rays in rest of fin; anal and pelvic fins dark brown with blue bands paralleling rays; pectoral fins with dark brown rays and dusky clear membranes.

REMARKS: Only one specimen of *Vanderhorstia prealta* was collected in the Maldives, on a rubble lagoon bottom at a depth of 35 m. Three other individuals were observed in the same habitat, two sharing the same burrow. Two differ-

ent species of shrimps were noted in symbiotic association with this goby, *Alpheus ochrostriatus* and *A. randalli*.

MATERIAL: BPBM 34405, 32 mm, Villingili, North Malé Atoll.

ELEOTRIDIDAE

Eleotris melanosoma Bleeker

Eleotris melanosoma Bleeker, 1852b: 705 (type locality, Wahai, western Sumatera).

DIAGNOSIS: Dorsal fin rays VI-I,8; anal fin rays I,8; pectoral fin rays 18; longitudinal scale series 53; scales on nape extending to anterior interorbital space (embedded anteriorly), the predorsal scales about 40; scales on body ctenoid except prepectoral area, thorax, and lower abdomen; opercle and upper part of preopercle scaled; gill rakers 2 + 11; gill opening extending to a vertical at posterior edge of preopercle; a retrorse spine at angle of preopercle; pattern of papillae on cheek very similar to that shown in Fig. 23 of Akihito (1967); body depth 5.2 in SL; head length 3.0 in SL; head width 4.45 in SL; head depressed, the depth over posterior preopercle 6.55 in SL; first dorsal fin low, the longest spine 3.15 in head; pelvic fins broadly separated and diverging at an angle of about 60°, their length 2 in head; caudal fin rounded and short, 1.4 in head.

Body and caudal fin dark brown; head dark brown except cheek lighter brown and finely dotted with dark brown; first dorsal fin dusky with a broad middle clear zone; second dorsal and anal fins brown with small dark brown spots; pectoral fins with finely dark-spotted rays and pale membranes; pelvic fins with dusky rays and pale membranes.

REMARKS: Regarded as wide-ranging in the tropical Indo-Pacific from East Africa to the Society Islands in fresh water and estuaries. Our single Maldives specimen was taken in a tidepool on the seaward side at low tide, presumably in an area of some freshwater seepage.

MATERIAL: BPBM 33106, 58 mm, Malé, North Malé Atoll.

MICRODESMIDAE

Gunnellichthys curiosus Dawson

Gunnellichthys curiosus Dawson, 1968: 54, Figs. 1-4 (type locality, Curieuse Island, Seychelles).

DIAGNOSIS: Dorsal fin rays XX,40-42; anal fin rays 39; pectoral fin rays 15; pelvic fin rays I,4; scales very small and cycloid, those on nape extending nearly to interorbital space; scales dorsally on opercle; scales on nape, opercle, and anteriorly on body embedded; body elongate, the depth 12-15 in SL; head 6.4-7.2 in SL; lower jaw massive and protruding; eye 3.5-5.4 in head; dorsal fin low, its origin over basal fourth of pectoral fin; caudal fin rhomboid, 1.25-1.35 in head; pectoral fins 1.95-2.2 in head; pelvic fins small, diverging widely, connected only at base, 4.3-4.5 in head.

Life colour pale blue with a blackish stripe from front of lower jaw through eye, becoming orange on opercle and on body, broadening posteriorly where it covers lower half of body, and ending at rear of caudal fin; stripe interrupted by a large oval black spot edged above and below in blue,

on basal half of caudal fin; a small black spot dorsally on opercular membrane.

REMARKS: Our two Maldives specimens were collected in 38 m on a lagoon bottom dominated by rubble. This species swims in a sinuous manner a short distance above the substratum (which may also be sand) but quickly dives into a hole or into the sand when approached. It is also recorded from the Hawaiian Islands, Society Islands, Coral Sea, and Indonesia.

MATERIAL: BPBM 27208, 76 mm, Villingili, North Malé Atoll; BPBM 34399, 45 mm, Villingili, North Malé Atoll.

Gunnellichthys monostigma Smith

Plate 5, Fig. E

Gunnellichthys monostigma Smith, 1958: 127, Fig. 2 E (type locality, Pinda, Mozambique).

DIAGNOSIS: Dorsal fin rays XXI,36-40; anal fin rays 36-41; pectoral fin rays 14-15; pelvic fin rays I,4; scales on body small, cycloid, partially embedded, and well-separated except posteriorly (but still nonimbricate); no scales on head; body depth 10-15 in SL; gill opening ending ventrally a short distance below base of pectoral fin; dorsal fin low, its origin a little anterior to upper end of gill opening; caudal fin slightly emarginate, 1.7-1.8 in head; pectoral fins 2.7-3.0 in head; pelvic fins small, about 1.5 times eye diameter, 3.3-3.8 in head.

Head and body pale grey dorsally, shading to white ventrally, with an elliptical black spot nearly as high as eye diameter posteriorly on operculum; a narrow yellow to pink stripe may begin diffusely in middle of back, gradually descend posteriorly to slightly below midbase of caudal fin and continue to end of fin (some blackish pigment may be present in stripe posteriorly on body).

REMARKS: This species is now known from the Red Sea and coast of East Africa to the Marshall Islands (Strasburg, 1967) and French Polynesia (Randall, 1985). Usually encountered individually over open sand or areas with sparse algal growth; dives into sand when approached. The above diagnosis is based on our one Maldives specimen and Randall et al. (1990).

MATERIAL: BPBM 32880, 97 mm, Vihamaa Fara, Ari Atoll.

Gunnellichthys viridescens Dawson

Gunnellichthys viridescens Dawson, 1968: 61, Figs. 2-5 (type locality, Anonyme Island, Seychelles).

DIAGNOSIS: Dorsal fin rays XX-XXI,38-41; anal fin rays 36-40; pectoral fin rays 12-13; pelvic fin rays I,4; scales small, cycloid, and not imbricate; scales on nape extending to posterior interorbital; cheek and opercle scaled; gill opening ending at level of lower edge of pectoral-fin base; body very elongate, the average depth 18.5 in SL; head length 6.2-7.25 in SL; eye 5.2 in head; lower jaw massive and protruding; dorsal fin low, its origin above basal third of pectoral fin; caudal fin rounded, about 10.7 in SL; pelvic fins divergent and small, their length about equal to eye diameter.

Pale grey dorsally, shading to white on side and ventrally, with a narrow yellow stripe from front of chin through eye and continuing to end of middle caudal fin rays.

REMARKS: The diagnosis above was adapted from Dawson (1968). No specimens from the Maldives were examined. One of Dawson's paratypes, FMNH 73909, 64.4 mm SL, was collected at Bushy Island, Addu Atoll, Maldive Islands from a coral and sand bottom in 0.6-2.5 m. The only other records of *G. viridescens* besides the Seychelles and Maldives are the Marshall Islands and the Great Barrier Reef (Randall et al., 1990); the Bishop Museum also has specimens from the Palau Islands.

Nemateleotris decora Randall & Allen
Plate 5, Fig. F

Nemateleotris decora Randall & Allen, 1973: 361, Figs. 6, 7 (type locality, Augulpelu Reef, Palau Islands).

DIAGNOSIS: Dorsal fin rays VI-I,27-32; anal fin rays I,28-31; pectoral fin rays 20-21; pelvic fin rays I,5, the fins connected only basally; longitudinal scale series about 135-160; scales ctenoid posteriorly on body, the number of ctenii per scale usually greater than 12; scales anteriorly on body cycloid and embedded; no scales on head; no median predorsal scales; gill rakers 5-6 + 15-17; body depth 4.8-5.7 in SL; head 4.3-5.0 in SL; a median dermal ridge on nape; snout short, 5.0-7.5 in head; first dorsal fin elevated, the first spine longest, 3.2-3.95 in SL; caudal fin slightly emarginate with rounded lobes, 4.7-5.6 in SL.

Body grey dorsally, shading to whitish on side and to purplish posteriorly; dorsal part of snout, interorbital, and a narrowing band to origin of dorsal fin bright fuscia; lips fuscia, rest of head pale yellow, shading to whitish on cheek and operculum; median fins variously banded with purple and orange-red, the anal whitish basally with a yellow-green margin; pectorals pale; pelvics yellow basally, blackish orange-red distally, the two colours separated by a narrow transverse purple band.

REMARKS: *Nemateleotris decora* occurs from the Ryukyu Islands to the Great Barrier Reef and west to the Maldives and Mauritius. Known from depths of 27-68 m; hovers a short distance above the bottom, darting into a hole with the approach of danger. The underwater photograph of Plate 5, Fig. F constitutes the Maldives record.

Nemateleotris magnifica Fowler
Plate 5, Fig. G

Nemateleotris magnificus Fowler, 1938a: 131 (type locality, Buka Buka Island, Sulawesi).

DIAGNOSIS: Dorsal fin rays VI-I,28-32; anal fin rays I,27-30; pectoral fin rays 19-20; pelvic fin rays I,5, the fins connected only basally; longitudinal scale series about 110-130; scales posteriorly on body ctenoid, the number of ctenii usually less than 10; gill rakers 5-6 + 17-19; body depth 4.0-4.9 in SL; head length 4.2-4.7 in SL; a median dorsal ridge on nape extending forward to mid-interorbital space; snout 4.6-6.4 in head; anterior part of first dorsal fin extremely elevated, 1.2-2.0 in SL; caudal fin rounded, 3.5-4.2 in SL.

Body whitish anteriorly, gradually shading to red in middle of body, and to blackish posteriorly; head pale yellow anteriorly, shading to white, with a middorsal magenta band and some small pale blue spots behind eye and on operculum; first dorsal fin yellowish white; second dorsal and anal fins coloured like adjacent body except for a long narrow dark green streak; caudal fin blackish with two converging dark green streaks bordered by orange.

REMARKS: Known throughout most of the tropical Indo-Pacific region; recorded from the depth range of 6-61 m, but usually seen in less than 28 m. May occur as solitary fish or in pairs; feeds on zooplankton a short distance above the bottom but does not stray far from a burrow into which it can dart when frightened. Anderson and Hafiz (1989: Fig. on p. 74) first reported this species from the Maldives.

MATERIAL: SMF 14420, 53 mm, Fusdu, Ari Atoll.

Ptereleotris evides (Jordan & Hubbs)
Fig. 15

Encaeura evides Jordan & Hubbs, 1925: 303, Pl. 11, Fig. 2 (type locality, Wakanoura, Japan).

DIAGNOSIS: Dorsal fin rays VI-I,23-26; anal fin rays I,23-26; pectoral fin rays 21-24; pelvic fin rays I,4, the fins separate; scales small, mostly embedded, nonimbricate, and cycloid except for a few posteriorly on body which may have one to a few weak ctenii; small scattered scale on side of nape to above upper margin of preopercle; gill rakers 6-8 + 18-22; gill opening extending forward to or nearly to a vertical at posterior end of preopercle; no median barbel on chin; body depth 5.2-6.9 in SL; first dorsal fin without filamentous spines, slightly lower than second dorsal; second dorsal and anal fins elevated anteriorly; caudal fin emarginate.

Life colour pale bluish to greenish grey, gradually shading to black posteriorly; snout blackish; iridescent blue markings on operculum; lobes of caudal fin blackish to dark reddish, the broad centroposterior region whitish or pale yellowish; first dorsal fin yellow distally; second dorsal and anal fins blackish with black margins. Juveniles light bluish grey with a large oval black spot ventroposteriorly on caudal peduncle and caudal-fin base.

REMARKS: *Ptereleotris evides* is known throughout the tropical Indo-Pacific region except Hawaii. Klauswitz (1970) recorded it from the Maldives (as *Ptereleotris tricolor* Smith, a junior synonym). The usual habitat is exposed outer reef areas, generally in 2-15 m. Most adults are seen in pairs, and juveniles in aggregations. More than others of the genus, this species tends to swim away from danger rather than rush to the vicinity of its burrow.

MATERIAL: SMF 4756-57, 2: 74-86 mm, Fusdu, Ari Atoll.

Ptereleotris heteroptera (Bleeker)
Plate 5, Fig. H

Eleotris heteropterus Bleeker, 1855: 422 (type locality, Banjarmasin, Borneo).

DIAGNOSIS: Dorsal fin rays VI-I,29-33; anal fin rays I,27-30; pectoral fin rays 21-24; pelvic fin rays I,4, without



Figure 15. *Ptereleotris evides*, 110 mm TL.

a basal membrane or frenum; scales cycloid, small, close-set except anteriorly, embedded or partially embedded, and nonimbricate except posteriorly where a few are overlapping; nape with some scattered scales extending to eyes; gill rakers 5-6 + 17-20; gill opening extending forward to below middle of operculum; no median barbel on chin; body depth 6.2-7.8 in SL; first dorsal fin nearly as high as second, none of the spines filamentous; caudal fin emarginate with rounded corners.

Life colour light blue or green to pale bluish or greenish grey, the caudal fin whitish to yellowish with a large, horizontally elongate, dusky to black spot centroposteriorly in fin (spot faint or absent on juveniles); a narrow longitudinal iridescent blue band in two sections on upper edge of operculum.

REMARKS: *Ptereleotris heteroptera* is also known throughout the Indo-Pacific, including the Hawaiian Islands. Davis et al. (1977) recorded it from the Maldives. The preferred habitat is sand and rubble near coral reefs; specimens have been collected in the depth range of 7-46 m, both in lagoon and outer-reef areas. Adults are usually encountered in pairs; they feed on zooplankton as high as 3 m above the bottom but rarely stray more than 5 m from their burrow.

MATERIAL: BPBM 18076, 84 mm, Vaadu, South Malé Atoll.

Ptereleotris microlepis (Bleeker)

Eleotris microlepis Bleeker, 1856: 102 (type locality, Banda, Indonesia).

DIAGNOSIS: Dorsal fin rays VI-I,25-29; anal fin rays I,24-27; pectoral fin rays 21-24; pelvic fin rays I,4; scales cycloid, small, embedded, and close-set, but not imbricate except posteriorly where slightly overlapping; scales on nape extending about midway from above upper end of gill opening to orbit; gill rakers 6-7 + 19-23; gill opening ending below centre of operculum; no median barbel on chin; body depth

5.5-7.0 in SL; first dorsal fin lower than second dorsal fin, the spines strongly curved posteriorly; caudal fin slightly emarginate.

Life colour pale grey to bluish grey, usually with 2 converging faint pale orange lines posteriorly on side of body which extend into caudal fin; irregular pale iridescent blue lines and spots on postorbital head and operculum; a narrow black band edged in pale blue at base of pectoral fins.

REMARKS: This species ranges from the Red Sea and coast of East Africa to the Line Islands and Tuamotu Archipelago; in the western Pacific from the Ryukyu Islands to New South Wales (Randall and Hoese, 1985). Common in the protected waters of lagoons and bays on sand or sand-rubble substrata; depth range 1-22 m.

MATERIAL: SMF 5443, 84 mm, Fadiffulu Atoll; SMF 5444, 2: 84-98 mm, Madewatu, Fadiffulu Atoll.

Ptereleotris zebra (Fowler)

Pogonoculius zebra Fowler, 1938b: 134 (type locality, Dausol Bay, Luzon).

DIAGNOSIS: Dorsal fin rays VI-I,27-29; anal fin rays I,25-28; pectoral fin rays 23-26; pelvic fin rays I,4; scales cycloid, small, embedded, and nonimbricate; a few scattered scales on side of nape to above upper end of gill opening; gill rakers 5-7 + 18-21; gill opening extending slightly anterior to middle of operculum; a well-developed median fleshy barbel on chin, its length in adults about half head length; first dorsal fin nearly as high as second, the spines strongly curved posteriorly; caudal fin slightly emarginate.

Life colour yellowish to greenish grey, the body with about 20 narrow orange to pink bars edged with blue or purple; a broad blue-edged purple bar extending from eye to chin; two narrow oblique pale blue bands on opercle; an orange-red bar edged in bright blue at pectoral-fin base; dorsal fins with a deep blue to black margin.

REMARKS: Fowler described *P. zebra* in his new genus *Pogonoculius* in reference to the prominent barbel on the chin. The diagnosis above is from Randall and Hoese (1985), who pointed out that there is a gradation in barbel development among the species of *Ptereleotris* and therefore did not recognize *Pogonoculius*. This species occurs from the Red Sea and Seychelles to the Line Islands and Marquesas. Although common, it is not well-represented in museums, probably because of its usual habitat of shallow (2 - 4 m) exposed coral reefs where collections are difficult. Also, it is a wary species. Our record is based on underwater observation by the senior author on the seaward reef of Villingili Island, North Malé Atoll.

Ptereleotris sp.

Plate 5, Fig. I

REMARKS: The senior author photographed a species of *Ptereleotris* underwater in the Seychelles with a filament extending from the upper and lower part of the caudal fin. Later, on a dive to 37 m in the Maldives, he photographed another *Ptereleotris* (Plate 5, Fig. 1) that was smaller and lacked the caudal filaments but was identically colored. The Seychelles-Maldives fish is probably either *P. hanae* (Jordan & Snyder, 1901) or *P. arabicus* Randall and Hoese (1985); adults of both species have elongated caudal fin rays.

XENISTHMIDAE

Xenisthmus polyzonatus (Klunzinger)

Plate 5, Fig. J

Eleotris polyzonatus Klunzinger, 1871: 482 (type locality, Red Sea).

DIAGNOSIS: Dorsal fin rays VI-I,11; anal fin rays I,10; pectoral fin rays 17; pelvic fin rays I,5; longitudinal scale series about 60 (scales partially embedded and difficult to count); head scaled, the predorsal scales extending to above posterior margin of preopercle; scales ctenoid posterior to tip of pectoral fins; gill rakers 3-4 + 8; gill membranes forming a free fold across isthmus, the gill opening extending slightly anterior to rear edge of preopercle; body depth 6.0-6.35 in SL; head length 3.8-4.0 in SL; head depressed and moderately broad, the width 1.45 in head length; lower jaw strongly projecting; snout smaller than eye, 5.1-5.2 in head; fleshy interorbital more than half orbit diameter; caudal fin rounded, 1.1-1.15 in head; pectoral fins 1.25-1.3 in head; pelvic fins separated, 1.3 in head.

Colour in preservative dark brown, the scale centres darker than edges, with 13 narrow irregular whitish bars on body; lower half of head whitish with 3 broad wedge-shaped dark brown bars, one below eye, one on preopercle and one on opercle; a black spot about the size of pupil centrally on basal part of caudal fin. When fresh, body brownish orange, the upper two-thirds with large, irregular, interconnected, red blotches; lower part of head white, the 3 bars brownish red; black basicaudal spot irregularly rimmed with white and red.

REMARKS: This species has been recorded from few localities: Red Sea, Chagos Archipelago (Winterbottom and Em-

ery, 1984), Okinawa (Yoshino and Nishijima, 1981), Mariana Islands (Myers, 1988), and American Samoa (Wass, 1984). Our 2 specimens were collected from a lagoon reef in 8-10 m.

MATERIAL: BPBM 32959, 2: 21-25 mm, Embudu, South Malé Atoll.

DISCUSSION

A total of 84 species of gobioid fishes are here recorded from the Maldive Islands. Undoubtedly, many more species occur there. Winterbottom and Emery (1984) reported 100 gobioid fishes from the islands of the Chagos Archipelago which lie less than 300 nautical miles south of the Maldives; 53 of their species are not yet known from the Maldives. On the other hand, of our 84 Maldives gobioids, 35 are not yet recorded from the Chagos Archipelago.

Many species of gobioid fishes are cryptic and rarely if ever seen by divers. The use of ichthyocides is clearly the best way to collect these fishes. Winterbottom and Emery and associates carried out 78 rotenone stations in the Chagos Archipelago. The senior author and colleagues ran only 17 such stations in the Maldives. Jones and Kumaran (1981) recorded 603 species of fishes from the Laccadive Islands (Lakshadweep), which lie a scant 110 nautical miles to the north of the Maldives. Only 24 of these species are gobioids which would suggest that they did not utilize ichthyocides, or did so sparingly.

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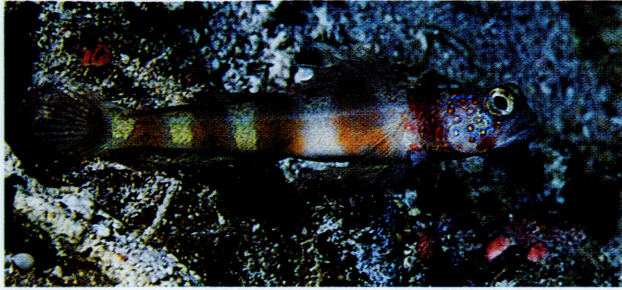
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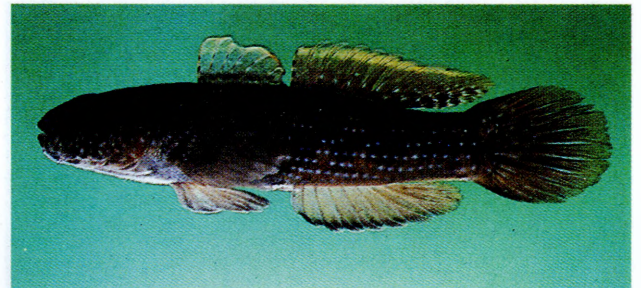
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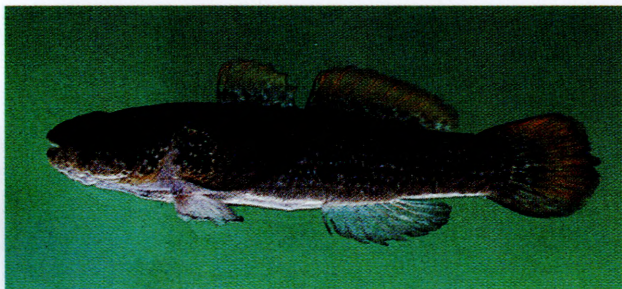
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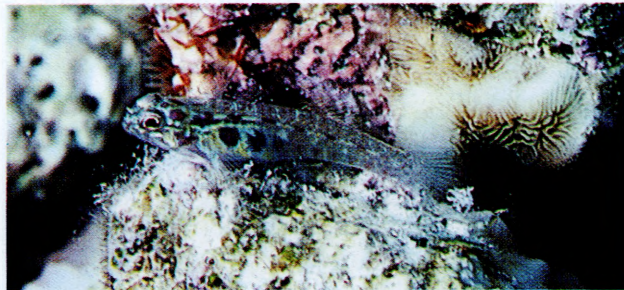
Plate 1. (A) *Amblyeleotris aurora*, 90 mm TL; (B) *Amblyeleotris diagonalis*, 75 mm TL, Seychelles; (C) *Amblyeleotris periophthalma*, 75 mm TL; (D) *Amblyeleotris steinitzi*, 73 mm TL; (E) *Amblyeleotris wheeleri*, 70 mm TL; (F) *Amblygobius hectori*, 50 mm TL; (G) *Amblygobius semicinctus*, 100 mm TL; (H) *Bathygobius coalitus*, BPBM 33109, 67 mm SL; (I) *Bathygobius cyclopterus*, BPBM 33108, 47 mm SL; (J) *Cryptocentrus fasciatus*, 82 mm TL.



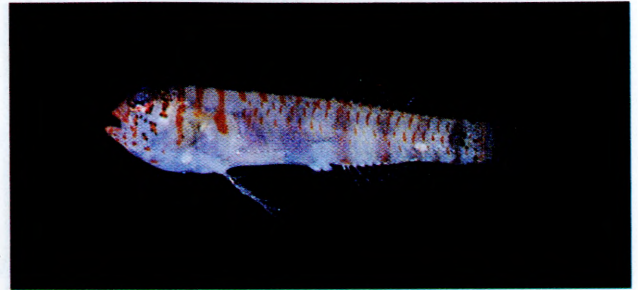
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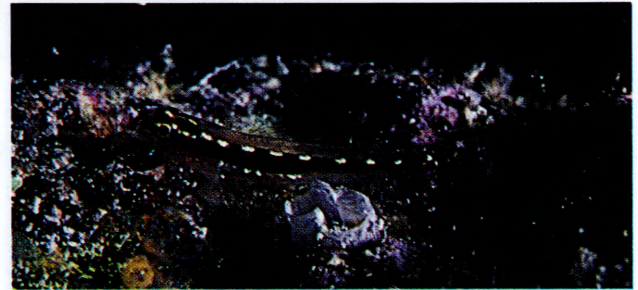
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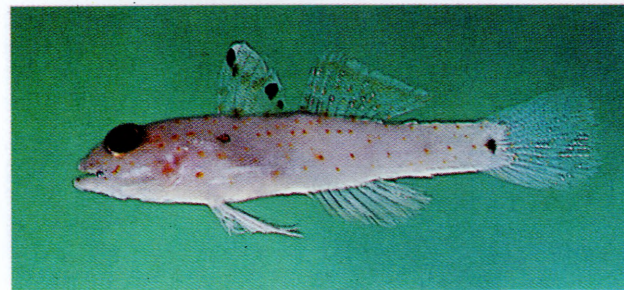
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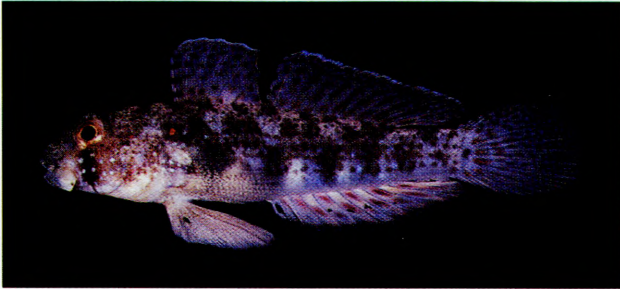
Plate 2. (A) *Ctenogobiops crocineus*, BPBM 32953, 39 mm SL; (B) *Ctenogobiops feroculus*, 40 mm TL; (C) *Eviota guttata*, 23 mm TL; (D) *Eviota nigripinna*, BPBM 33008, 13 mm SL; (E) *Eviota prasina*, BPBM 2898, 14 mm SL; (F) *Eviota sebreei*, 18 mm TL; (G) *Eviota zebrina*, 25 mm TL; (H) *Flabelligobius latruncularius*, BPBM 34400, 42 mm SL; (I) *Fusigobius duospilus*, BPBM 32978, 35 mm SL; (J) *Fusigobius neophytus*, 30 mm TL.



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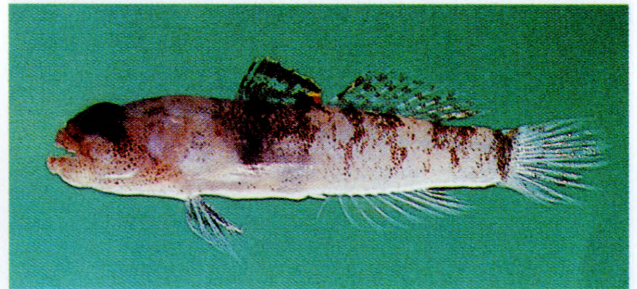
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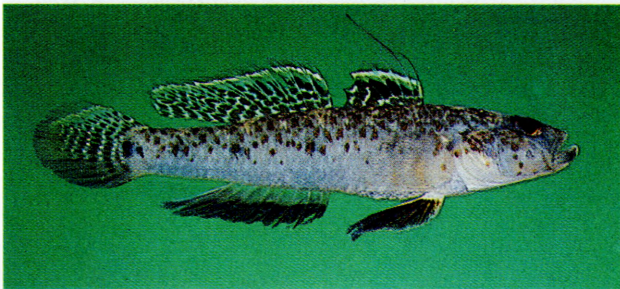
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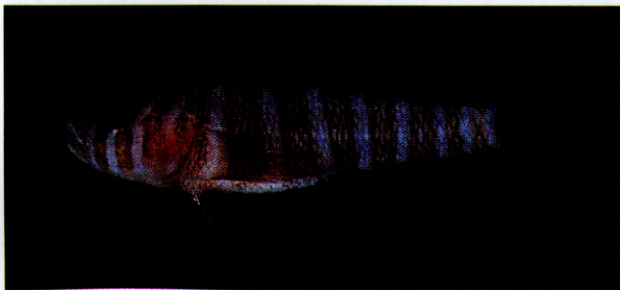
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Plate 3. (A) *Fusigobius* sp. 1, 65 mm TL; (B) *Fusigobius* sp. 2, BPBM 32955, 27 mm SL; (C) *Gnatholepis anjerensis*, BPBM 34404, 34 mm SL; (D) *Gnatholepis scapulostigma*, 55 mm TL, Mauritius; (E) *Gobiodon* sp., BPBM 32957, 21 mm SL; (F) *Heterolepis zanzibarensis*, BPBM 33006, 22 mm SL; (G) *Papillogobius reichei*, BPBM 27342, 47 mm SL, Natal; (H) *Pleurosicya micheli*, 25 mm TL (Günter Spies); (I) *Priolepis cinctus*, BPBM 33083, 20 mm SL; (J) *Priolepis semidoliata*, BPBM 33084, 15 mm SL.



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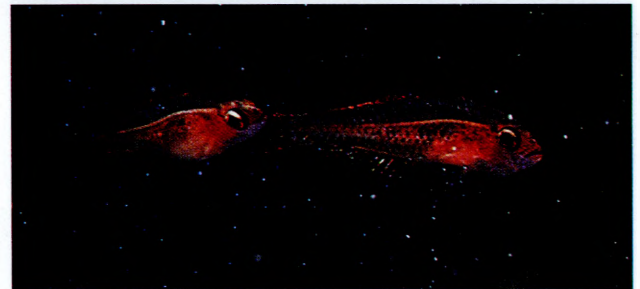
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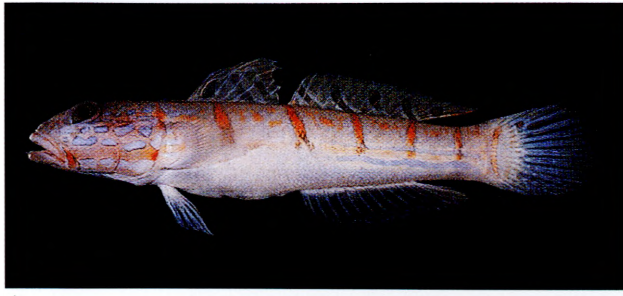


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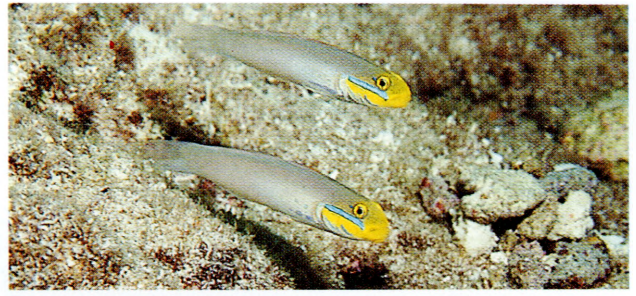


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Plate 4. (A) *Priolepis* sp., BPBM 32864, 20 mm SL; (B) *Stonogobiops dracula*, 38 mm TL; (C) *Trimma flammea*, BPBM 32920, 19 mm SL; (D) *Trimma naudei*, 28 mm TL; (E) *Trimma striata*, BPBM 31326, 23 mm SL, Papua New Guinea; (F) *Trimma taylori*, 25 mm TL; (G) *Trimma tevegae*, 32 mm TL; (H) *Trimma* sp.1, 27 mm TL; (I) *Trimma* sp. 4, 25 mm TL; (J) *Valenciennesa helsdingenii*, 160 mm TL, Mauritius.



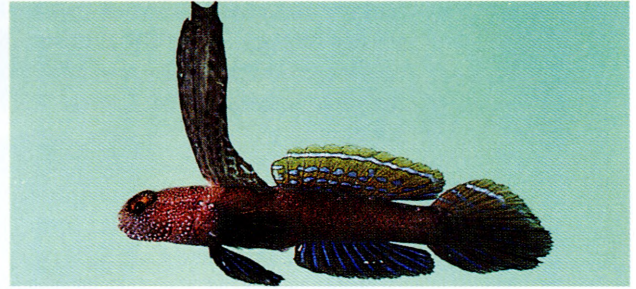
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Plate 5. (A) *Valenciennea puellaris*, BPBM 18900, 94 mm SL; (B) *Valenciennea strigata*, subadults (Charles Anderson); (C) *Valenciennea* sp., 47 mm TL; (D) *Vanderhorstia prealta*, BPBM 34405, 32 mm SL; (E) *Gunnellichthys monostigma*, BPBM 32880, 97 mm SL; (F) *Nemateleotris decora*, 75 mm TL; (G) *Nemateleotris magnifica*, 70 mm TL; (H) *Ptereleotris heteroptera*, 100 mm TL; (I) *Ptereleotris* sp., 70 mm TL; (J) *Xenisthmus polyzonatus*, BPBM 32959, 25 mm SL.

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