INIISTIUS AUROPUNCTATUS, A NEW RAZORFISH (PERCIFORMES: LABRIDAE) FROM THE MARQUESAS ISLANDS

by

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ABSTRACT. - The labrid fish *Iniistius auropunctatus* is described from 13 specimens, 95.5-129 mm SL, collected in 15-17 m at Ua Pou, Marquesas Islands. It is one of a complex of species characterized by the first two dorsal spines not being fully separated from the rest of fin and by a broad column of small scales extending from below the eye to behind the corner of the mouth. It is closely related to the wide-ranging, allopatric, Indo-Pacific species *I. pentadactylus*, having nearly the same female color pattern. It differs from *I. pentadactylus* chiefly in the color of the male, with blackish lines under edges of anterior lateral-line scales instead of three to six large deep red spots in a row behind the eye. Also it is a smaller species, the largest specimen 129 mm SL (*I. pentadactylus* reaches 200 mm SL).

RÉSUMÉ. - *Iniistius auropunctatus*, une nouvelle espèce de poisson-rasoir (Perciformes : Labridae) des Îles Marquises.

Une nouvelle espèce de poisson-rasoir, *Iniistius auropunctatus*, est décrite à partir de 13 spécimens de 95,5 à 129,0 mm LS, récoltés entre 15 et 17 m de profondeur à Ua Pou, dans l'archipel des Marquises. C'est l'une des espèces du genre complexe *Iniistius* caractérisé par les deux premières épines dorsales qui ne sont pas totalement séparées du reste de la nageoire et par une large bande verticale de petites écailles s'étendant depuis le dessous de l'œil jusqu'en arrière de la commissure buccale. La nouvelle espèce est apparentée à l'espèce allopatrique *I. pentadactylus* à grande distribution géographique dans l'Indo-Pacifique ; les femelles des deux espèces ont presque le même type de coloration. La nouvelle espèce diffère principalement de *I. pentadactylus* par la coloration des mâles dont les écailles antérieures de la ligne latérale sont bordées de noir, au lieu des 3 à 6 grandes taches rouge foncé alignées en arrière des yeux. C'est aussi la plus petite espèce du genre : 129 mm LS pour le plus grand spécimen connu.

Key words. - Labridae - *Iniistius auropunctatus* - ISEW - Marquesas Islands - New species.

Labrid fishes popularly known as razorfishes are able to live over broad open stretches of sand by virtue of their ability to elude predators by diving into the sand. Their strongly compressed bodies and steep forehead with a distinct anterior ridge are adaptations for this unique mode of life. Until recently the razorfishes of all the major tropic seas have been classified in the genus *Xyrichtys* Cuvier, 1814.

Randall and Earle (2000) have reclassified the Indo-Pacific species of the genus *Xyrichtys* to the genus *Iniistius* Gill, 1862. The razorfishes of the Atlantic and eastern Pacific currently placed in *Xyrichtys* remain in this genus except the Indo-Pacific *Iniistius pavo* Valenciennes, 1840 that also ranges to the eastern Pacific. The Indo-Pacific *Novaculops woodi* (Jenkins, 1901) is reclassified in *Xyrichtys*. Characters to separate the genera *Xyrichtys* and *Iniistius* are as follows: the palatine bone overlaps the ectopterygoid in *Iniistius*, whereas it is separate in *Xyrichtys*; there are no dorsal pterygiophores between the second and third neural spines of *Iniistius*, but two in *Xyrichtys*. The skull is notably higher in adult *Iniistius* than *Xyrichtys*. The origin of the dorsal fin is over or less than half an orbit diameter behind the eye in *Iniistius*, but more than an eye diameter behind the eye in *Xyrichtys*. The space between the second and third dorsal spines in *Iniistius* is much broader than that between the third and fourth spines, whereas these two spaces are about equal in *Xyrichtys*.

The Indo-Pacific species of *Iniistius* fall into two groups, *I. pavo* and *I. dea* (Temminck & Schlegel, 1845) with the first two dorsal spines greatly prolonged and completely separate from the rest of the fin, and those with the first two spines still connected to the rest of the fin and much less elongate.

The latter group is further divisible into two lineages, one with just a few scales below the eye such as *I. aneitensis* (Günther, 1862) and *I. cyanifrons* Valenciennes, 1840 and the other with a broad band of small scales in adults that extend ventrally from just below the eye to or slightly below the corner of the mouth. The second lineage includes *I. baldwini* (Jordan & Evermann, 1903), *I. bimaculatus* Rüppell, 1829, *I. jacksonensis* (Ramsay, 1881), *I. melanopus* (Bleeker, 1857), *I. pentadactylus* (Linnaeus, 1758), *I. trivittatus* Randall & Cornish, 2000, *I. twistii* (Bleeker, 1856), *I. umbrilatus* (Jenkins, 1901), and *I. verrens* (Jordan & Evermann, 1902).

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We describe here a tenth species of the second lineage from the Marquesas Islands. One specimen was collected by the first author while sailing his 11-m ketch from Tahiti to Hawaii via the Marquesas in July 1957. Snorkeling over sand in 15 m at the island of Ua Pou, he observed a colony of razorfish that he did not recognize. He speared the largest individual, a male of 120 mm SL, made a detailed color note, and deposited the specimen in the Bishop Museum, Honolulu. During a month of intensive fish collecting in 1971 in the Marquesas, including Ua Pou, this razorfish was not encountered. However, in October 1999, the second and third authors collected 12 specimens from Ua Pou. This additional material has enabled us to describe this species which proved to be a close relative of the wide-ranging *I. pentadactylus*.

MATERIALS AND METHODS

Type specimens were deposited in the Australian Museum, Sydney (AMS); Bernice P. Bishop Museum, Honolulu (BPBM); California Academy of Sciences, San Francisco (CAS); Muséum national d'Histoire naturelle, Paris (MNHN); National Science Museum, Tokyo (NSMT); Royal Ontario Museum, Toronto (ROM); and U.S. National Museum of Natural History, Washington (USNM).

Lengths of specimens are given as standard length (SL), measured from the most anterior end of the upper lip to the base of the caudal fin (posterior end of hypural plate); head length (HL) is measured from the same anterior point to the posterior end of the opercular flap; body depth is taken vertically from in front of the base of the pelvic fins; body width is the maximum width just posterior to the gill opening; orbit diameter is the greatest fleshy diameter, and interorbital width the least bony width; upper-jaw length is taken from the front of the upper lip to the posterior end of the maxilla; caudal-peduncle depth is the least depth, and caudal-peduncle length the horizontal distance between verticals at the rear base of the anal fin and the caudal-fin base; lengths of fin spines and rays of the median fins are measured from their extreme bases; pectoral-fin length is the length of the longest ray; pelvic-fin length is measured from the base of the pelvic spine to the tip of the longest soft ray. Lateral-line scale counts include the last pored scale on the caudal-fin base; pectoral-ray counts include the upper rudimentary ray; gill-raker counts include all rudiments.

Data in parentheses in the description of the new species refer to paratypes (when different from the holotype). Table I presents 27 measurements of type specimens as percenta-ges of the standard length. Ratios of proportional measurements in the text (in SL, depth, or HL) of the diagnosis and description are rounded to the nearest 0.05.

INIISTIUS AUROPUNCTATUS, N. SP.

(Figs 1-4, Tab. I)

Xyrichtys sp.: Randall, 1985: 475 (Marquesas Islands).

Xyrichtys sp.: Randall and Earle, 2000: 18 (Ua Pou, Marquesas Islands).

Holotype. - BPBM 38681, male, 129.0 mm, Marquesas Islands, Ua Pou, bay on north side, west side of bay, sand, 16 m, rotenone, D.R. Robertson and J.L. Earle, 27 October 1999.

Paratypes. - BPBM 9094, male, 120.0 mm, Marquesas Islands, Ua Pou, middle of bay on west side of island, gray sand, 15 m, spear, J.E. Randall, 9 July 1957; remaining paratypes all with same data as holotype except some taken by spearing: AMS I.40875-001, female, 98.5 mm; BPBM 38904, 5:95.5-114.4 mm; CAS 214225, male, 113.0 mm; MNHN 2001-1184, male, 105.0 mm; NSMT-P 61086, female, 97.3 mm; ROM 72559, male, 114.0 mm; USNM 365690, male, 101.5 mm.

Diagnosis

Dorsal rays IX,12; anal rays III,12; pectoral rays 12; lateral-line scales 19-21 + 5; gill rakers 18-20; body depth 2.75-3.2 in SL; a broad band of small scales extending from below eye to slightly below corner of mouth; 2 or 3 scales dorsoanteriorly on opercle; first and second dorsal spines flexible, about twice length of third spine, slightly longer than longest dorsal soft ray, and not separated from remainder of fin; space between second and third dorsal spines about 1.5 times greater than space between third and fourth spines; membrane between second and third dorsal spines incised to about one-third length of third dorsal spine; a small black spot a scale row below eighth lateral-line scale (hence above tip of pectoral fin); both sexes with a row of orange dots along lateral line and scattered dots below, posteriorly on body; females with a large roundish pink patch dorsally on abdomen containing oblique orange lines on scale edges, ending dorsally in orange spots; males with black lines variously under edges of second to sixth lateral-line scales, sometimes extending to row above or below, and no pink patch on abdomen; largest specimen, 129 mm SL.

Description

Dorsal rays IX, 12, the last 4 (3-4) soft rays branched (the twelfth to base); anal rays III, 12, the last 11 (6-10) soft rays branched, the last to base; pectoral rays 12, the upper 2 unbranched; pelvic rays I, 5; principal caudal rays 12; upper procurrent caudal rays 6, the most posterior segmented; lower procurrent caudal rays 5, the most posterior segmented; lateral-line interrupted, the pored scales 21 + 5 (19-

Table I. - Proportional measurements of type specimens of *Iniistius auropunctatus* expressed as percentages of the standard length.

	Holotype	Paratypes						
	BPBM 38681	BPBM 38904	NSMT 61086	BPBM 38904	BPBM 38904	BPBM 38904	BPBM 38904	BPBM 9054
Sex	Male	Female	Female	Male	Female	Male	Male	Male
Standard length (mm)	129.0	95.5	97.3	100.2	102.5	108.7	114.4	121.0
Body depth	33.4	34.2	31.5	36.5	32.1	33.2	35.8	34.7
Body width	13.3	11.6	10.6	13.4	11.4	10.7	14.0	10.9
Head length	28.5	29.3	29.6	31.5	29.2	30.4	29.9	30.5
Snout length	15.0	14.5	14.0	15.8	13.6	14.1	15.6	15.5
Orbit diameter	5.4	6.3	6.2	6.1	6.1	5.6	5.7	5.8
Interorbital width	4.8	4.9	4.9	5.0	4.8	4.6	5.1	4.9
Upper-jaw length	9.5	9.2	9.3	9.9	9.0	9.1	9.6	9.2
Caudal-peduncle depth	13.2	13.2	13.3	14.1	13.2	13.1	13.6	13.8
Caudal-peduncle length	8.7	8.7	8.2	8.2	8.6	8.8	8.3	8.6
Predorsal length	23.4	24.0	23.0	24.5	23.1	22.9	22.5	23.3
Preanal length	54.1	51.4	52.2	49.8	52.5	53.2	49.8	52.3
Prepelvic length	28.7	28.3	27.2	27.8	27.0	27.2	28.8	29.0
Dorsal-fin base	74.3	98.5	73.7	76.6	77.3	76.1	79.6	75.0
First dorsal spine	13.1	14.6	13.0	16.8	13.5	13.7	16.0	12.6
Second dorsal spine	13.2	14.7	13.1	16.5	14.3	13.7	15.8	13.2
Third dorsal spine	6.4	6.3	6.2	7.9	7.2	7.1	8.0	8.1
Ninth dorsal spine	8.0	8.5	8.3	9.5	8.6	9.0	8.8	8.2
Longest dorsal ray	12.4	12.3	12.8	13.9	12.9	13.5	14.0	12.5
Anal-fin base	39.1	37.9	38.6	41.8	38.8	38.4	41.9	39.1
First anal spine	3.9	4.3	3.9	4.4	4.2	3.9	4.3	4.0
Second anal spine	6.0	5.5	5.4	6.0	5.9	6.1	6.3	5.4
Third anal spine	7.4	7.1	7.3	7.2	7.4	8.2	7.8	7.3
Longest anal ray	12.4	12.9	12.4	13.8	12.6	13.0	12.4	11.7
Caudal-fin length	21.2	21.9	21.2	23.8	22.2	21.3	22.3	22.6
Pectoral-fin length	19.6	20.9	20.1	21.2	20.0	19.8	20.6	19.4
Pelvic-spine length	6.1	6.4	6.3	6.9	5.9	6.5	7.0	5.9
Pelvic-fin length	21.5	15.7	19.5	19.3	19.4	18.4	19.3	15.8

21 + 5); scales in an oblique row above lateral line posterior to third dorsal spine 2, the upper scales progressively smaller posteriorly; scales in an oblique row below lateral line to origin of anal fin 10 (9-11); circumpeduncular scales 16; gill rakers 18 (18-20); branchiostegal rays 5; vertebrae 9 + 16.

Body depth 3.00 (2.75-3.20) in SL; body very compressed, the width 2.50 (2.55-3.20) in depth; head length 3.5 (3.2-3.4) in SL; dorsal profile of snout nearly vertical, the remaining profile of head strongly convex; snout long, due to deep suborbital region, its length 1.90 (1.80-2.15) in HL; orbit diameter 5.30 (4.65-5.45) in HL; fleshy anterior edge of head a sharp ridge; interorbital width 5.95 (5.85-6.65) in HL; caudal-peduncle depth 2.15 (2.20-2.30) in HL; caudal-peduncle length 3.30 (3.35-3.80) in HL.

Mouth small, slightly oblique, the lower jaw projecting; upper jaw length 3.0 (3.0-3.35) in HL; a pair of long, slender, slightly incurved canines at front of each jaw extending well beyond lips when mouth closed, the lower pair fitting inside uppers; upper pair of canines projecting laterally, the lowers curving laterally; each side of jaws with a row of 10 close-set, strong, conical teeth; front of upper jaw with a pair of short conical teeth between the canines, followed by a band of small nodular teeth in 3-4 rows just medial to conical teeth at side of jaw; lower jaw with 1-2 rows of small nodular teeth medial to conical teeth at side of jaw. Tongue rounded, set far back in mouth. Lips thin, the lower with a prominent flap on side of mandible. Gill rakers short, the longest on first gill arch about one-third length of longest gill filament.

Preopercular margin free ventrally nearly to a vertical at posterior edge of maxilla, and free dorsally to within one-third orbit diameter of lower edge of orbit. Posterior half of orbit with a marginal flap that is narrowest behind middle of eye. Anterior nostril a tiny aperture, overlaid by a flap from its dorsoanterior edge, in front of lower edge of pupil by a distance equal to one-third orbit diameter; posterior nostril a short, slightly oblique, curved slit in front of center of eye,

the internarial distance about one-fourth pupil diameter. Suborbital sensory canal with 5 short ventral branches ending in a pore and 2 long ventral branches anteriorly; edge of preopercle with 7 sensory pores, continuing as a series of 3 pores along side of mandible; numerous pores on each side of anterior ridge of head.

Scales cycloid and very thin; lateral-line scales with a single horizontal tubule nearly crossing scale surface and ending in a posterior pore; last pored scale on caudal-fin base more pointed than previous pored scales; largest scales on side of chest about half height of largest scales on side of body; head naked except for a cluster of 3 (2-4) scales dorso-anteriorly on opercle and a broad band of very small scales in about 8 vertical rows extending below eye, the anterior rows reaching slightly posterior to corner of mouth; last row of scales of this band continuing obliquely behind lower part of orbit; no scales basally on dorsal or anal fins; scales continuing, progressively smaller, onto basal third of caudal fin; pelvic fins without an axillary scale; a midventral scaly process of 2 scales between bases of pelvic fins, the posterior pointed and about three times longer than the anterior.

Origin of dorsal fin slightly anterior to a vertical at posterior edge of orbit, the predorsal length 4.30 (4.10-4.45) in SL; first two dorsal spines slender, flexible, curved, and nearly equal in length, the longest only slightly longer than longest soft ray of fin, 2.15 (1.85-2.40) in HL; space between second and third dorsal spines about 1.5 times greater than space between third and fourth spines; membrane between second and third dorsal spines incised to about one-third length of third dorsal spine; third to ninth dorsal spines pungent, the third 4.45 (3.75-4.80) in HL, the ninth 3.55 (3.30-3.70) in HL; longest dorsal soft ray 2.30 (2.15-2.45) in HL; origin of anal fin below base of first dorsal soft ray, the preanal length 1.85 (1.90-2.00) in SL; first anal spine 7.30 (6.85-7.85) in HL; second anal spine 4.75 (4.75-5.65) in HL; third anal spine 3.85 (3.70-4.35) in HL; longest anal soft ray 2.3 (2.3-2.6) in HL; caudal fin slightly rounded, 4.7 (4.2-4.7) in SL; third and fourth pectoral rays longest, 5.10 (4.70-5.15) in SL; pelvic spine 4.70 (4.55-5.20) in HL; first pelvic soft ray longest, variable in length, ray of left side of holotype 4.65 in SL, of right side 6.30 in SL (5.15-6.35 in paratypes).

Color of holotype (a male) in alcohol: body pale brown with faint vertical brown line on many scales on side of body; triangular black spot on lower part of scale below eighth and ninth lateral-line scales; oblique black line under edges of second to sixth lateral-line scales, line under fourth scale extending to scale above and one below; posterior edge of scale below fifth lateral-line scale with black line that extends ventrally below anterior edge of scale behind it; snout and chin gray-brown suborbital region, including band of small scales, pale brown; operculum gray-brown; dorsal fin pale yellowish with a faint reticular pattern and an oblique gray spot at base of each membrane; anal fin pale yellowish with three longitudinal gray bands; basal half of naked part of caudal fin with five irregular gray cross bars, rays pale with gray edges, fin with narrow black upper margin; paired fins pale.

Color of holotype when fresh shown in figure 1. Orange dots, when magnified, are orange-yellow with small red center.

Color note taken of 120-mm male paratype (BPBM 9094) collected in 1957: light gray, darker dorsally, the posterior third of each scale pale blue; a scattering of about 40 very small bright orange spots on posterior third of body (more spots dorsally than ventrally); a black spot about half size of scale under lateral line below base of seventh dorsal spine; a short diagonal black line across lateral line below incised portion of dorsal fin on right side, and two lines on left side; a blue band, edged in orange, on sharp anterior edge of head, and a similar but narrower one midventrally on head; iris orange with a circle of magenta; caudal fin transparent with light gray rays and vertical rows of pale orange spots; upper and lower edges of fin narrowly blue, submarginally orange; dorsal fin light gray, blotched with orange, forming diagonal bands distally; anal fin banded alternately with pale orange and blue, these bands brighter basally; pelvic fins light yellowish gray.

Color of 102.5 mm female paratype in alcohol: pale brown with a thin brown vertical line in middle of scales below lateral line except in large white oval area on upper side of abdomen; small irregular black spot on lower part of eighth lateral-line scale and extending partly onto two scales below; head gray-brown with a large pale yellowish brown area below eye, including broad band of suborbital scales; dorsal fin translucent with large oblique triangular pale orangish mark ventrally on each membrane; anal fin translucent whitish, becoming translucent yellowish basally; caudal fin colored like male holotype but gray cross-bands less distinct; paired fins pale. Color of this fish when fresh shown in figure 2.

Underwater photographs of a male and female taken at Ua Pou are reproduced as figures 3 and 4, respectively.

Etymology

The specific name for this new species is from Latin meaning "orange dots" in reference to the numerous tiny orange spots present on both males and females.

Remarks

Iniistius auropunctatus is presently known only from Ua Pou in the Marquesas Islands. It was collected at depths of 15-17 m over sand. Like other species of the genus, it quickly dives into the sand when threatened.

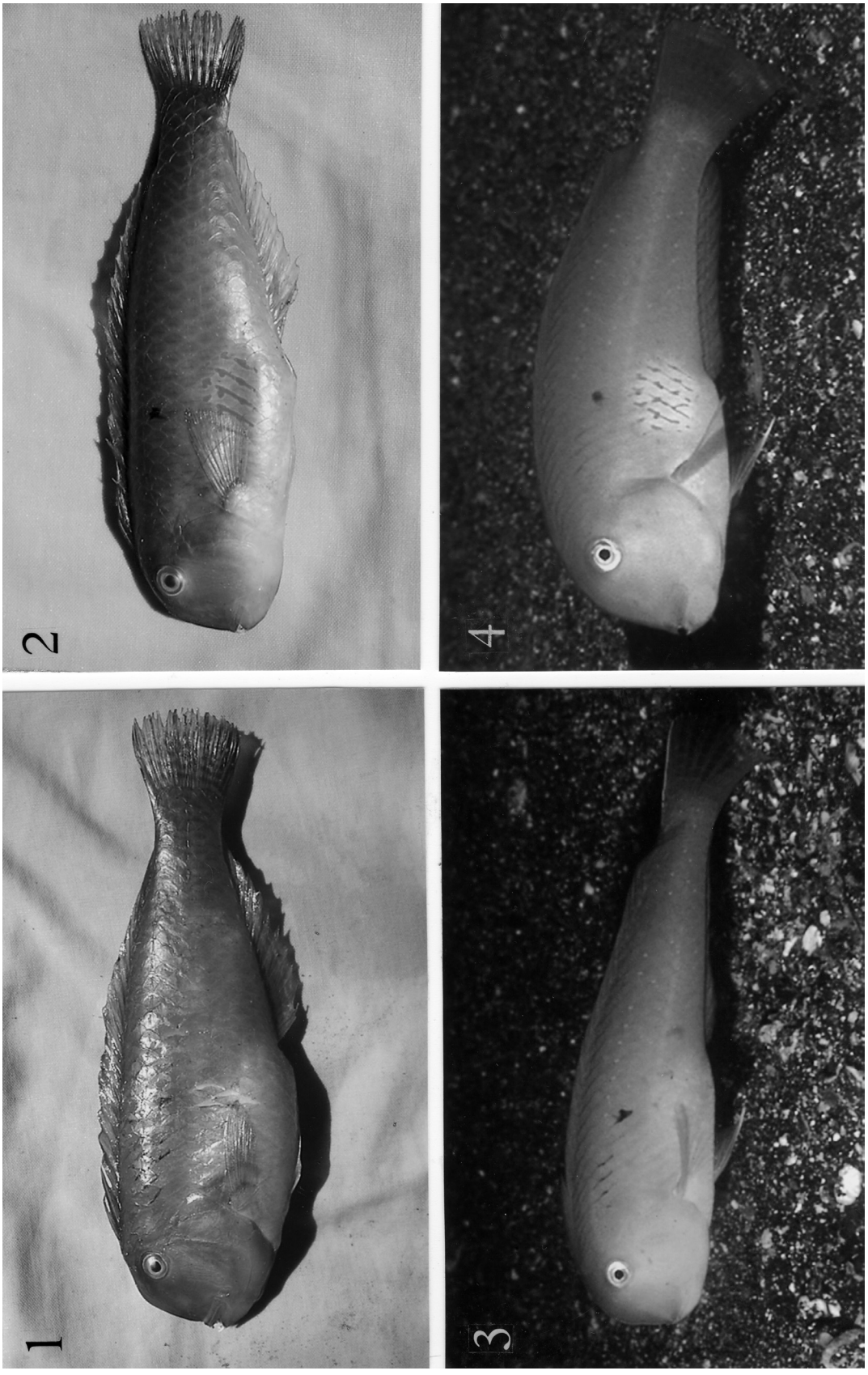

Figure 1. - Holotype of *Iniistius auropunctatus*, male, BPBM 38681, 129 mm SL, Ua Pou, Marquesas Islands (J.L. Earle).
Figure 2. - Paratype of *I. auropunctatus*, female, BPBM 38904, 102.5 mm SL, Ua Pou (J.L. Earle).
Figure 3. - Underwater photo of male *I. auropunctatus*, Ua Pou (J.P. Hoover).
Figure 4. - Underwater photo of female *I. auropunctatus*, Ua Pou (J.P. Hoover).

This species was reported as *Xyrichtys* sp. by Randall and Earle (2000) in their checklist of shore fishes of the Marquesas and included in their compilation of endemic species. The percentage of endemism of shore fishes for these islands is 11.6%, third for the Pacific area (after the Hawaiian Islands and Easter Island).

Of the nine other species of the second lineage mentioned in the introduction, *Iniistius auropunctatus* is clearly most closely related to *I. pentadactylus*. We could find no meristic differences to separate the two species, and the only morphological difference appears to be a slightly smaller eye for *I. pentadactylus*. The orbit diameter for the type specimens of *I. auropunctatus* varies from 5.4-6.3% SL. The orbit diameter of five specimens of *I. pentadactylus*, 100-121 mm SL (hence nearly the same range in SL of the types of *I. auropunctatus*), varies from 4.8-5.8% SL (more specimens would be needed to determine if this difference can be maintained). More significant is the larger size of *I. pentadactylus*. Clark (1983) reported the species to 200 mm SL from the Gulf of Aqaba, Red Sea. Of the 28 Bishop Museum specimens of *I. pentadactylus* (see Material examined below), 12 measure from 135 to 180 mm SL. Our largest *I. auropunctatus* is 129 mm SL. The females of both species are nearly the same in color, the most notable difference being the larger black spot above the pectoral fin tip of *I. pentadactylus* and the presence of a narrow vertical blue bar below the corner of the mouth (absent in *I. auropunctatus*). The male of *I. pentadactylus* is more distinctive in that it has three to six large deep red spots in a row behind the eye and a series of narrow blue bars on the chin. These markings are absent on *I. auropunctatus*.

Iniistius pentadactylus is known from the Red Sea and coast of East Africa to the western Pacific where it ranges from the Ryukyu Islands and Ogasawara Islands south to the Great Barrier Reef. There are no records for islands of the South Pacific, and only two for Oceania north of the equator, Guam (Myers, 1999: 195) and Kiritimati (Christmas Island) in the Line Islands (photographed underwater by the first author, and two specimens collected by the third author). We speculate that *I. pentadactylus* may have reached the Marquesas by an unusual southern variation in the Counter Equatorial Current, remained isolated there, and evolved to *I. auropunctatus*.

Clark (1983) mapped the territories of *Iniistius pentadactylus* in the Red Sea and noted that males maintained harems with as many as five females. The second and third authors observed a similar population pattern of *I. auropunctatus* in the colony at Ua Pou.

In reference to *Iniistius pentadactylus* in the Red Sea, Clark (1983) wrote, « The behavior of large females and size separation of the sexes indicated protogynous hermaphroditism ». Our three smallest specimens, 95.5-97.3 mm, are females, and our seven largest, 105.0-129.0 mm, are males. Two of the three remaining specimens, 100.2 and 101.4 mm, are males, and one of 102.5 mm is a female.

Material of *Iniistius pentadactylus* examined

Red Sea: Gulf of Aqaba, BPBM 13899, 115 mm; BPBM 18134, 8: 136-180 mm; BPBM 31840, 103 mm. Indonesia: Ambon, BPBM 19499, 2: 100-101 mm; BPBM 32304, 4: 38-52 mm. Lombok, BPBM 29982, 73 mm. Watubela Islands (4°46'42''S, 131°51'42''E), BPBM 38858, 3: 788-132 mm. Papua New Guinea: D'Entre-casteaux Islands, Normanby Island, BPBM 36285, 87 mm. Philippines: Sulu Archipelago, Nogas Island, USNM 153405, 4: 46-98 mm. Mindanao, USNM 153402, 3: 80-107 mm; USNM 153404, 122 mm. Luzon, USNM 153401, 2: 66-87 mm; USNM 153403, 2: 120-129 mm. Ogasawara Islands: Chichi-jima, BPBM 35117, 2: 122-180 mm. Line Islands: Kiritimati (Christmas Island), BPBM 37588, 2: 72-93 mm.

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REFERENCES

CLARK E., 1983. - Sand-diving behavior and territoriality of the Red Sea razorfish, *Xyrichthys pentadactylus*. *Bull. Inst. Oceanogr. Fish*. (Egypt), 9: 225-242.

MYERS R.F., 1999. - Micronesian Reef Fishes. 2nd Edit. 330 p. Guam: Coral Graphics.

RANDALL J.E., 1985. - Fishes. *In*: Fifth International Coral Reef Congress, Tahiti. Vol. 1: French Polynesian Coral Reefs (Delesalle B., Galzin R. & B. Salvat, eds), pp. 462-481.

RANDALL J.E. & J.L. EARLE, 2000. - Annotated checklist of the shore fishes of the Marquesas Islands. *Bishop Mus. Occ. Pap.*, 66: 1-39.

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