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New Records of a Scorpionfish, *Parapterois macrura* (Scorpaenidae: Pteroinae), from Oman and Somalia, Western Arabian Sea

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Abstract. One and two specimens of a scorpaenid fish, *Parapterois macrura* (Alcock, 1896), collected from the Arabian Sea coasts of Oman and Somalia, respectively, represent the first records of the species from the northwestern Arabian Sea, the species having previously been recorded only from the west coast of India. The new records suggest that *P. macrura* is widely distributed in the northwestern Indian Ocean.

Key words: Scorpaenidae, Pteroinae, *Parapterois macrura*, Distribution, Indian Ocean

Introduction

The family Scorpaenidae comprises approximately 60 genera of more than 300 species, occupying shallow to deep water habitats worldwide. The genus *Parapterois* Bleeker, 1876 currently includes two valid species from the Indo-West Pacific region (Motomura, 2004a), one of these, *Parapterois macrura* (Alcock, 1896), having been originally described by Alcock (1896) on the basis of specimens collected off Malabar on the west coast of India. Although, the species has previously been recorded only from the west coast of India (Motomura, 2004a), one and two specimens collected off Oman and Somalia, respectively, have been recently located and are described herein as the first records of *P. macrura* from the western Arabian Sea.

Material and Methods

Measurements generally followed Motomura (2004b, c), except for head width and depth, and

maxillary depth, which followed Motomura *et al.* (2005b, 2006a), Motomura (2004a) and Motomura *et al.* (2006b), respectively. Suborbital distance was taken as the shortest distance between the ventral margin of the orbit and the suborbital ridge. Caudal-fin length was taken as the shortest distance from the posterior margin of the hypural plate to the tip of the middle caudal-fin ray (shortest ray). Counts followed Motomura *et al.* (2005a–c) and Motomura and Johnson (2006), with predorsal scale counts following Motomura *et al.* (2006b). The last two soft rays of the dorsal and anal fins were counted as single rays, each pair being associated with a single pterygiophore. Head spine terminology follows Randall and Eschmeyer (2002) and Motomura (2004c). However, the spine occurring on the lateral surface of the lacrimal bone is referred to as the lateral lacrimal spine (Motomura and Senou, 2008); the coronal spine is figured in Chen (1981). Pored lateral-line scales could not be counted in the *P. macrura* specimens due to their poor condition. Institutional codes used in this study are as follows: the Kagoshima University Museum, Kagoshima (KAUM) and the Museum Support Center of the National Museum of

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Natural History, Smithsonian Institution, Suitland, MD (USNM).

***Parapterois macrura* (Alcock, 1896)**

(Fig. 1; Table 1)

Pterois macrura Alcock, 1896: 303 (type locality: off Malabar, west coast of India); Alcock, 1898: pl. 13-4 (drawing of a specimen described by Alcock, 1896); Alcock, 1899: 30 (off Malabar, west coast of India; description taken from Alcock, 1896); Kurian, 1953: 767 (off Trivandrum, Kerala, west coast of India; listed)

Parapterois macrura: Kotthaus, 1979: 23, figs 470, 474 (west coast of India; description based on 8 specimens; review of diagnosis); Mandrytsa, 2001: 276 (as phylogenetic material; key); Motomura, 2004a: 1, figs 1–6 (west coast of India; review of taxonomic status, including validity and diagnosis)

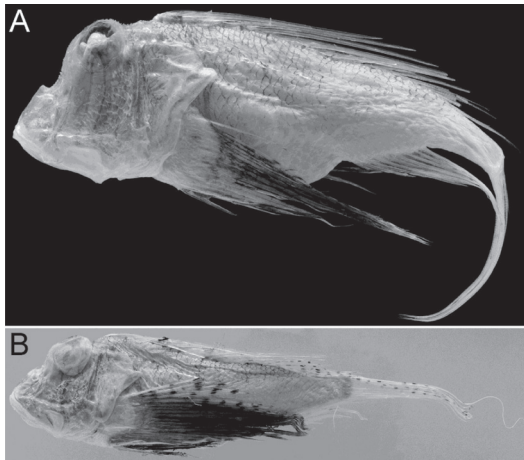


Fig. 1. Preserved specimens of *Parapterois macrura*. A, KAUM-I. 52550, 113.4 mm SL, off Oman. B, USNM 287010 (1 of 2 specimens), 105.7 mm SL, off Somalia.

Material examined. KAUM-I. 52550, 113.4 mm SL, off southeast coast of Oman (16°43' 43.6" N, 53°59' 05.9" E), Vessel *Al-Mustawila*, 430 m depth, bottom trawl, 15 Feb. 2008; USNM 287010, 2 specimens, 105.7 and 124.0 mm SL, off Ras Binnah, Somalia (11° 08.00' N, 51° 18.67' E), Vessel *Beinta*, 64 m depth, trawl, G. J. Small, 17 Oct. 1986.

Description. Morphometrics expressed as percentages of standard length are shown in Table 1. Dorsal-fin rays XIII, 9 (2 specimens) or 10 (1); anal-fin rays II, 7; pectoral-fin rays 19 (1) or 20 (2) on each side of body, with a single upper unbranched ray + 10 (1) or 11 (2) branched rays + 7–9 lower unbranched rays; scale rows in longitudinal series 44–46; scales above lateral line 5 (1) or 6 (2); scales below lateral line 7 (1) or 8 (1); scale rows between sixth dorsal-fin spine base and lateral line 5 (2) or 6 (1); scale rows between last dorsal-fin spine and lateral line 4 (1) or 5 (1); predorsal-fin scale rows 2–4; cheek scale rows 5 (2)–8 (1); gill rakers 5 (2) or 6 (1) + 11 (1) or 12 (2) = 16–18 (total).

Body elongate, moderately compressed, strongly compressed posteriorly; head relatively short, high, its depth subequal to maximum body depth. Ctenoid scales covering sides of snout, interorbital space, suborbital and postorbital areas, occiput, preopercle and opercle; absent on interopercle, maxilla, both lips and mandible. Scales on interorbital space reaching just behind nasal spine bases; midline of narrow interorbital space between interorbital ridges without scales; scales absent or small cycloid between posterior nasal pores. Scales on occiput, comprising 2 rows of 2 or 3 anterior and 3 or 4 posterior scales, respectively. Lateral body surface with ctenoid scales; ventral surface with weakly ctenoid scales. Exposed elongated cycloid scales covering pectoral-fin base.

Dorsal profile of snout steep, forming an angle of about 60° to horizontal axis of head and body. Frontal profile of preocular bone almost vertical, forming an angle of about 80° to horizontal axis of head and body. Eye high, set laterally on head; upper margin of orbit slightly higher than or level with base of first dorsal-fin spine (lateral view); top of bulge on snout well below level of ventral-most margin of orbit in large specimens (lateral view), located between levels of ventral-most margins of pupil and orbit in small specimens. Upper and lower lips well developed. Inner edge of ventral surface of dentary forming an elevated ridge. Lower jaw inserted into upper jaw gap; teeth on upper jaw visible from ventral view; posteroventral corner of maxilla slightly expanded

Table 1. Morphometrics of *Parapterois macrura*, expressed as percentages of standard length.

| Locality | KAUM-I. | USNM 287010 | |
|---------------------------------|---------|-------------|-------|
| | Oman | Somalia | |
| SL (mm) | 113.4 | 124.0 | 105.7 |
| Body depth | 34.2 | 35.2 | 33.3 |
| Body width | 24.2 | 24.4 | 24.0 |
| Head L | 43.5 | 45.0 | 40.8 |
| Head width | 14.2 | 14.9 | 13.9 |
| Head depth | 24.2 | 24.4 | 20.2 |
| Snout L | 19.9 | 21.5 | 17.2 |
| Orbit diameter | 10.3 | 11.9 | 11.4 |
| Interorbital width ¹ | — | 4.8 | 4.6 |
| Interorbital width ² | 4.2 | 4.9 | 4.1 |
| Upper jaw L | 20.1 | 21.3 | 19.8 |
| Maxillary depth | 7.0 | 7.3 | 6.9 |
| Postorbital L | 21.0 | 21.0 | 17.7 |
| Suborbital distance | 12.2 | 13.4 | 10.9 |
| Predorsal-fin L | 36.5 | 37.7 | 33.8 |
| Preanal-fin L | 71.1 | 68.9 | 71.3 |
| Prepelvic-fin L | 35.6 | 37.2 | 36.9 |
| 1st D spine L | 18.4 | — | — |
| 2nd D spine L | — | — | — |
| 3rd D spine L | 39.8 | — | 41.3 |
| 4th D spine L | — | — | 44.1 |
| 5th D spine L | — | 42.8 | — |
| 6th D spine L | 42.4 | 44.0 | 44.9 |
| 12th D spine L | — | — | 16.7 |
| 13th D spine L | 12.3 | 14.0 | 14.6 |
| 1st D soft ray L | — | — | 22.5 |
| Longest D soft ray L | — | 29.2 | 29.3 |
| 1st A spine L | 5.4 | 4.8 | 6.0 |
| 2nd A spine L | 12.9 | 12.5 | 13.4 |
| 1st A soft ray L | 22.7 | 22.2 | — |
| Longest A soft ray L | 31.6 | 31.7 | 32.3 |
| Pectoral fin L | 59.9 | 61.4 | — |
| Pelvic spine L | 15.1 | — | 16.1 |
| Longest pelvic ray L | 30.7 | 32.5 | — |
| C fin L | 47.4 | — | 42.2 |
| C peduncle L | 16.1 | 16.3 | 14.4 |
| C peduncle depth | 8.8 | 10.1 | 9.4 |

L, length; D, dorsal; A, anal; C, caudal; ¹, at middle of eye; ², at preocular spine base

from ventral profile of lower jaw (lateral view). Posterior margin of maxilla reaching to vertical through middle of eye. About 5 rows of small conical teeth forming blunt V-shaped patch on vomer; palatine

teeth absent.

A tentacle on posterior edge of low membranous tube associated with anterior nostril just reaching or extending beyond margin of posterior nostril when depressed posteriorly. Three small rounded dermal flaps on tips of 3rd to 5th preopercular spines, respectively. Relatively long dermal flap on tip of posterior lacrimal spine; extending beyond ventral profile of lower jaw when depressed ventrally (lateral view). No other dermal flaps on head and body.

Nasal spine with 2–6 spinous points on short base. Interorbital ridge moderately developed; reduced anteriorly and not reaching nasal spine base; posterior end of ridge connected to coronal spine base. No median interorbital ridge. Interorbital space relatively deep, about one fourth to one third of orbit diameter extending above dorsal profile of head. Preocular with 12–15 spinous ridges on frontal surface; posterior edge of posterior nasal pore with 3–9 spines. Supraocular with a ridge bearing a row of 6–9 small spines. Postocular spine with 22–36 small spines on margin of orbit. Coronal spine with 1–3 spinous points; posterior end of base connected to parietal spine base (interorbital ridge, coronal spine base, and parietal and nuchal spine bases all connected). Tympanic spine small with 2–3 spinous points. Occiput relatively flat lacking a pit, anterior edge distinct, weakly curved posteriorly; no other ridges on area surrounding occiput. Parietal spine with 3–9 spines on relatively long bases diverging posteriorly in dorsal view. Nuchal spine with 1 or 2 spinous points; nuchal and parietal spines completely at base. Sphenotic spine with 10–12 spinous points. No postorbital spine. Pterotic spine with 9–15 spinous points on a relatively short, slightly posteriorly curved base. Lower posttemporal spine with 6–11 spines on a short base. Supracleithral spine with 5–8 spinous points on a long base canted posteriorly downward; anterior tip of base in close proximity to posttemporal spine base.

Lateral lacrimal spine with 5–7 points on ridge; 3–5 points on ventral-most ridge; 5–7 ridges with a row of numerous spines radiating posteriorly from ridge extension to preocular bone; accessing ridge

from lacrimal to preocular strongly spinous. Suborbital with 18–22 spines on middle ridge with several spinous ridges above and below former (55–94 spines in total). No distinct suborbital pit. Preopercle with 5 spines; uppermost spine directed posterodorsally; other spines directed posteroventrally or ventrally. Lower opercular spine simple, skin-covered, lacking median ridge; upper opercular spine absent.

Posterior margin of opercular membrane reaching a vertical through fourth or fifth dorsal-fin spine base. Posterior tip of pectoral fin extending well beyond anal-fin origin, but not reaching to caudal-fin base. Origin of pelvic-fin spine just below origin of pectoral fin; behind pectoral fin in lateral view. Posterior tip of depressed pelvic fin reaching a vertical through last dorsal-fin spine base, but not reaching anal-fin origin. Origin of first anal-fin spine just below origin of last dorsal-fin spine.

Coloration of preserved specimens (Fig. 1) — Head and body brownish-cream. Several indistinct narrow vertical bars on body; broad brown vertical bands behind eye, from posteroventral margin of orbit to posterior upper corner of maxilla. Numerous small black spots on soft-rayed portions of dorsal fin and upper half of caudal fin; middle portion of pectoral fin blackish, ca. 4 uppermost rays with several black bands; pelvic fin blackish.

Remarks. The following combination of characters are found in the present specimens agree with those given by Motomura (2004a): no scales on midline of interorbital space; scale rows in longitudinal series 47 or 48; head length 40.8–43.5 % of SL; upper margin of orbit higher than or level with base of first dorsal-fin spine (lateral view); top of bulge on snout well below ventral-most margin of orbit in larger specimens (lateral view) or located between levels of ventral-most margins of pupil and orbit in small specimens. Small differences in morphometrics, regarded here as intraspecific variations, were found between the present specimens and those from the west coast of India described by Motomura (2004a): slightly greater snout length, 17.2–21.5 % of SL [vs. 12.9–19.1% (mean 15.8%) of SL in Motomura (2004a)]; slightly lesser head

depth, 20.2–24.4 % of SL [vs. 21.0–25.1% (23.0 % of SL)].

Parapterois macrura has previously been recorded from off the west coast of India (see synonym list), but not at all in ichthyofaunal studies of the Omani coasts of the Arabian Sea (White and Barwani, 1971; Randall, 1994, 1995; Al-Abdessalaam, 1995) or the Somali coast (Sommer *et al.*, 1996). Therefore, the present specimens represent the first records of *P. macrura* collected off Oman and Somalia, and indicate that the species is widely distributed in the northwestern Indian Ocean.

Comparative material examined. *Parapterois heterura* (Bleeker, 1856): BMNH 1903.12.31.6 (syntype? of *Pterois nigripinnis* Gilchrist, 1904), 54.5 mm SL, BMNH 1930.1.14.3 (syntype? of *P. nigripinnis*), 54.6 mm SL, Natal, South Africa; BMNH 1905.6.6.265 (holotype of *Pterois jordani* Regan, 1905), 66.2 mm SL, “Inland Sea”, Japan; RMNH 5872 (holotype of *Pterois heterurus* Bleeker, 1856), 77.6 mm SL, Ambon, Indonesia; KAUM–I. 10808, 93.8 mm SL, KAUM–I. 10850, 88.9 mm SL, Kagoshima, Japan; KAUM–I. 12460, 111.8 mm SL, KAUM–I. 22050, 96.5 mm SL, KAUM–I. 22051, 110.0 mm SL, Sabah, Malaysia; KAUM–I. 23102, 105.6 mm SL, KAUM–I. 23796, 131.2 mm SL, KAUM–I. 24130, 130.3 mm SL, KAUM–I. 24131, 140.9 mm SL, KAUM–I. 24132, 121.1 mm SL, KAUM–I. 24133, 121.4 mm SL, Gulf of Thailand; KAUM–I. 43826, 78.2 mm SL, Taiwan.

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