

RE-ASSESSMENT OF A RECENT INDIAN OCEAN RECORD OF THE ENDEMIC EAST ASIAN SPECIES *DENDROCHIRUS BELLUS* (ACTINOPTERYGII: SCORPAENIDAE: PTEROINAE)

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Matsunuma M., Padate V.P., Motomura H. 2018. Re-assessment of a recent Indian Ocean record of the endemic East Asian species *Dendrochirus bellus* (Actinopterygii: Scorpaenidae: Pteroinae). Acta Ichthyol. Piscat. 48 (1): 79–81.

Abstract. A review of a recent record of *Dendrochirus bellus* (Jordan et Hubbs, 1925) from the Gulf of Mannar, south-eastern India, indicated that the specimens on which the record was based were most likely *Dendrochirus brachypterus* (Cuvier, 1829), conforming to most diagnostic characters of the latter.

Keywords: India, distribution, identification, Scorpaenidae, Pteroinae

Dwarf lionfishes (Scorpaenidae) in the *Dendrochirus brachypterus* complex were recently reviewed by Matsunuma et al. (2017), who recognized five valid Indo-Pacific species: *Dendrochirus barberi* (Steindachner, 1900), *Dendrochirus bellus* (Jordan et Hubbs, 1925), *Dendrochirus brachypterus* (Cuvier, 1829), *Dendrochirus hemprichi* Matsunuma, Motomura et Bogorodsky, 2017, and *Dendrochirus tuamotuensis* Matsunuma et Motomura, 2013. Among them, *D. bellus* was diagnosed by Matsunuma et al. (2017) as having the following combination of characters: pectoral-fin rays 16–18 (modally 17); scale rows (longitudinal series) 33–44 (38); scale rows above lateral line 4–6 (5); scale rows below lateral line 8–11 (9); scale rows between last dorsal-fin spine base and lateral line 4–6 (5); scale rows between sixth dorsal-fin spine base and lateral line 4–6 (5); total gill rakers 12–17 (14); uppermost preopercular spine surface with a row of 0–5 supplemental spines; frontal border of occipital area not elevated, a smooth border between interorbital canal and occipital area; skin flap on uppermost preopercular spine base usually absent; skin flap on upper orbital surface usually absent; two barbels on snout tip; posterior margin of pectoral fin rounded, without distinct notch; pectoral fin with 4–9 bands, lacking inner row of spots, posterior 1–3 bands darker and broader than more anterior bands in large specimens. Matsunuma et al. (2017) also regarded *D. bellus* as endemic to the East Asian continental shelf from the South China Sea northward to southern Japan, and reported examples of misidentifications of *D. brachypterus* as *D. bellus* (or vice versa) in museum

collections world-wide and literature records. The descriptions of three specimens of *Dendrochirus* from the Gulf of Mannar, northern India, recorded as *D. bellus* by Padate et al. (2017), were re-appraised herewith and found to be identical with *D. brachypterus*.

Standard length is abbreviated as SL. The following specimens previously identified by Padate et al. (2017) as *D. bellus* deposited at the Marine Biodiversity Museum of the Central Marine Fisheries Research Institute (CMFRI), Kochi, Kerala (India) were examined: GB.38.24.11.10, 3 specimens, 52.5–72.9 mm SL, 08°45′–47°47′–49″N, 78°17′–23°07′–15″E, Gulf of Mannar, 16 m depth, 11 October 2012 and 13 March 2013 (Fig. 1).

Padate et al.'s (2017) identification of the Indian specimens was based on Poss' (1999) key to species of Scorpaenidae, thereby overlooking such diagnostic characters as absence or presence of skin flaps on the orbit surface and base of the uppermost preopercular spine, described recently for *D. bellus* by Matsunuma et al. (2017). Although Padate et al. (2017) stated that the Indian specimens possessed 37 scale rows in the longitudinal series, being consistent with counts for *D. bellus* [33–44 (modally 38)], compared with 39–50 (44) in *D. brachypterus* (Matsunuma et al. 2017), fig. 2C in the former (a photograph of a 72.9 mm-SL Indian specimen) showed it to possess irregularly-sized body scales (posterior scales on the body and caudal peduncle about half size of anterior scales), in addition to a large healed mid-lateral wound (just in front of anal-fin origin) (see also Fig. 1A, B, C). Therefore, the body scale rows

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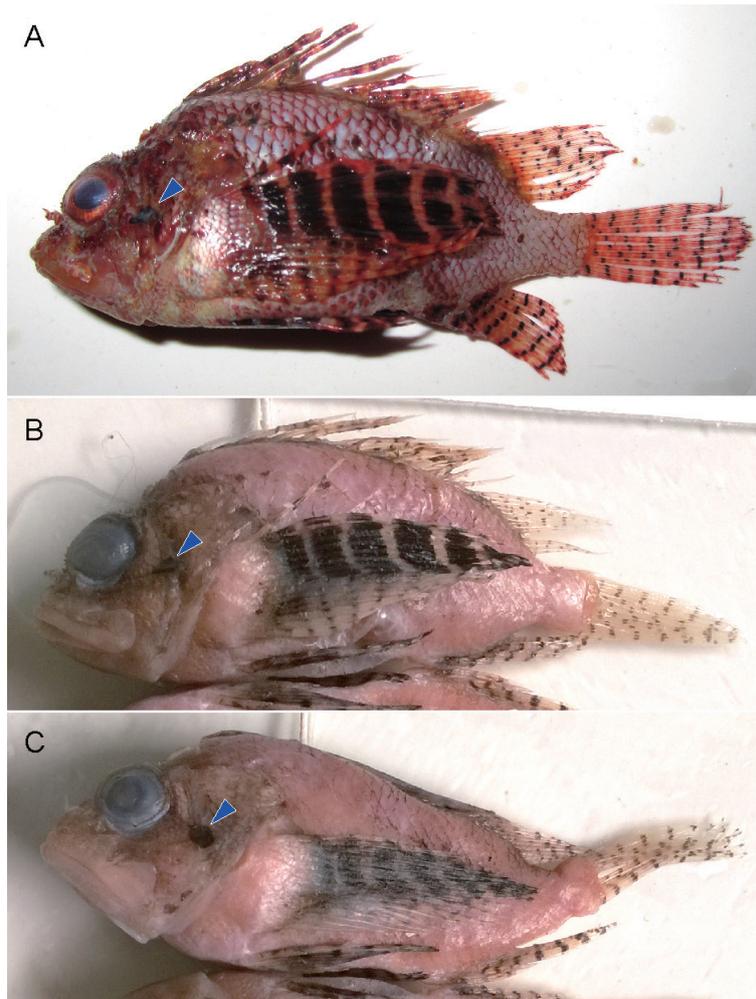


Fig. 1. Fresh (A) and preserved (B and C) specimens of *Dendrochirus brachypterus* from Gulf of Mannar, India; A and B: GB.38.24.11.10 (1 of 3 specimens), 72.9 mm SL; C: GB.38.24.11.10 (1 of 3 specimens), 66.0 mm SL; arrow heads indicate skin flap on uppermost preopercular spine base

in the photographed specimen were most likely to have become distorted by the damage. The remaining two Indian specimens possess ca. 43–45 scale rows in the longitudinal series (counted from photographs of the specimens). The three Indian specimens possessed a large dark skin flap on the uppermost preopercular spine base and the pectoral fin with ca. six dark brown transverse bands with inner black spots (Fig. 1), being consistent with diagnostic characters of *D. brachypterus* (a skin flap on that portion almost always absent and the pectoral-fin bands paler anteriorly without inner spots in *D. bellus*). Furthermore, Padate et al. (2017) recorded 20 gill rakers (total) in their specimens, well beyond the range for *D. bellus* (12–17) but close to that of *D. brachypterus* (13–19) (Matsunuma et al. 2017). Although a third species, *D. hemprichi*, distributed in the western Indian Ocean but not recorded from south-eastern India, is closely related to *D. brachypterus*, it is diagnostically distinct from both the latter and *D. bellus* (see Matsunuma et al. 2017). Other congeners of the *D. brachypterus* complex are restricted to the Hawaiian and Johnston islands (*D. barberi*) and the Tuamotu Archipelago (*D. tuamotuensis*) (Matsunuma et al. 2017). Accordingly, the south-eastern Indian record

of *D. bellus* is regarded here as misidentification of *D. brachypterus*, the former species being restricted to the north-western Pacific Ocean (Matsunuma et al. 2017).

ACKNOWLEDGEMENTS

We are grateful to Graham Hardy (Ngunguru, New Zealand) for reading the manuscript and providing help with English. This study was supported in part by Grant-in-Aid for Research Fellow of the Japan Society for the Promotion of Science (JSPS) (PD: 16J00047). This study was supported in part by the JSPS Core-to-Core Program: B Asia–Africa Science Platforms; the “Biological Properties of Biodiversity Hotspots in Japan” project of the National Museum of Nature and Science, Tsukuba, Japan; “Establishment of Research and Education Network on Biodiversity and Its Conservation in the Satsunan Islands” project of Kagoshima University adopted by the Ministry of Education, Culture, Sports, Science and Technology, Japan; and the “Island Research” project by Kagoshima University. We are obliged to Dr. Kunnummel Krishnan Joshi, Principal Scientist and Head, Marine Biodiversity Division (CMFRI) for allowing us to photograph the specimens at their museum that enabled to corroborate the identification.

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Received: 30 October 2017

Accepted: 15 December 2017

Published electronically: 31 March 2018