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Revision of batfishes (Lophiiformes: Ogcocephalidae) of New Zealand and adjacent waters, with description of two new species of the genus *Malthopsis*

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Abstract

Examination and taxonomic review of the batfishes collected from New Zealand and adjacent waters reveals five nominal species: *Halieutopsis bathyoreos* and *Malthopsis mitrigeria* are recorded from New Zealand for the first time; the synonymy of *Halieutaea maoria* with *H. stellata* is confirmed, and two new species are described. *Malthopsis asparata* **sp. nov.** is unique in having stout principal bucklers with prominent spines. *Malthopsis parva* **sp. nov.** differs from congeners in having a naked abdomen, a short rostral spine directed upward, and all principal bucklers blunt.

Key words: Taxonomy, batfishes, Ogcocephalidae, new species, new records, New Zealand, New Caledonia

Introduction

Batfishes are small, benthic fishes found in most tropical and subtropical seas, except the Mediterranean. They are unusual, highly modified lophiiform anglerfishes, having a distinctive circular to triangular, compressed body, comprising cranium and opercular apparatus which form the lateral margins; terminal or subterminal mouth; pelvic fins ventral, hidden and well in advance of large protruding pectoral fins, both paired fins modified into walking appendages; a conspicuous cavity (illicial trough) at front of head above mouth, containing a fleshy lure (comprising illicium completely embedded in esca), which is a modification of the first dorsal spine; and a body covered with spinous scales called tubercles, which in some genera are enlarged and modified into bucklers. The epidermis associated with these body scales may be extended into flaps and fringes.

Batfishes have been observed to walk slowly along the seafloor using their pectoral and pelvic fins, each pair moving forward together in tandem. Although capable of swimming off bottom with more rapid side to side movement of body and tail, supplemented by alternate paddling of pectorals, their movement is slow. As poor swimmers, batfishes probably rely on camouflage and their armoured prickly tubercles and bucklers to help avoid predation. Most species are found at depths of 100–1500 m, but some species in the tropics can occur as shallow as 1 m. Globally, ten genera and more than 70 species are known, including many undescribed species (Ho, unpublished data). While there is no commercial catch, most museum specimens have been taken among by-catch from trawls and dredges.

The first batfish from New Zealand waters, *Halieutaea maoria*, was described as new by Powell in 1937, and 45 years later it was still known from only the holotype (Ayling & Cox, 1982: 157). Subsequently, this species plus an unstated number of *Malthopsis* species were listed from New Zealand by Paulin & Stewart (1985: 27) and Paulin *et al.* (1989: 256), and as *Malthopsis* sp. A and *M.* sp. B, by Roberts *et al.* (2009: 532), who also recorded an additional species, *Halieutopsis* sp. A. Clearly, over 70 years since the first voucher was captured the New Zealand ogcocephalids, comprising just one poorly understood nominal species and three other species, documented only as OTU's sp. A and sp. B, were badly in need of taxonomic revision.