



Article

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A Review of the Snailfishes (Liparidae, Scorpaeniformes) of New Zealand, Including Descriptions of a New Genus and Sixteen New Species

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Abstract

A review of all snailfishes from New Zealand waters deposited in the National Museum of New Zealand Te Papa Tongarewa showed that six genera and at least 18 species occur within the New Zealand Exclusive Economic Zone. Of these, one genus and 16 species are new. These new taxa, described here, are *Aetheliparis taurocanis* n.g., n.sp. from near Moa Seamount at 731–869 m, *Careproctus narilobus* from the Chatham Plateau at about 1830 m, *C. pellucicauda* and

Paraliparis pseudokreffti from the Bounty Trough at 2786–2821 m, *P. exilis* from the southeast Chatham slope, *P. freeborni* and *P. pearcyi* from the northeast Chatham Rise at 1044–1050 and 1218 m respectively, *Osteodiscus rhepostomias* from the Bounty Trough at 2786–2821 m, *Psednos argyrogaster* from the east Chatham Rise at 1015–1037 m, *P. chathamii* from the Chatham Rise at 1335–1340 m, *P. cryptocaeca* from off the Otago Canyons at 118–121 m, *P. longiventris* from the Chatham Rise at 1054–1058 m, *P. microstomus* from Reinga Ridge at 1158–1230 m, *P. nemnezi* from the Pegasus Canyon and south Chatham Rise at 862–960 m, *P. platyoperculosus* from Chatham Rise at 1141–1163 m, and *P. struthersi* from the southern Havre Trough at 1411–1428 m. The two previously known species from New Zealand waters are *Careproctus novaezelandiae* Andriashev and *Notoliparis kermadecensis* (Nielsen). In addition, several specimens of *Paraliparis* and *Psednos* could not be identified or described because of their poor condition, but do not seem to be the same as any of the 18 described species. Partial descriptions are provided for them. This paper describes the new taxa, reviews the known taxa, and provides keys to their identification.

Key words: Liparidae, *Aetheliparis*, *Careproctus*, *Notoliparis*, *Osteodiscus*, *Paraliparis*, *Psednos*, New Zealand, new species

Introduction

Liparids may be the most widely distributed family of fishes (Chernova *et al.* 2004). They occur in warm temperate to cold waters of intertidal, estuarine, and midwater environments to hadal depths in all oceans, in polar and temperate regions and even in equatorial waters at abyssal depths (Chernova *et al. ibid.*). As less-studied waters are sampled, new species of snailfishes are being discovered, sometimes in unexpectedly large numbers. Australia is an example: a review of snailfish specimens from recent collections resulted in description of 30 new species in three genera (Stein *et al.* 2001). To date (including species described herein), approximately 175 species are known from the Southern Hemisphere.

Previous to this study, only two species of snailfishes, *Careproctus novaezelandiae* Andriashev 1990 and *Notoliparis kermadecensis* (Nielsen 1964), were known from within the New Zealand Exclusive Economic Zone (EEZ) (e.g., within 200 miles offshore of New Zealand). A review of the liparid specimens from the EEZ in the collection of the National Museum of New Zealand Te Papa Tongarewa revealed 16 new species in six genera. One of these new species and a previously described congener are placed in a new genus, *Aetheliparis*; the other genera are *Careproctus* Krøyer 1862 (three species, two of them new), *Notoliparis* Andriashev 1975 (one species), *Osteodiscus* Stein 1978 (one new species), *Paraliparis* Collett 1879 (at least four new species), and *Psednos* Barnard 1927 (at least eight new species). Including the new taxa, the New Zealand liparid fauna is now known to include these six genera and at least 18 species. Specimens of what appear to be several more species were collected, but their poor condition precludes their description as new. This paper describes the new taxa, adds to the knowledge of the known species, and discusses the significance of the new information.

Materials and methods

For definitions of characters, measurements, and counts of *Careproctus*, *Paraliparis*, and *Osteodiscus* species, I follow the methods and terminology described by Stein *et al.* (2001), Andriashev (2003), and Stein (2012). For *Psednos* species, I follow Chernova (2001) and Chernova and Stein (2002, 2004) with some additional characters. These include distance from tip of mandible to end of body cavity and from pectoral symphysis to end of body cavity. Body cavity end is taken to be the posteriormost point of the cavity itself (if cut open) or the posteriormost point of the peritoneum (if viewed through the body wall). For the purpose of the measurement, the pectoral symphysis is the posterior edge of the pectoral girdle on the ventral midline of the body. Where available, color photographs of freshly caught specimens are included here to show not only life color and shape, but also to demonstrate the differences between fresh and preserved specimens.

Stein (2012: 9) introduced body cavity shape and length as a taxonomic character, and it is used herein. Although female liparids with ripe eggs exhibit greatly swollen abdomens, it is unlikely that the dorsal and posterior extent of the body cavity is a sexually dimorphic character. In liparid species where both males and females are known, in ripe females the belly swells ventrally and laterally to accommodate the enlarging eggs but cannot extend posteriorly. No differences in body cavity shape between the sexes have been noted in the literature.