

Two New Species of Roughy (Trachichthyidae: *Optivus*) from Coastal Waters of Southern Australia

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ABSTRACT. Names are provided for two allopatric species of *Optivus* occurring in shelf waters of southeastern and southwestern Australia that have been treated in recent Australian literature. *Optivus agastos* n.sp., distributed from southern Queensland to central Victoria and northeastern Tasmania, and at Lord Howe Island, differs from the very similar *O. elongatus*, which is limited to New Zealand, in having fewer gill rakers (22–24, rarely 25, versus 25–27, rarely 24), slightly smaller eye, longer snout, and enlarged teeth along the inner margin of the premaxilla. *Optivus agrammus* n.sp., distributed from western South Australia to southwestern Western Australia, can be distinguished from congeners most readily by the lack of stripes on its caudal-fin lobes, curved dorsal outline of its nape and head in lateral profile, relatively deeper and shorter caudal peduncle, and lower dorsal and anal fins.

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Whitley (1947) proposed the generic name *Optivus* for *Trachichthys elongatus* Günther, 1859, separating it from *Hoplostethus* Cuvier (in Cuvier & Valenciennes, 1829) by its more elongate form and in having “only four dorsal spines instead of six”. Subsequent literature treated the Australasian genus as monotypic (e.g., Paulin, 1979; Kotlyar, 1980), before May & Maxwell (1986) and then Paxton *et al.* (1989) pointed out that two “new species” occur in Australia. Gomon (1994) considered *Optivus* to comprise three species, two allopatric undescribed species occurring in southern Australian waters, and *O. elongatus*, which is restricted to New Zealand. He presented descriptions for the unnamed species, separating them both with a key and diagnostic remarks in the treatment of each. Kotlyar (1996), in a major treatment of beryciform fishes, followed Gomon and presented additional evidence for the recognition of three species in the genus. The purpose of this paper is to provide names and detailed descriptions for the two Australian species.

Materials and methods

Terminology and methodology is that of Hubbs & Lagler (1949), except body depth is measured at dorsal-fin origin, head depth is taken at vertical through upper end of gill opening and jaw length is measured from anterior end of premaxilla to posteroventral corner of maxilla. Strong ctenii, which obscure scale margins, and the nature of merging scale rows above and below the lateral line in *Optivus* species make the determination of scale counts, such as numbers of lateral-line scales, oblique scale rows, scales above and below lateral line and predorsal scales with accuracy difficult. Broad ranges in these values may be attributed in part to this. In Descriptions, parenthetical values refer to paratypes, and all paratypes are included unless noted otherwise. Where structures were damaged, values were not recorded. The number and size range in standard length (mm) for each lot of specimens examined is presented as a parenthetical expression after the respective registration