

A New Genus and Two New Species of the Family Aulopidae (Aulopiformes), Commonly Referred to as Aulopus, Flagfins, Sergeant Bakers or Threadsails, in Australasian Waters

Martin F. Gomon^{1,3}, Carl D. Struthers² and Andrew L. Stewart²

¹Ichthyology, Sciences Department, Museum Victoria, GPO Box 666, Melbourne, Victoria 3001, Australia
E-mail: mgomon@museum.vic.gov.au

²Museum of New Zealand Te Papa Tongarewa, PO Box 467, Wellington, New Zealand
E-mail: carls@tepapa.govt.nz (CDS); andrews@tepapa.govt.nz (ALS)

³Corresponding author

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Two new species of the aulopiform family Aulopidae are described from waters off northern New Zealand, eastern Australia and the Tasman Sea. *Hime pyrhistion* sp. nov., previously confused with *Hime japonica* (Günther, 1877), differs from that species in having a higher dorsal fin in both males and females, together with slight differences in colouration. Specific recognition of the two is supported by genetic evidence, with genetic distances of CO1 separating the two of a similar magnitude as distances between *H. curtirostris* (Thomson, 1967), *H. diactithrix* (Prokofiev, 2008) and *H. japonica*. A morphological redescription of *H. japonica* is provided for comparison. A new genus *Leptaulopus* is erected for *Aulopus damasi* Tanaka, 1915 and a second new species *L. erythrozonatus* sp. nov. is described from four specimens collected in northern New Zealand and eastern Australian waters. *Leptaulopus* is distinguishable from the other three genera of the family, *Aulopus* Cloquet, 1816, *Hime* Starks, 1924 and *Latropiscis* Whitley, 1931, most noticeably in having a more slender body, a more posteriorly placed dorsal fin, and finer, more cardiform teeth in the jaws, as well as relatively great genetic distances of CO1. The new species is separable from *L. damasi* by its more numerous dorsal fin rays (15 or 16 vs 13 or 14), lateral line scales (44 vs 33–37) and vertebrae (44 vs 36), smaller eye and longer, more depressed snout. A neotype is designated for *L. damasi*, and a revised description of the species is provided.

Key Words: New Zealand, Australia, *Hime*, *Leptaulopus* gen. nov., CO1, redescription.

Introduction

The number of genera of the aulopiform family Aulopidae has been a subject of recent debate by a number of authors, some recognizing only the single genus *Aulopus* within the family (Mead 1966; Sulak 1977; Lee and Chao 1994; Baldwin and Johnson 1996; Prokofiev 2008) and others arguing that variation between species is sufficient to recognise more than one: *Aulopus* Cloquet, 1816, *Hime* Starks, 1924 and perhaps *Latropiscis* Whitley, 1931 (Thomson 1967; Parin and Kotlyar 1989; Thompson 1998). In 1989, Shimizu and Yamakawa presented a poster at an international conference supporting the recognition of four genera, one undescribed, and eight western Pacific species, four of which were at that time also undescribed. Prior to his death in January 2007, Thompson gathered morphological evidence supporting the view of Shimizu and Yamakawa, which he presented as a poster at a major North American conference in 2006 (Thompson and Stewart 2006). Although both studies remain unpublished, information provided in Thompson's (1998) publication was sufficient for the recognition in recent species and faunal treatments of *Hime* as the valid generic reference for many of the western Pacific spe-

cies (Hoese, Bray and Gates, in Hoese *et al.* 2006; Randall 2007; Fricke *et al.* 2011; Eschmeyer 2012). At present, up to seven nominal species, *Hime curtirostris* (Thomson, 1967), *Hime damasi* (Tanaka, 1915), *Hime diactithrix* (Prokofiev, 2008), *Hime formosanus* (Lee and Chao, 1994), *Hime japonica* (Günther, 1877), *Hime microps* Parin and Kotlyar, 1989, and *Hime purpurissatus* (Richardson, 1843), are regarded as valid *Hime* congeners in the Pacific and eastern Indian Ocean. Several others recognised in the literature remain to be described.

A review of descriptions in the literature of western Pacific species referable to *Hime* reveals little interspecific variation in meristic characters. All species described since *Hime japonica* have prominent modifications of the dorsal fin, at least in males, or distinctly smaller eyes that readily separate them from the latter. Lee and Chao (1994) relied on electrophoretic techniques to verify that males of their *H. formosanus* with filamentous second dorsal fin rays were the same species as females, which have a more typical *H. japonica*-like form. Likewise, *H. curtirostris* and *H. diactithrix* have decidedly prolonged anterior dorsal fin rays in one or both sexes that set them apart from *H. japonica*. The Australasian species of *Hime* described below, though lacking filamentous projections, has a noticeably higher and more