



Three new pygmy seahorse species from Indonesia (Teleostei: Syngnathidae: *Hippocampus*)

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Abstract

Three new species of pygmy seahorse are described from Indonesia: *Hippocampus pontohi* and *H. severnsi* from Bunaken Island, off Sulawesi, and *H. satomiae* from Derawan Island, off Kalimantan. They are considered to be closely related to each other and to *Hippocampus colemani*. All three species are morphologically distinguished from the larger species of seahorses by the following combination of characters: 12 trunk rings, low number of tail rings (26–29), the placement of brooded young within the trunk region of males, and extremely small size (<15 mm HT, <17 mm SL). They can be separated from the previously described species of pygmy seahorses (*H. bargibanti*, *H. denise*, *H. colemani* and *H. minotaur*) based on meristics, proportions, colour and body ornamentation. All three new species have a single gill opening as does *H. colemani*. *Hippocampus pontohi* and *H. severnsi* also share distinctive fleshy appendages with *H. colemani* but can be separated from the latter based on their body shape, raised angular coronet, larger orbit diameter, narrower trunk, fewer tail rings, smaller overall size and in the case of *H. severnsi* also colour. Diagnostic features of *H. satomiae* include 9 pectoral fin rays, 13 dorsal fin rays, spinous exterior, and distinct raised coronet with laterally expanded anterior and posterior flanges.

Key words: *pontohi*, *severnsi*, *satomiae*, new species, taxonomy, Indo-Pacific, marine

Introduction

In recent years, a number of diminutive seahorse species, collectively known as ‘pygmy seahorses’, have been described from Australasia and Asia including: *Hippocampus bargibanti* Whitley 1970 (redescribed by Gomon, 1997), *H. minotaur* Gomon 1997, *H. denise* Lourie & Randall 2003, and *H. colemani* Kuitert 2003. However, these four species may actually only represent a fraction of the existing diversity of pygmy seahorses. Photographs of what appear to be additional undescribed species have appeared in books, dive magazines and on the internet (e.g. Boyer 2007; Kuitert 2000) and we have been fortunate to receive numerous additional photographs from recreational divers worldwide.

Most pygmy seahorses live in close association with particular invertebrate hosts including sea fans (e.g. *Muricella*, *Annella*, *Acanthogorgia* spp), colonial hydrozoans (e.g. *Lytocarpus*, *Antennellopsis*) and coralline algae (*Halimeda*). Their small size, and excellent camouflage, means that they have been long overlooked. As divers explore more habitats, in more detail, undescribed taxa are coming to light. Collecting permission for pygmy seahorses was granted to the senior author in 2001, yet the challenge of finding these diminutive animals meant that it was several years before the new species described herein were obtained.

Pygmy seahorses are currently included, along with all other seahorses, in the genus *Hippocampus* Rafinesque. They differ from the larger seahorses, however, in a number of respects, including vertebral and