



<http://dx.doi.org/10.11646/zootaxa.3635.4.5>

<http://zoobank.org/urn:lsid:zoobank.org:pub:CEB61FC1-DF5A-44C3-9241-89B9127311FC>

## Revision of the peristediid genus *Satyrichthys* (Actinopterygii: Teleostei) with the description of a new species, *S. milleri* sp. nov.

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### Abstract

The Indo-Pacific peristediid genus *Satyrichthys* Kaup, 1873 was first diagnosed as having a broad head with mesethmoid, postocular, parietal and preopercular spines. Later, most ichthyologists characterized *Satyrichthys* by its toothless jaws and strong preopercular spine. Kawai (2008) divided *Satyrichthys* into two genera, *Satyrichthys* and *Scalicus*, on the basis of a phylogenetic hypothesis, and redefined *Satyrichthys*. Seven species of *Satyrichthys* are recognized here, including one new species: *S. clavilapis*, *S. laticeps*, *S. longiceps*, *S. milleri* sp. nov., *S. moluccensis*, *S. rieffeli* and *S. welchi*. The new species is distinguished from its congeners in having equilateral-triangular rostral projections, 4 lip and 4 chin barbels, and no anterior directed spines on the upper lateral row of the caudal peduncle. *Satyrichthys laticeps*, previously treated as a junior synonym of *S. moluccensis*, is regarded as a valid species. The following new synonyms are noted: *S. adeni*, *S. halyi* and *S. magnus* are all junior synonyms of *S. laticeps*; *S. isokawae* is a junior synonym of *S. moluccensis*; and *S. lingi* is a junior synonym of *S. welchi*. In addition, a neotype is designated for *S. moluccensis*.

**Key words:** *Satyrichthys*, Peristediidae, armored searobin, deep waters, Indo-West Pacific, synonymy, neotype

### Introduction

Kaup (1873) established Indo-Pacific peristediid genus *Satyrichthys* on the basis of its broad head with mesethmoid, postocular, parietal and preopercular spines and nominated *Peristethus rieffeli* Kaup, 1859 as type species. Kamohara (1952) characterized *Satyrichthys* by its toothless jaws and strong preopercular spine. Most subsequent authors follow this definition (e.g., Miller 1974, Ochiai & Yatou 1984; Yamada 2002). Recently, Kawai (2008) defined peristediid interrelationships using morphological data, and demonstrated that ‘*Satyrichthys*’ is not monophyletic. He divided ‘*Satyrichthys*’ into two genera *Satyrichthys* and *Scalicus* Jordan, 1923 based on a phylogenetic analysis, and characterized *Satyrichthys* as having upper jaw teeth absent; lateral margin of head smooth; posterior parts of lower lateral rows of bony plates separated from each other; barbels on lower jaw not branched except for posteriormost lip and chin barbels (some species lacking chin barbels); fewer than 20 dorsal fin soft rays; and fewer than 19 anal fin soft rays. Kawai also separated *Satyrichthys* from *Scalicus* by its low numbers of dorsal and anal fin soft rays (at most 19 dorsal and 18 anal rays vs. at least 20 rays in both fins in *Scalicus*).

The genus *Satyrichthys* comprises 14 nominal species. Based on the examination of extant types and other specimens of nominal species, seven species are recognized, including one new species: *S. clavilapis* Fowler, 1938, *S. laticeps* (Schlegel, 1852), *S. longiceps* (Fowler, 1943), *S. milleri* sp. nov., *S. moluccensis* (Bleeker, 1850), *S. rieffeli* and *S. welchi* (Herre, 1925).

### Material and methods

Counts and proportional measurements follow Kawai *et al.* (2004). Standard and head lengths are abbreviated as SL and HL, respectively. Measurements were made to the nearest 0.1 mm. Terminology and counts for bony plates