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## *Symphurus orientalis* (Bleeker) redefined based on morphological and molecular characters (Pleuronectiformes: Cynoglossidae)

MAO-YING LEE<sup>1</sup>, THOMAS A. MUNROE<sup>2</sup> & KWANG-TSAO SHAO<sup>3,4</sup>

<sup>1</sup>Department of Aquaculture, National Taiwan Ocean University, No. 2, Peining Rd., 20224 Keelung, Taiwan.

E-mail: coleoptera@gmail.com

<sup>2</sup>National Marine Fisheries Service National Systematics Laboratory, NOAA, Smithsonian Institution, P.O. Box 37012, National Museum of Natural History, WC-57, MRC-153, Washington, DC 20013-7012. E-mail: munroet@si.edu

<sup>3</sup>Laboratory of Fish Ecology and Evolution, Biodiversity Research Center, Academia Sinica, Nankang, 11529 Taipei, Taiwan.

E-mail: zoskt@gate.sinica.edu.tw

<sup>4</sup>Corresponding author. E-mail: zoskt@gate.sinica.edu.tw

### Abstract

*Aphoristia* (= *Symphurus*) *orientalis* Bleeker 1879, collected from an unspecified depth and location in Japanese waters, is the first described species of symphurine tonguefish from Indo-Pacific waters. The original description with accompanying illustration is based on the unique holotype specimen and provides limited diagnostic characters for this taxon. Subsequent to its description, the holotype of *A. orientalis* has been lost. Limited diagnostic information and loss of the holotype have caused considerable confusion to subsequent systematic studies regarding the identity of this and similar tonguefish species occurring in the Indo-West Pacific region. Several, often-cited, taxonomic accounts purportedly redescribing *S. orientalis* are erroneous because they include more than one species in these redescriptions. These erroneous redescriptions not only confused the species concept of *S. orientalis* (Bleeker), but also confounded the systematics of similar Indo-West Pacific tonguefishes. *Symphurus novemfasciatus* Shen and Lin, described on two specimens collected in southern Taiwan, shares many morphological and pigmentation features similar to those of *S. orientalis*. Morphological data from a large series of tonguefishes collected in Taiwanese and Japanese waters, as well as molecular data from a smaller number of specimens from these locations, including the type locality of *S. novemfasciatus*, confirm the presence of only one species, *S. orientalis* (Bleeker), among these specimens. *Symphurus novemfasciatus* Shen and Lin is therefore regarded as a junior subjective synonym of *S. orientalis*. *Symphurus orientalis* is redefined based on a large series of specimens identified by a consistent set of morphological criteria, and a neotype is designated to stabilize nomenclature and systematics of this species. *Symphurus orientalis* differs from congeners by its combination of: a predominant 1–2–2–2 pattern of interdigitation of proximal dorsal-fin pterygiophores and neural spines, 12 caudal-fin rays, 9 abdominal and 52–55 total vertebrae, four hypurals, 96–101 dorsal-fin rays, 82–89 anal-fin rays, 87–99 longitudinal scale rows, 37–42 transverse scales, 5–11 (usually) distinct, complete or incomplete, blackish-brown crossbands on the ocular side, uniformly white blind side, and conspicuous bluish-black peritoneum. Documenting morphological variation for *S. orientalis* represents the most important step towards clarification of the identity of this and other symphurine tonguefish species from this region. Reliable identification of specimens of *S. orientalis* also provides the foundation for evaluating the status of several other, poorly-known, nominal species of Indo-West Pacific tonguefishes that have features similar to those of *S. orientalis*. Improved identifications will lead to better knowledge on the geographic distribution of *S. orientalis* and these other species, as well as to improve estimates of biodiversity and the biogeography of Indo-West Pacific symphurine tonguefishes.

**Key words:** *Symphurus orientalis*, *Symphurus novemfasciatus*, flatfish, redescription, synonym, tonguefish, species complex, cryptic species

### Introduction and history of the problem

Bleeker (1879) described a new species of tonguefish, *Aphoristia orientalis*, based on a single specimen collected from an unspecified location and depth in marine waters off Japan. This report represents the first reliable description of a member of *Symphurus* captured in the Indo-Pacific region. [*Aphoristia* Kaup, 1858 is currently