

## A New Aulopid Species, *Aulopus formosanus* (Aulopiformes: Aulopodidae) from Taiwan \*

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**Sin-Che Lee and Wei-Chen Chao (1994)** A new aulopid species, *Aulopus formosanus* (Aulopiformes: Aulopodidae) from Taiwan. *Zoological Studies* 33(3): 211-216. The unidentifiable species of *Aulopus* sp.1 of Masuda et al. (1984) is described and named based on observations and electrophoretic comparisons of specimens collected from Kaohsiung, Taiwan. The new species differs from all other members of the genus by lower gill-raker counts; and, among males the second dorsal ray is an extended filament. The two morphological forms are confirmed as members of the same species.

**Key words:** Sexual dimorphism, Electrophoresis, Congeneric species.

Aulopodidae is one of twelve families within the Order Aulopiformes, it is distinguished by having two supramaxillae, an orbitosphenoid bone, and fulcral scales on the caudal region. Only one genus *Aulopus*, with 7 species, is found throughout the tropical and subtropical seas excluding the eastern Pacific (Nelson 1984).

In Taiwan, *Aulopus japonicus* has long been regarded as the only indigenous species within the genus and was first recorded, without description, by Liang in 1951. The subsequent records of this species by Chen (1954 1956 1969 1986) and Shen (1984a,b) are made accordingly. A second species of *A. damasi* was reported by Kao and Lin in 1986. During our recent examination of the specimens stored in National Taiwan University, we found that some specimens had been misidentified as *A. japonicus*. In addition, the species identified as *A. japonicus* by Shen (1984b) is identical to the *Aulopus* sp.1 described by Masuda and his colleagues in 1984. This raises an interest in pursuing a further clarification of the systematic status of the entire *Aulopus* species, since other species may have been included in the previous records by mistake.

After a close examination of 30 specimens (16 males and 14 females) collected from Kao-

hsiung, we found that none of them fit the typical *A. japonicus* description; both sexes have fewer gill-rakers and only the 16 males had a second dorsal ray extending into a filament. The above characteristics quite agree with those shown in pl.61-c of Masuda et al. (1984) as *Aulopus* sp.1.

Since the two morphological types of *Aulopus* are found together in Taiwan, to avoid possible confusion of the 30 specimens with respect to the presence or absence of a dorsal filament, we employed electrophoresis for enzymes and none enzymatic muscle proteins. Thus, the purpose of this paper is to describe a new species and biochemically confirm whether or not the two morphological types belong to one species.

### MATERIALS AND METHODS

A typical *Aulopus japonicus* specimen used here for comparison is preserved and was collected from Nanfanao, Taiwan in November, 1970 (ASIZP 054460; SL. 155.3 mm; male). The 30 specimens used in this study were collected from the coastal waters off Kaohsiung, Taiwan from a depth of 30 m. They were frozen immediately after capture and brought to the laboratory deep freezer ( $-75^{\circ}\text{C}$ )

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