

## A New Goby, *Rhinogobius rubromaculatus* (Teleostei: Gobiidae), from Taiwan

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**Sin-Che Lee and Jung-Ti Chang (1996)** A new goby, *Rhinogobius rubromaculatus* (Teleostei: Gobiidae) from Taiwan. *Zoological Studies* 35(1): 30-35. A new species of gobiid fish, *Rhinogobius rubromaculatus* from the rivers of Taiwan is described. This species is distinguished from other members of *Rhinogobius* by the following criteria: a shorter snout, 27 vertebrae, and red spots on the body, including the fins, with those on the pectoral fin base in 2 transverse rows. This fluviatile species has the largest egg among the Taiwanese *Rhinogobius* members. A low degree of genetic similarity of 0.682 - 0.684 is estimated between the present species and the closely related *R. candidianus* within the species complex. The systematic relationships with other congeneric species are also discussed.

**Key words:** Species description, *Rhinogobius rubromaculatus* n. sp., Allozyme variation.

The genus *Rhinogobius* was first nominated in 1859 by Gill based on the monotypic *R. similis* collected from Japan by Dr. J. Morrow. Species of *Rhinogobius* are very common in Japan, Korea, China, Taiwan, and the Philippines. The name *R. similis* was used for many years until 1947, when Boeseman treated it as a synonym under *Rhinogobius brunneus* (Temminck and Schlegel 1845) after examination of the type specimen (Boeseman 1947). In Taiwan, an earlier account of this genus was given in 1919 by Oshima who recognized five species, *R. candidianus* (Regan 1908), *R. caninus*, *R. formosanus* (Oshima 1919), *R. giurinus* (Rutter), and *R. taiwanus* (Oshima 1919). Of these nominal species, *R. caninus* has been transferred to the genus *Yongeichthys* and *R. formosanus* is considered identical with *R. nagoyae* Jordan and Seale, 1906. The four existing taxa in Taiwan, *R. candidianus*, *R. giurinus*, *R. taiwanus*, and *R. nagoyae*, all with wide color pattern variations were previously placed under *R. similis* or the subsequently adopted name *R. brunneus*. The most recent revision by Aonuma (1992) confirmed that *R. candidianus*, *R. nagoyae*, and *R. taiwanus* are valid species and are in-

cluded in the so-called *R. brunneus* species complex. Beside these, he also mentioned four other undetermined species, namely *Rhinogobius* sp1, *R. sp2*, *R. sp3*, and *R. sp4*. *R. brunneus* has a wide range of color patterns and different ontogenical types which has resulted in a rather confusing taxonomic status. However, electrophoretic differences enabled researchers to subdivide them into several possible distinct species (Masuda et al. 1989). The presently described new species *R. rubromaculatus* fits well with 1 of these unnamed types, *R. sp2*. Unlike the amphidromous types, the presently described species is a fluviatile type whose larvae do not move to the sea but are confined to tributaries in the middle reaches of rivers. It also possesses the largest egg among the Taiwanese members of the complex. We suggest that the presently described taxon differs strikingly from other morphs within the complex by a combination of morphological, ecological, and genetic differences. As for the treatment of the other color types, their relationships and status will be clarified in a subsequent study by I. S. Chen. The purpose of the present study is to analyze both morphometric

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