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Betta mahachaiensis, a new species of bubble-nesting fighting fish (Teleostei: Osphronemidae) from Samut Sakhon Province, Thailand

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Abstract

Betta mahachaiensis, a new species of fighting fish belonging to the *Betta splendens* group, is described. The fish inhabits specifically sites with brackish water and nipa palms in the Samut Sakhon Province, Thailand. It is distinguishable from other members of the *B. splendens* group in having an iridescent green/bluish-green appearance on the brown-to-black body background. The opercular membrane has brown-to-black colour without red streaks or patches. The opercle has two parallel iridescent green or bluish-green vertical bars. Its dorsal, caudal, and anal fin rays are brown to black, contrasting with the iridescent green or bluish-green of the interradial membrane. Black transverse bars are present on at least the proximal two-thirds of the dorsal fin, but not on the caudal fin. The colour of the pelvic fins is brown to black with an iridescent green/bluish-green front margin and a white tip. Females possess similar characters but are less colourful than males.

Key words: *Betta mahachaiensis,* Bubble-nesting fighting fish, Thailand

Introduction

Many people familiar with the fighting fishes of the genus *Betta* recognize members of the four well known wild-type bubble-nesters in the *B. splendens* group: *B. splendens* Regan, 1910, *B. smaragdina* Ladiges, 1972, *B. imbellis* Ladiges, 1975, and *B. stiktos* Tan & Ng, 2005, as distinct species by their distinguishing external features such as iridescence and colour of the operculum, body coloration, bars and patterns on the fins, and colour and iridescence of body scales (Witte & Schmidt, 1992; Tan & Ng, 2005). The species group used herein refers to an assemblage of species sharing a set of diagnostic characters (Tan & Ng, 2005). Regional distribution in thirty-three provinces of Thailand of the wild bubble-nesting bettas, classified according to the above general appearance and morphological measurements, has been reported (Lertpanich, 2007; Lertpanich & Aranyavalai, 2007; Lertpanich & Aranyavalai, 2010). An article on RAPD (randomly amplified polymorphic DNA) identification of a limited number of fish and their locations was also published by Tanpitayacoop & Na-Nakorn (2005). To obtain a more up-to-date and comprehensive understanding of the fish's natural distribution, we began a more extensive countrywide survey of these fishes in 2007 (Monvises *et al*., 2009; Sriwattanarothai *et al.*, 2010). We focused particularly on an iridescent green/bluish-green betta fighting fish, *B.* sp. Mahachai. It has become the centre of our interest and also of ichthyologists and breeders because of its attractiveness and dwindling habitats (Panitvong, 2002; Lertpanich, 2007; Somadee & Kühne, 2012). The habitats of this fish are generally the brackish waters west of Bangkok, where some parts have nipa palms (*Nypa fruticans*) whose bracts hold phytotelmata that may host the parental pair and their bubble nest. The type locality of the new species is near the Maha Chai subdistrict of Samut Sakhon province, west of Bangkok. Because of human activities (e.g., industrial pollution and incursion by housing developments), this fish's biotopes have diminished and become less habitable. In fact, it is a likely candidate for extinction, considering the small area to which the species is now restricted (Vidthayanon, 2005; Griffin, 2005).

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