

**NEW GENUS OF MEGALAMPHODINAE WITH REVISED
TAXONOMY AND OSTEOLOGY OF *HEMIGRAMMUS STICTUS*
(CHARACIFORMES: ACESTRORHAMPHIDAE)**

Bruno F. Melo¹
Rafaela P. Ota²

RESUMO

Recent phylogenomic evidence derived from ultraconserved elements (UCEs) indicates that *Hemigrammus stictus* Durbin 1909 belongs to a distinct genus-level clade within Megalamphodinae of the family Acestrorhamphidae. The phylogeny resulted in a clade with *Petitella* Géry & Boutière 1964, *Hemigrammus stictus*, *Brittanichthys* Géry 1965, *Paracheirodon* Géry 1960, and *Megalamphodus* Eigenmann 1915 in Megalamphodinae, whereas the type species of *Hemigrammus*, the *H. unilineatus* Gill 1858, is placed within Pristellinae. Based on that evidence, we propose a new genus that formally allocates *Hemigrammus stictus*, revise its systematics, distribution, type-series, and provide osteological data from microcomputed tomography (μ CT) images. The newly described genus, which includes *H. stictus*, possesses a derived condition of a dense layer of erythrophones enveloping the caudal peduncle and surrounding areas, as well as a posteriorly placed, oval-shaped humeral mark with a high density of melanophores in both live and preserved specimens. Corrections have been made in the type series described by Durbin, which mistakenly included specimens of curimatids, iguanodectids, and other acestrorhamphids. We redescribe *H. stictus* using type, topotype, and non-type specimens from the Amazonas, Negro, Branco, Xingu, Atabapo, Ventuari, Meta, Orinoco, Essequibo, Berbice, Demerara, Mahaica, and Rupununi rivers. The presence of an intense layer of erythrophones is synapomorphic for the new genus, *Petitella*, *Brittanichthys*, and *Paracheirodon* within Megalamphodinae. μ CT images of the new genus reveals distinctive anatomical modifications in the neurocranium, including a pointed posterodorsal region and a laterally enlarged, square-shaped anteroventral section of the antorbital. Future research will examine the genomic fingerprints associated with the development of erythrophones, which seem relevant to the evolution of Megalamphodinae.

Palavras-chave: Anatomy, *Hemigrammus*, Ostariophysi, Systematics.

¹ Pesquisador, American Museum of Natural History, New York - NY, bmelo@amnh.org

² Professora, Universidade Federal da Grande Dourados, Dourados - MS, rafaelaota@ufgd.edu.br