

ZOOTAXA

1822

**The genus *Peckoltia* with the description of two new species and
a reanalysis of the phylogeny of the genera of the Hypostominae
(Siluriformes: Loricariidae)**

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Magnolia Press
Auckland, New Zealand

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(*Zootaxa* 1822)

76 pp.; 30 cm.

14 July 2008

ISBN 978-1-86977-243-7 (paperback)

ISBN 978-1-86977-244-4 (Online edition)

FIRST PUBLISHED IN 2008 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: zootaxa@mapress.com

<http://www.mapress.com/zootaxa/>

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ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)



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JONATHAN W. ARMBRUSTER

Department of Biological Sciences, Auburn University, 331 Funchess, Auburn, AL 36849, USA; Telephone: (334) 844–9261, FAX: (334) 844–9234. E-mail: armbrjw@auburn.edu.

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Abstract

Peckoltia contains 12 described species, eight of which are considered valid. *Peckoltia arenaria*, *P. filicaudata*, and *P. ucayalensis* are recognized as synonyms of *P. bachi* and *P. kuhlmanni* is recognized as a synonym of *P. vittata*. In addition, two new species are described. The type species of *Peckoltichthys* and *Sophiancistrus* are synonyms of *P. bachi* and both genera are recognized as junior synonyms of *Peckoltia*. The species of *Peckoltia* range throughout much of the Amazon basin, the upper Orinoco, the upper Essequibo, and perhaps the Maroni, and can be identified from most other ancistrins by having dentaries that form angle of 90° or less and from others with angled dentaries by lacking the synapomorphies of those genera. The species of *Peckoltia* vary from one another mostly in coloration. *Peckoltia braueri*, *P. caenosa* n. sp., *P. cavatica* and *P. vittata* lack spots on the head while the other species have them. *Peckoltia braueri* and *P. cavatica* have orange bands in the dorsal and caudal fins and have the bones and plates of the head and nape outlined in black (vs. no orange bands and head plates and bones not outlined in black in *P. caenosa* and *P. vittata*). *Peckoltia caenosa* has a color pattern consisting of dark vermiculations on the head and abdomen (vs. saddles or blotches on the head and faint dark spots on the abdomen in *P. vittata*). Among the species with spots on the head, *P. lineola* n. sp. and *P. vermiculata* have some of the spots combining to form vermiculations (vs. spots free in *P. bachi*, *P. brevis*, *P. furcata*, and *P.*

oligospila) with the vermiculations larger than the pupil in *P. lineola* and narrower in *P. vermiculata* and the vermiculations radiating from a central point in *P. vermiculata* vs. no such pattern in *P. lineola*. *Peckoltia bachi* can be identified from the other species by having widened pelvic-fin spines that can be pulled ventrally such that they are completely ventral and parallel to the body (vs. pelvic-fin spines narrow and cannot be adducted ventral to body) and by having the eye low on the head (vs. high). *Peckoltia brevis* can be identified from *P. furcata* and *P. oligospila* by having well-developed dorsal saddles (vs. saddles faint), no spots on the body behind the nape (vs. spots generally present behind the nape); from *P. oligospila* by having bands in the caudal fin (vs. spots); and from *P. furcata* by having the lower caudal-fin spine longer than the upper (vs. upper spine longer). *Peckoltia furcata* can be identified from *P. oligospila* by having the upper caudal-fin spine longer than the lower (vs. lower spine longer) and by having bands in the caudal fin (vs. spots). *Ancistrus yaravi* had been recognized as a species of *Peckoltia*. The type of *A. yaravi* is lost, but the original description suggests that the species is the senior synonym of *Neblinichthys roraima*. A revised morphological phylogeny demonstrates the lack of support for *Peckoltia* and *Hemiancistrus* as monophyletic, and phenetic definitions are provided for the two genera. The phylogeny also demonstrates a lack of support of the genus *Watawata*.

Key words: Ancistrini, *Hemiancistrus*, *Neblinichthys*, Neotropics, South America

Introduction

Peckoltia is a medium-sized genus of the loricariid catfish subfamily Hypostominae, tribe Ancistrini with 13 species currently recognized from the Orinoco, Amazon, and Essequibo River drainages (Fisch-Muller, 2003; Armbruster, 2004; Armbruster and Werneke, 2005). The name *Peckoltia* is often applied to a wide variety of fishes by scientists and aquarists, but the true *Peckoltia* are fairly rare in collections and are rarely exported for the pet trade. Most species that masquerade as *Peckoltia* are species of *Panaque* (*Panaqolus*) or *Hypancistrus*.

Currently, the state of the taxonomy of *Peckoltia* is confused. No diagnosis has been presented for *Peckoltia*, and the species placed in *Peckoltia* and the potentially related *Hemiancistrus* are in a state of disarray. In the original description of *Peckoltia*, Miranda Ribeiro (1912) did not designate a type species for the genus, although *Chaetostomus vittatus* Steindachner 1881 would be the type by monotypy, and later Gosline (1945) designated *Chaetostomus vittatus* as the type of *Peckoltia*. Ferraris (2007) states that Miranda Ribeiro had intended on publishing *Peckoltichthys* as a replacement name for *Peckoltia*, which was already a genus of plants. The publication of this paper was delayed (Miranda Ribeiro, 1920), and was preceded by the publication of *Peckoltichthys filicaudatus* as the sole species (and the type by monotypy) of *Peckoltichthys* (Miranda Ribeiro, 1917). Isbrücker (1980) recognized *Peckoltichthys* as an unnecessary emendation of *Peckoltia* and kept this arrangement later (Isbrücker, 2001); however, with each genus having a different type species, this is incorrect. Isbrücker *et al.* (2001) described *Sophiancistrus* (type *Hemiancistrus ucayalensis* Fowler 1940). *Peckoltichthys* and *Sophiancistrus* were recognized as synonyms of *Peckoltia* in Fisch-Muller (2003) and Armbruster (2004). Fisch-Muller (2003) also recognized *Ancistomus* as a synonym of *Peckoltia*, but Armbruster (2004) recognized it as a synonym of *Hemiancistrus*.

The species of *Peckoltia* and *Hemiancistrus* were found to be part of several clades (Armbruster, 2004). *Peckoltia ucayalensis* was sister to *Panaque*, and species similar to *Peckoltia vittata* were sister to this larger clade. *Peckoltia sabaji* and *Hemiancistrus* sp. (now described as *H. guahiborum*) were found to be in an unresolved polytomy at the base of the other species of *Peckoltia*, *Panaque*, *Hypancistrus*, and *Parancistrus*. Other species of *Hemiancistrus* were found to be members of *Pseudancistrus*, the Pterygoplichthini, and at the base of the Ancistrini. *Peckoltia* presents a very difficult and confusing taxonomic problem. In this paper, *Peckoltia* is restricted to those species similar to *P. vittata*, the type of the genus, a phenetic definition of *Peckoltia* is provided as the genus does not appear to be monophyletic, two new species of *Peckoltia* are described, *Peckoltichthys* and *Sophiancistrus* are recognized as junior synonyms of *Peckoltia*. *Peckoltia sabaji* is transferred to *Hemiancistrus* until such time as a proper diagnosis of *Hemiancistrus* can be made. *Ancistrus snethlageae* (placed in *Peckoltia* by Fisch Muller, 2003, and Ferraris, 2007, and in *Ancistomus*,