



## Three new species of *Neoplecostomus* (Teleostei: Siluriformes: Loricariidae) from the Upper Rio Paraná basin of southeastern Brazil

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### Abstract

In this study, we describe three new species of the genus *Neoplecostomus*: *N. bandeirante*, from Salesópolis in the state of São Paulo, *N. langeanii* from Muzambinho, in the state of Minas Gerais, and *N. botucatu* from Botucatu, in the state of São Paulo. All of the described species are found in the Upper Rio Paraná basin. The new species are different from each other and from their nominal congeners in their mitochondrial DNA sequences (COI), morphology and meristic traits, in addition to their color patterns. Morphologically, *N. bandeirante* can be distinguished from all congeners by the presence of moderate keels throughout the lateral series of plates and by a naked area between each mid-ventral and ventral plate that is greater in size than the length of these plates. *Neoplecostomus botucatu* is morphologically distinguished by a reduction of the adipose fin and the presence of dark spots that are distributed along the body. *Neoplecostomus langeanii* can be morphologically distinguished by the absence of hypertrophied odontodes and a swollen integument on the head, as well as by morphometric characteristics.

**Key-words:** catfishes, freshwater fishes, molecular identification, Neoplecostominae, Neotropical fishes, taxonomy

### Resumo

No presente estudo, descrevemos três novas espécies do gênero *Neoplecostomus*: *N. bandeirante* de Salesópolis, no estado de São Paulo, *N. langeanii* de Muzambinho, no estado de Minas Gerais e *N. botucatu* de Botucatu, no estado de São Paulo. Todas as espécies descritas são da bacia do Alto Rio Paraná. As novas espécies são diferenciadas por sequências de DNA mitocondrial (COI), morfologia e caracteres merísticos, adicionalmente por aspectos de coloração. Morfologicamente, *N. bandeirante* é diferenciada das congêneres principalmente pela presença de quilhas moderadas ao longo das séries de placas laterais e área nua entre cada placa médio ventral e ventral maior que o comprimento dessas placas. *Neoplecostomus botucatu* é diferenciada morfologicamente pela redução da nadadeira adiposa e presença de pintas escuras em todo o corpo. *Neoplecostomus langeanii* pode ser distinguida morfologicamente pela ausência de odontódeos hipertrofiados e pele intumescida na cabeça, tanto quando por caracteres morfométricos.

### Introduction

*Neoplecostomus*, *Isbrueckerichthys* and *Pareiorhaphis* are three genera of the subfamily Neoplecostominae (Loricariidae) and, as classified by recent molecular analysis, form a monophyletic group (Chiachio *et al.* 2008; Cramer *et al.* 2008). *Neoplecostomus* and *Isbrueckerichthys* are differentiated from the remaining genera of the Neoplecostominae by the presence of a supraopercle and the presence of small platelets that cover the abdomen between the origins of the pectoral and pelvic fins (Armbruster 2004). *Neoplecostomus* is differentiated from *Isbrueckerichthys* by a conspicuous series of enlarged papillae just posterior to the dentary teeth, which are larger than those on the remaining portions of the lower lip, and by abdominal platelets that are closely attached (Langeani 1990).

In the Upper Rio Paraná basin (*sensu* Ringuelet 1975), the first species assigned to *Neoplecostomus* was *Neoplecostomus paranensis*, which is characterized by the lack of, or reduction in size of, the adipose fin (Langeani