

Submission date. 13/04/2026

Associate editor's decision after peer review (05/05/2026).

Dear Dr. Shibatta:

Manuscript ID NI-2026-0052 entitled "Cryptic lineages in Neotropical freshwaters: An integrative approach reveals a new species of *Megalonema* (Siluriformes: Pimelodidae) from the Upper Paraná River basin" which you submitted to the Neotropical Ichthyology, has been reviewed. The comments of the reviewer(s) are included at the bottom of this letter.

The reviewer(s) have recommended publication, but also suggest some minor revisions to your manuscript. Therefore, I invite you to respond to the reviewer(s)' comments and revise your manuscript.

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Because we are trying to facilitate timely publication of manuscripts submitted to the Neotropical Ichthyology, your revised manuscript should be submitted before 05-Jun-2026. If it is not possible for you to submit your revision by this date, we may have to consider your paper as a new submission.

Once again, thank you for submitting your manuscript to the Neotropical Ichthyology and I look forward to receiving your revision.

Sincerely,

Prof. Claudio Oliveira

Associate Editor, Neotropical Ichthyology

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Anonymous reviewer #1**Recommendation.** Major Revision

Comments. Trata-se da proposta de uma nova espécie do gênero *Megalonema* para o Alto Rio Paraná, morfologicamente e geneticamente muito próxima de *Megalonema platanum*, até então a única espécie referida para essa porção da bacia do Paraná/Paraguai. A hipótese de uma nova espécie, com base em taxonomia integrativa, me parece correta; entretanto, sugiro aos autores que incluam em suas análises sequências gênicas de *M. platanum* do Alto Paraná e de *M. tinga* de outras localidades no Alto Paraná, além do Rio Paranapanema, para maior representatividade genética das espécies ao longo da área de distribuição relatada. Ainda, os dados moleculares não poderiam ter sido utilizados em testes de delimitação de espécies? Os autores também se referem à sintopia entre as duas, mas o material listado não parece confirmar isso, o que seria importante esclarecer. Outras sugestões menores foram apresentadas diretamente no arquivo anexo.

Anonymous reviewer #2**Recommendation.** Minor Revision

Comments. This manuscript provides an integrative taxonomic assessment of *Megalonema tinga*, combining morphology, meristics, morphometrics, and mitochondrial DNA (COI). The study addresses a well-known issue in Pimelodidae—morphological conservatism and cryptic diversity—and contributes valuable new data for the genus *Megalonema*.

The species is supported by a consistent combination of evidence, particularly the non-overlapping number of gill rakers and congruent species delimitation analyses. The genetic divergence between *M. tinga* and *M. platanum* (2.0–2.4%) is relatively low. Briefly contextualize this value by referencing similar divergence levels reported for other Neotropical fishes. A short sentence in the Discussion acknowledging that such values may reflect recent divergence would be sufficient. Please, see the .pdf.

Anonymous reviewer #3**Recommendation.** Minor Revision

Comments. Please see uploaded pdf with "comments" and separate review (word doc). This was an easy MS to review because it is well written and the evidence for the new species is strong. The authors made a lot of comparisons in their integrated approach. My suggestions for adding references and improving the text are on the pdf as "Comments".

My guess is that the new species is historically limited to the Upper Paraná by Iguazu Falls, a geographic barrier.

The authors agree in their Discussion, but this is not clear in their section on Distribution – so my suggestion is to replace second sentence in Distribution with “See Discussion for further comments” or something similar.

As the authors’ note, a few sequences from the Lower Paraná fall in the same clade as the new species. The BOLD database was down during my review, so I cannot see more information on these Lower Paraná sequences. If the locality data is associated with Argentina – then I guess the sequences are from the Lower Paraná. In any case, did the authors conduct a morphological analysis on lower Paraná specimens with new species COI? I do not think that any of the lower Paraná specimens examined in the study had the morphology of the new species.

The authors did find *M. platanum* (lower Paraná species) in the upper Paraná (Paranapanema, Corumba, and Piquiri rivers) – which is fascinating. As the authors' suggest, this is probably due to upstream dispersal facilitated by dam construction. A nice early reference for upstream dispersal is Zawadzki, C.H., C.S. Pavanelli and H. Ferreira, Jr. 1996. Caracterização morfológica e distribuição das espécies da família Doradidae (Pisces: Siluriformes) no alto e médio Paraná: registros e comentários. Arquivos de Biologia e Tecnologia 39(2): 409–417. There are probably other studies worth citing as evidence of upstream dispersal in this system.

The *tinga* CO1 in the lower Paraná could be due to *M. tinga* moving downstream, or to hybridization and introgression between species in the upper Parana with *M. platanum* then moving back downstream (or both). The latter seems more likely to me – but that's just speculation. One would need to find specimens morphologically consistent with *M. tinga* in the Lower Parana to confirm the dispersal of this species downstream due to dams (vs.

dispersal of CO1 downstream due to introgression.

In Discussion, authors note that the clade containing *Megalonema* is sister to *Steindachneridion*. I know of no such evidence. Recent phylogenies (Silva et al. 2024) have *Steindachneridion* sister to all other pimelodids. In the Discussion, the authors mention subfamily Luciopimelodinae Driver 1919. This subfamily is not used in recent classifications – so I am not sure what taxa it contains. *Luciopimelodus* is related to *Pinirampus*, *Calophysus*

and *Pimelodina*. So, Calophysinae Eigenmann 1890 would be an older name for this clade (but Calophysinae is also obsolete). Recent classifications (e.g., Silva et al. 2024) place the aforementioned genera in a clade within the subfamily Pimelodinae Bonaparte 1835. I think this paragraph on Luciopimelodinae should be deleted from the MS.

Finally, the authors mention that because of a reservoir, the Tibagi might be a refuge for fishes native to the upper Paraná. This is an interesting observation. Has this been proposed elsewhere? Others have noted the upper Paranapanema as important for native species (Zoccal Garcia et al. 2019, Ribeiro Jarduli et al. 2020) but I am not sure if anyone has noted the Capivara reservoir to be "good" because it somewhat isolates the Tibagi (or other upper

Paranapanema tribes) from invasive migrants. If this is a new (or little known) observation, then it should be included in a sentence added to the Abstract. In any event, the UHE Capivara dam location (and Iguazu Falls location) should be indicated on Fig. 3 – it would be interesting to show localities where *M. platanum* and *M. tinga* were found together in this study.

This is a signed review.

Mark Sabaj

Author's Rebuttal Letter (02/06/2026).

Dear editor,

We acknowledge the reviewers for their valuable comments and suggestions. The manuscript was corrected and the Discussion was totally reorganized and rewritten. We respond for the questions in the rebuttal letter file. We hope the manuscript is suitable to be published with our corrections. Sincerely, the authors.

Associate editor's decision after peer review (08/06/2026).

Dear Dr. Shibatta:

It is a pleasure to accept your manuscript entitled "Cryptic lineages in Neotropical freshwaters: An integrative approach reveals a new species of *Megalonema* (Siluriformes: Pimelodidae) from the Upper Paraná River basin" in its current form for publication in the Neotropical Ichthyology.

Congratulations for the acceptance of your article, and be aware on the following topics:

1. Publication Fee

NI will charge a publication fee if none of the co-authors is an active SBI member. This measure is essential to strengthen SBI and thus ensure the continuity of our journal, scientific society, and biannual meetings. SBI is not limited to Brazilians but is open to anyone interested in freshwater and marine Neotropical fishes. More details on SBI are available at <https://www.sbi.bio.br/>. Please email tesouraria.sbi@gmail.com to confirm whether any of your co-authors is a current SBI member and to activate your SBI membership if needed. Otherwise, if you will cover the publication fee of R\$1.000, please inform us at the same email. For authors outside Brazil, the fee will be converted to US dollars based on the official exchange rate on the date of payment. The only exceptions to this fee are invited articles.

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Please send an e-mail to neoichth@nupelia.uem.br within five working days to let us know you are aware of all the important points mentioned above.

Thank you for your fine contribution. On behalf of the Editors of the Neotropical Ichthyology, we look forward to your continued contributions to the Journal.

Sincerely,

Prof. Claudio Oliveira

Associate Editor, Neotropical Ichthyology

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Neotropical Ichthyology

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