



<http://dx.doi.org/10.11646/zootaxa.3846.4.6>

<http://zoobank.org/urn:lsid:zoobank.org:pub:DA610653-827C-4F13-94E9-CF945D146DE5>

## Description of *Hylopanchax paucisquamatus* (Cyprinodontiformes: Poeciliidae), a new lampeye species from the Odzala-Kokoua National Park, Republic of Congo

RAINER SONNENBERG<sup>1</sup>, JOHN P. FRIEL<sup>2</sup> & JOUKE R. VAN DER ZEE<sup>3</sup>

<sup>1</sup> Zoologisches Forschungsmuseum Alexander Koenig, Department of Vertebrates, Adenauerallee 160, D-53113 Bonn, Germany. Corresponding author, e-mail: [r.sonnenberg.zfmk@uni-bonn.de](mailto:r.sonnenberg.zfmk@uni-bonn.de).

<sup>2</sup> Cornell University Museum of Vertebrates, 159 Sapsucker Woods Road, Ithaca, NY 14850-1923, USA.

<sup>3</sup> Royal Museum for Central Africa, Vertebrate Section, Ichthyology, Leuvensesteenweg 13, B-3080 Tervuren, Belgium.

### Abstract

A new deep-bodied *Hylopanchax* species is described from the northwestern Congo basin. *Hylopanchax paucisquamatus*, new species, was collected in the Odzala-Kokoua National Park in the Likouala River drainage of the Republic of Congo. It differs from its congeners, including the deep-bodied *H. leki* and *H. ndeko*, by a unique combination of morphological characters, including low number of mid-longitudinal and transverse scales, number of dorsal-fin rays, and position of dorsal-fin origin in relation to anal-fin. It is the only deep-bodied species currently known outside the Kasai River drainage.

### Resumé

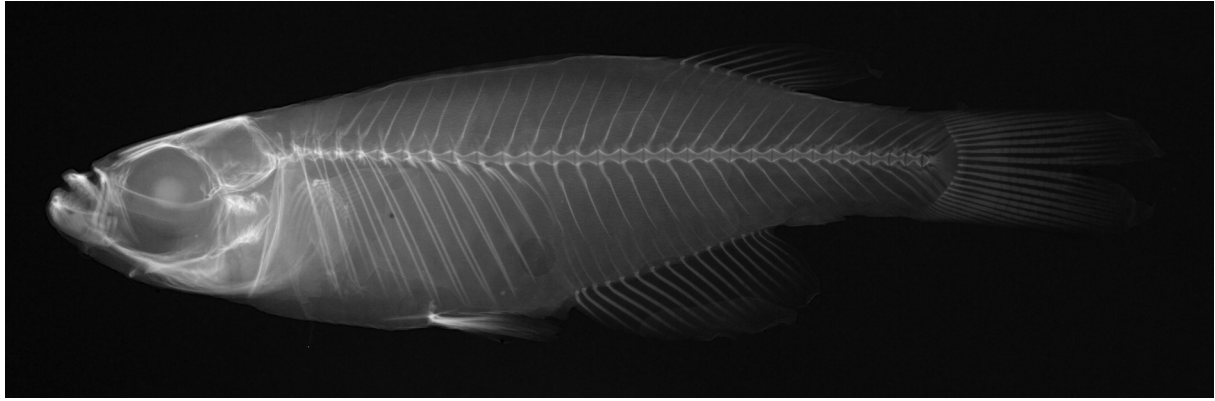
Une nouvelle espèce à corps très haut, *Hylopanchax*, du nord-ouest du bassin du Congo est décrite. *Hylopanchax paucisquamatus*, nouvelle espèce, a été collectée dans le Parc National d'Odzala-Kokoua, dans le bassin versant du fleuve Likouala en République du Congo. Celle-ci diffère de ses congénères, les espèces à corps très haut, *H. leki* et *H. ndeko*, par une combinaison unique de caractères morphologiques, incluant le faible nombre d'écaillles médianes et transversales, le nombre de rayons de la nageoire dorsale, et la position de la nageoire dorsale par rapport à la nageoire anale. C'est la seule espèce à corps très haut actuellement connue en-dehors du bassin versant de la Kasai.

**Key words:** Congo basin, Likouala drainage, morphology, taxonomy

### Introduction

The genus *Hylopanchax* Poll & Lambert, 1965 is found within the Congo and Ivindo river basins (Poll & Lambert 1965; Huber 1982; Wildekamp 2004; Van der Zee et al. 2007, 2013) in Cameroon, the Democratic Republic of Congo, Gabon, and the Republic of Congo (Fig. 1). Until recently only two species, *H. stictopleuron* (Fowler, 1949) and *H. silvestris* (Poll & Lambert, 1958) were described, and the latter was considered a junior synonym of the former (Huber 1982). In a recent review of the genus (Van der Zee et al. 2013), three new species were described, the diagnosis of the genus was refined, and following Lazara (2001), both previously described species were considered valid. Within the paper, the occurrence of additional undescribed species in the Congo and Ivindo river basins is indicated.

In 2002, one of the authors (JPF) made, together with S. Lavoué and J. P. Sullivan, an ichthyological survey of the Odzala-Kokoua National Park in the Republic of Congo (Sullivan et al. 2004). From this collection two new species of *Hemigrammocharax* and *Nannocharax*, and six new species of *Petrocephalus* have recently described (Jerep & Vari 2013, 2014; Lavoué 2011; Lavoué & Sullivan 2014). The collection also contains an unknown lampeye species, which was mentioned by Van der Zee et al. (2013) as *Hylopanchax* sp. Odzala and is described herein.



**FIGURE 4.** *Hylopanchax paucisquamatus*, new species, holotype, male, CUMV 97967, 24.0 mm SL, X-ray.

## Discussion

The poeciliid fauna of the Congo basin is still poorly known and the occurrence of undescribed species in the genus *Hylopanchax* was mentioned in Van der Zee et al. (2013). Following this publication, we were able to study the specimens of the herein-described *H. paucisquamatus*, which is currently only known from the types. By body shape it is closest to the deep-bodied species *H. leki*, *H. ndeko*, and *H. sp. Bena Tshadi*, but it differs from these species by its unique combination of several characters. Before the description of the former two species, the occurrence of deep-bodied species in the genus was unknown and they were in part identified as species of the probably closely related genus *Hypsopanchax*. Now *Hylopanchax* also includes several deep-bodied species, which made an adjustment of the genus diagnosis necessary (Van der Zee et al. 2013), and we are currently studying the potential new deep-bodied *Hylopanchax sp. Bena Tshadi* from the southeastern Congo basin. Interestingly, the distribution of these other three deep-bodied species seems to be restricted to tributaries of the Kasai River basin (Fig. 1).

The geographically closest congeners are the more slender *H. stictopleuron*, *H. sp. Cameroon*, and *H. sp. Gabon*. The latter seems to be restricted to the Ivindo basin, whereas the former two species are found in the Congo River basin (Fig. 1). By morphology these three species and *H. silvestris* form a group of slender species with a more posterior origin of the dorsal-fin and a higher number of mid-longitudinal scales.

The more slender species are also known, with the exception of *H. sp. Cameroon*, from more collections over much larger areas (Fig. 1, Van der Zee et al. 2013) than the deep-bodied species. In part this might be explained by a misidentification of the deep-bodied species as *Hypsopanchax* (Van der Zee et al. submitted). Unfortunately, for the moment, detailed studies of their phylogeny and ecology that might help to explain the relationships of the different species and their evolution are lacking.

## Acknowledgements

The authors thank P. Bartsch and C. Lamour (MfN, Berlin, Germany), G. Boden, M. Parrent, T. Musschoot, J. Snoeks, and E. Vreven (RMCA, Tervuren, Belgium), F. Herder, S. Güse, and J. Schwarzer (ZFMK, Bonn, Germany), D. Neumann and U. Schliewen (ZSM, Munich, Germany) for support and access to the collections under their care, E. Fellman for the translation of the Abstract into french, and R. H. Wildekamp and T. Woeltjes (research associates RMCA) for sharing their knowledge on the lampeye cephalic lateral line system.

## References

Fowler, H.W. (1949) Results of the two Carpenter African expeditions, 1946–1948. Part II. The fishes. *Proceedings of the Academy of Natural Sciences of Philadelphia*, 101, 263–265.

- Hoedeman, J. (1958) The frontal scalation pattern in some groups of toothcarps (Pisces: Cyprinodontiformes). *Bulletin of Aquatic Biology*, 1, 23–28.
- Huber, J.H. (1982) Rapport de synthèse sur l'expédition au Congo (1978) Cyprinodontés récoltés et *Micropanchax silvestris* synonyme de *stictopleuron*. *Revue française d'Aquariologie*, 9 (1), 1–13.
- Huber, J.H. (2007) *Killi-Data 2007. Updated checklist of taxonomic names, collecting localities and bibliographic references of oviparous cyprinodont fishes (Atherinomorpha, Pisces)*. Killi-Data Editions, Paris, 410 pp. [German Edition]
- Jerep, F.C. & Vari, R.P. (2013) New species of *Hemigrammocharax* (Characiformes: Distichodontidae) from the northwestern Congo River basin. *Copeia*, 2013 (1), 31–37.  
<http://dx.doi.org/10.1643/ci-12-059>
- Jerep, F.C. & Vari, R.P. (2014) New species of *Nannocharax* (Characiformes: Distichodontidae) from the northwestern Congo River basin, with an appraisal of *Hemigrammocharax*. *Copeia*, 2014 (1), 44–49.  
<http://dx.doi.org/10.1643/ci-13-048>
- Kramer, B., Van der Bank, F.H. & Wink, M. (2004) *Hippopotamyrus ansorgii* species complex in the Upper Zambezi River System with a description of a new species, *H. szaboi* (Mormyridae). *Zoologica Scripta*, 33, 1–18.  
<http://dx.doi.org/10.1111/j.1463-6409.2004.00132.x>
- Lavoué, S. (2011) African weakly electric fishes of the genus *Petrocephalus* (Osteoglossomorpha: Mormyridae) of Odzala National Park, Republic of the Congo (Lékoli River, Congo River basin) with description of five new species. *Zootaxa*, 2600, 1–52.
- Lavoué, S. & Sullivan, J.P. (2014) *Petrocephalus boboto* and *Petrocephalus arnegardi*, two new species of African electric fish (Osteoglossomorpha, Mormyridae) from the Congo River basin. *ZooKeys*, 400, 43–65.  
<http://dx.doi.org/10.3897/zookeys.400.6743>
- Lazara, K.J. (2001) *The Killifishes. An annotated checklist, synonymy, and bibliography of recent oviparous cyprinodontiform fishes. The Killifish Master Index. 4<sup>th</sup> Edition*. The American Killifish Association, Cincinnati, Ohio, 624 pp. + 3 Appendices.
- Poll, M. & Lambert, J.G. (1958) Un Cyprinodontide et un Clariide nouveaux de la grande forêt congolaise. *Revue Zoologie et de Botanique Africaines*, LVIII, 328–339.
- Poll, M. & Lambert, J.G. (1965) Contribution à l'étude systématique et zoogéographique des Procatopodinae de l'Afrique central (Pisces, Cyprinodontidae). *Bulletin des Séances, Académie Royale des Sciences d'Outre-Mer*, 2, 615–631.
- Scheel, J.J. (1968) *Rivulins of the Old World*. TFH Publications, New Jersey, 480 pp.
- Sullivan, J.P., Lavoué, S. & Friel, J.P. (2004) A la découverte des poissons du parc national d'Odzala. *Canopée*, 28, 17–21.
- Van Bergeijk, W.A. & Alexander, S. (1962) Lateral line canal organs on the head of *Fundulus heteroclitus*. *Journal of Morphology* 110, 333–346.  
<http://dx.doi.org/10.1002/jmor.1051100303>
- Van der Zee, J.R., Sonnenberg, R. & Schliewen, U.K. (2013) Description of three new species of *Hylopanchax* Poll & Lambert, 1965 from the central Congo Basin (Cyprinodontiformes: Poeciliidae: Procatopodini) with a redefinition of the genus. *Zootaxa*, 3701 (1), 35–53.  
<http://dx.doi.org/10.11646/zootaxa.3701.1.3>
- Van der Zee, J.R., Woeltjes, T. & Wildekamp, R.H. (2007) Poeciliidae. In: Stiassny, M.L.J., Teugels, G.G. & Hopkins, C.D. (Eds.), *The Fresh and Brackish Water Fishes of Lower Guinea, West-Central Africa. Vol. II*. IRD Editions, Paris, pp. 48–79.
- Wildekamp, R.H. (2004) *A World of Killies. Atlas of the Oviparous Cyprinodontiform Fishes of the World. Vol. 4*. The American Killifish Association, Elyria, Ohio, 398 pp.