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Descriptions of five new species of *Metriaclima* (Teleostei: Cichlidae) from Lake Malaŵi, Africa

JAY R. STAUFFER JR.¹, KRISTIN BLACK² & ADRIANUS F. KONINGS³

¹*School of Forest Resources, The Pennsylvania University, University Park, PA 16802, USA. E-mail: vc5@psu.edu*

²*3 Mason Drive, North Grafton, MA 01536*

³*Cichlid Press, El Paso, TX 79913, USA. E-mail: info@cichlidpress.com*

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Abstract

Lake Malaŵi is known for its endemic haplochromine species flock, most notably the rock-dwelling cichlids known as mbuna. One of the larger genera of mbuna is *Metriaclima*, a group consisting of 31 described species (including the five described herein) and approximately 45 recognized unique populations. *Metriaclima* is diagnosed by its feeding behavior and several morphological characteristics including the angle of the vomer and the presence of bicuspid teeth in the outer row of both the upper and lower jaws. *Metriaclima zebra*, the type species for the genus, was described based on a single specimen. While the collection location of this holotype is not known, based on the travel records of its collector, it is likely that the specimen originated from Likoma Island. The holotype was therefore compared to specimens from several localities around this island and was found to be morphologically indistinguishable from some of these.

This study includes the morphological analysis of 496 specimens of *Metriaclima* belonging to 31 collections from Lake Malaŵi. Morphometric differences were analyzed and the relationships among several distinguishable populations of *Metriaclima zebra* were investigated.

Our study further resulted in the description of the following five new species belonging to the *M. zebra* species complex: *M. pambazuko*, *M. lundoense*, *M. midomo*, *M. tarakiki*, and *M. nigrodorsalis*. These species were distinguished and described based on color patterns, morphometric, meristic, and ecological differences. These new species were compared with and distinguished from nearby populations of *Metriaclima* having similar pigmentation patterns and/or similar ecological niches. An artificial dichotomous key to the described species of *Metriaclima* is presented.

Key words: Mbuna, zebra cichlid, pigmentation patterns