

ABSTRACT

Ongoing studies of molecular phylogenetics of freshwater fishes from major river drainages and endorheic basins across central and southern Kenya (Lake Victoria, Lake Naivasha, Ewaso Nyiro, Ewaso Ngiro, Athi, Tana and Pangani basins) have revealed evidence of unrecognized diversity within the Redspot Barb, *Barbus kerstenii* Peters. Here we present results of sequencing of nuclear and mitochondrial genetic markers for populations of *Barbus kerstenii* and *B. neumayeri* from throughout the study area, and a preliminary analysis of morphological differences between the two species. *Barbus kerstenii* was described from the Paganini Basin in Tanzania. The reported range of *B. kernstenii* in Kenya extends across southern Kenya from the Pangani system to Lake Victoria. We detected genetically distinct populations of *B. kernstenii* in the Athi River system and the Lake Victoria basin. *Barbus neumayeri* Fischer was described from rivers of the Lake Natron Basin, Kenya. The reported distribution of *B. neumayeri* in Kenya extends from Lake Victoria to the Athi Basin. *Barbus kerstenii* and *B. neumayeri* are not closely related genetically, yet our genetic results provide clear evidence of ongoing hybridization and/or past mitochondrial introgression between *B. kerstenii* and *B. neumayeri* across an area, extending from Lake Naivasha to the Athi River system.