

## **Cryptic diversity and phylogenetic structuring in southern African mountain catfish, *Amphilius* spp.**

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IBSG13060718663**

Globally, freshwater fishes have become increasingly imperilled by multiple threats. Poor understanding of biodiversity has been identified by the Convention on Biological Diversity (CBD) as a major impediment to effective conservation planning and management of threatened taxa. In South Africa in particular, the continued recognition of many freshwater fishes as having broad geographic ranges reflects the lack of systematic knowledge and contributes to the biodiversity crisis in the country. For example two mountain catfishes, *Amphilius uranoscopus* and *A. natalensis* are both currently considered to have broad geographic ranges spanning several isolated river systems and major drainage divides. Such broad geographic ranges are unexpected for freshwater restricted taxa, particularly for species that are characteristic of mountain streams where transfer to adjacent drainages is likely to depend on rare events such as river captures. There are serious conservation concerns because local extinctions of several populations of mountain catfishes have been reported, mainly as a result of forestry activities and introduction of trout. There is therefore urgent need for understanding the extent of genetic and morphological divergence in order to better manage remnant populations of these species. The proposed study aims to integrate genetic (mitochondrial and nuclear genes) and morphological data to test the hypothesis that both *A. uranoscopus* and *A. natalensis* comprise several undescribed species. The study will use preserved DNA tissue samples and voucher specimens available at the South African Institute for Aquatic Biodiversity (SAIAB). Unique lineages will be identified and new species will be described and their distributions mapped. Findings of this research will contribute towards fulfilment of national policy on biodiversity conservation enshrined in the National Biodiversity Act and addressing the “taxonomic impediment” identified by the CBD.