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YOU SHALL NOT PASS: A DISTINCT POPULATION OF GIRDLED LIZARD IN NORTHEASTERN NAMIBIA

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Abstract - Northeastern Namibia is a biodiverse region that remains significantly understudied. Of particular interest is a species of Girdled Lizard from the genus *Cordylus* located in the Otjihepa and Baynes Mountains. Few specimens were ever collected and nearly all were lost. Currently, its phylogenetic placement requires further investigation and its biology and ecology is surmised from congeners. This basic information is crucial for general conservation and has elevated importance for girdled lizards because they are CITES II protected due to high desirability in the illegal wildlife trade. In the description of *Cordylus namakuiyus*, morphological analysis includes a juvenile specimen from the Otjihepa Mountains and suggests that it shares characteristics from both *C. namakuiyus* and *Cordylus machadoi*. Further, a principal component analysis clustered the Otjihepa individual with *C. machadoi*, but was placed at the edge of the morphospace. We identified an uncatalogued specimen in the National Museum of Namibia (adult, male) collected from the Otjihepa mountains and conducted comparable analyses to identify any differentiation and phylogenetic placement. Results suggest a taxonomic change to the Namibian *Cordylus* species. Mensural measurements and meristic characters cluster with *C. namakuiyus*. High resolution x-ray computed tomography revealed osteoderms completely different from *C. machadoi* and more similar to *C. namakuiyus*. We speculate that a significant barrier, the Cunene River, has restricted gene flow between *Cordylus* populations to the north and south resulting at a minimum in morphological differentiation. Our study identifies the *Otjihepa Cordylus* as more closely related to *C. namakuiyus*, but requires further molecular investigation to determine cryptic speciation.

Keywords: biogeography, Cordylidae, CT-scan, morphology, taxonomy