

Genetic Evidence in Support of the Recognition of the Kaputar Rock Skink, one of New South Wales' Most Range-restricted Vertebrate Species

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ABSTRACT. The existence of the Kaputar Rock Skink, a morphologically distinct *Egernia* population restricted to the Nandewar Ranges in northern New South Wales, has been known for decades. However, no comprehensive description or diagnosis of the taxon has been published in the scientific literature, and its distinctiveness largely assumed. As part of a study investigating the genetic differentiation of faunal populations on the Nandewar Range, comparisons between the Kaputar Rock Skink and east Australian *Egernia striolata*-group species were undertaken. The results indicate that the Kaputar Rock Skink is a distinct genetic lineage, showing species-level divergence from other *Egernia* species. Field studies suggest the Kaputar Rock Skink is restricted to an extremely narrow band of rock habitat above 1000 m or more in elevation, and only occupies retreat and sheltering sites near cliff edges or in areas of extensive outcropping rock. It now appears to be a cool-adapted species constrained to high elevation habitat by niche conservatism. Field studies suggest the availability of suitable habitat on the summit areas of the Nandewar Ranges is highly limited, making it vulnerable to several potentially threatening processes, including anthropogenic climate change. The name *Contundo roomi* was erected for the Kaputar Rock Skink by Wells & Wellington in 1985, and we recommend *Egernia roomi* (Wells & Wellington, 1985) as the name for the Kaputar Rock Skink.

Introduction

The Kaputar Rock Skink, a taxon restricted to the Nandewar Ranges at the eastern edge of the northwest plains of New South Wales (see Fig. 3), has been known for over 25 years, and has appeared as an unnamed species of *Egernia* in the *Field Guide to Reptiles of New South Wales* (Swan *et al.*, 2014; 2017) for over a decade. However, no comprehensive

morphological description or diagnosis for the species has been presented in the scientific literature. Independent information resulting from our recent field and genetic studies support recognition of the Kaputar Rock Skink as a distinct species, one with specific and highly-restricted habitat preferences, and is of particular conservation concern.

The Nandewar Range is the eroded remnant of a massive shield volcano, and rises out of the surrounding landscape

Keywords: Scinidae; *Egernia roomi*; Kaputar; Nandewar Range; Cytochrome b; montane; threatened; climate change

Taxonomic registration: (LSID publication) <http://zoobank.org/297B60F9-4BDF-44A9-911D-40404FF939DC>

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