Genus *Tropidosaura* Fitzinger, 1826—mountain lizards

Tropidosaura currently comprises four species endemic to South Africa and Lesotho. A recent molecular study by Engleder *et al.* (2013) confirmed that *T. cottrelli* and *T. essexi* are sister taxa, but showed that *T. gularis* was more closely related to *T. montana*. The phylogeography of the genus and relationships within it, especially the status of the three subspecies of *Tropidosaura montana*, is being reviewed (M.J. Cunningham unpubl. data). These lizards are associated with mountainous areas and generally occur in moist, grassy habitats. Females produce clutches of 2–8 eggs (Branch 1998). Montane populations are barely affected directly by human activities but may be influenced by climate change. Most species are affected to some extent by changing fire regimes, and in grassland areas by changes in grazing intensity. The range of *T. cottrelli* is now known to be smaller than was previously thought and the species is listed here as Near Threatened. All other species are placed in the category Least Concern.

Tropidosaura cottrelli (Hewitt, 1925)

COTTRELL'S MOUNTAIN LIZARD

Michael J. Cunningham, Andrew A. Turner & Michael F. Bates

Global: Near Threatened

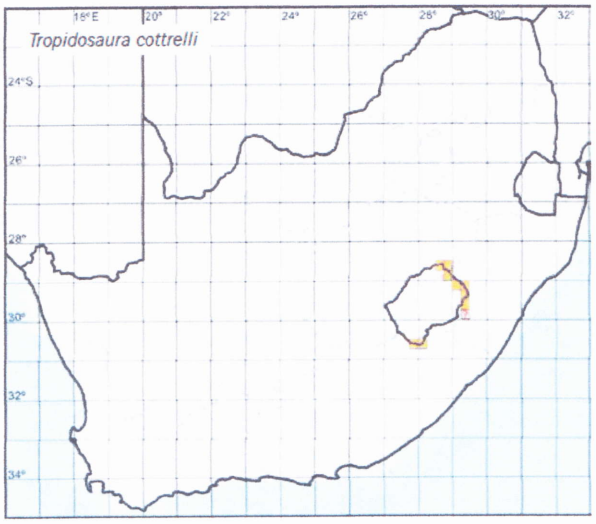
Endemic

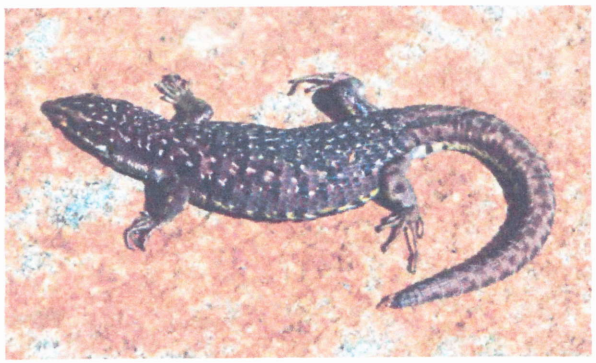
Taxonomy: *Basutosaura cottrelli* Hewitt, 1925 was described as a new genus and species, distinguished from *Tropidosaura* (*T. montana* Duméril & Bibron, 1839 and *T. burchelli* Smith, 1849) by the presence of a single post-nasal scale (versus two post-nasals), each nostril being pierced in a single scale (versus nostrils pierced between three scales), and by the keeled but not acuminate rhombic dorsal scales (versus keeled and spine-tipped elongate dorsal scales) (Hewitt 1925). The subsequent discovery and description of *T. m. rangeri* Hewitt, 1926, *T. essexi* Hewitt, 1927 and *T. gularis* Hewitt, 1927 bridged the geographical and morphological gap between these genera (Hewitt 1926, 1927). Consequently, Hewitt (1927) transferred this species to *Tropidosaura*, but assigned it, together with *T. essexi* and *T. gularis*, to the subgenus *Basutosaura*. A recent molecular study by Engleder *et al.* (2013) confirmed that *T. cottrelli* and *T. essexi* are sister taxa, but showed that *T. gularis* was more closely related to *T. montana*.

Distribution: Endemic to the Maloti-Drakensberg highlands of South Africa and Lesotho (Branch 1998; Bates 2013), from Ben McDhui in the south to Mont-aux-Sources and Namahali Pass in the north. It probably also occurs in the area between the known northern and southern localities. Its range includes areas on the periphery of the Eastern Cape, KwaZulu-Natal and Free State, along the Lesotho border, as well as areas on the higher ranges in eastern and northern Lesotho. Within this area, the species is sparsely distributed along the crests of mountain ridges and along the escarpment summit edge. This area is poorly surveyed and although *T. cottrelli* has been recorded from only nine out of 37 QDGCs with suitable bioclimates (M.J. Cunningham unpubl. data), it is likely that there are many additional populations of this species within this well-demarcated range. The type locality of 'Nemahedi Camp' (on the escarpment summit at Namahali Pass) is located within Free State Province, South Africa. A specimen (TM 41593) record from 'Black Mountain' (= ?Swartberg; 2929CD, question mark on map) in East Griqualand is probably incorrectly assigned to this locality because it would extend the geographical, habitat and climatic range beyond that generally known for this species.

EOO: 12 815 km² (confidence: medium); AOO: 52 km² (confidence: low).

Habitat: Found on stony, heath- and grass-covered mountain tops near the escarpment edge of the Drakensberg and





Tropidosaura cottrelli—Drakensberg M.F. Bates

Tropidosaura cottrelli—above Chain Ladders, Drakensberg, FS M.F. Bates

along the interior high ridges of Lesotho, at altitudes of 2 467–3 278 m. The exposed, weather-beaten sites where this species occurs typically include similar proportions of cover by small boulders, low shrubs (particularly *Erica* and Asteraceae), short grass and bare patches of gravel or bedrock. It is known to shelter among rocks (Bates 2005c).

Vegetation type: Gd 10 Drakensberg Afroalpine Heathland; Gd 8 Lesotho Highland Basalt Grassland.

Assessment rationale: Has a limited high-altitude distribution (EOO <20 000 km² [B1], an AOO that is below the Endangered threshold—i.e. <500 km² [B2]), and is likely to be threatened by climate change (global warming). Frequent fires and overgrazing are relatively minor threats causing some decline in the quality of habitat. Specimens are seldom found and appear to occur in low densities, even in apparently suitable habitat (M.J. Cunningham unpubl. data). However, the population is not severely fragmented, nor does it appear to be fluctuating.

Threats: Climate change (warming) may reduce available habitat and therefore constitutes a major threat to *T. cottrelli*, which has limited opportunity for compensatory migration. There are also indications of intensification of grazing by stock across the Lesotho highlands and in adjacent areas of South Africa above the escarpment, including areas inhabited by this species (Stewart 2001). It is intrinsically threatened by its restricted range and possibly by anthropogenic changes in fire regime in some areas. Despite these threats, there is little evidence that the species has declined, and there are many areas with suitable habitat that have not yet been surveyed but that may support these lizards.

Conservation measures: Conduct annual monitoring for the species at 2–3 sites of known occurrence spanning its distribution, such as Mont-aux-Sources and Ben McDhui. Conduct surveys of suitable areas where the species has not yet been collected, so as to obtain better information on the threats facing it.