

## Chapter 2

### Herpetofauna of the Kaijende Highlands, Enga Province, Papua New Guinea

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#### SUMMARY

A total of 17 frog and two reptile species were documented from montane forests and montane grassland habitats in the Kaijende Highlands region of Enga Province, Papua New Guinea. At least eight of the frog species are undescribed and one of these probably warrants recognition as a new genus. This survey documented the second known population of *Callulops glandulosus*, previously known only from a single specimen collected at 3,340 m elevation on Mt. Kerewa, and a very large species of *Albericus* found at Lake Tawa may represent only the second known population of *A. fafniri*. One other frog, *Litoria becki*, was previously known only from montane grassland on Mt. Wilhelm and Mt. Giluwe and was considered a Vulnerable species in the recent Global Amphibian Assessment. The reptile fauna was depauperate, reflecting the high-elevation focus of this survey. However one of the two species documented, a skink of the genus *Sphenomorphus*, may represent an undescribed taxon.

The open, montane *Cyathea*-grassland habitats typical of the highest elevations of the Kaijende Highlands represent a significant habitat for at least four frogs. Two of these are undescribed species that did not occur in upper montane forests and they are probably restricted to high-montane grasslands. These grassland habitats may be under threat from global warming and the frogs and other fauna that are confined predominantly or exclusively to them should be considered at risk of extinction.

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#### INTRODUCTION

The high-montane herpetofauna of New Guinea's central mountainous spine has been patchily documented. The Archbold Expeditions to Mt. Michael, Mt. Wilhelm, Mt. Dayman and the Lake Habbema area made significant collections of high-elevation herpetofauna that were examined predominantly by R.G. Zweifel at the American Museum of Natural History (e.g. Zweifel 1972). Other significant, but sporadic collections of amphibians and reptiles at high elevations in New Guinea have revealed a fauna dominated by microhylid frogs and small scincid lizards in the genera *Papuascincus* and *Lobulia* (Greer et al. 2005, Zweifel et al. 2005). Large reptiles are generally rare due to the persistently cold wet conditions at these elevations, but a spectacular exception is the rarely encountered Boelen's Python which occurs at elevations exceeding 2,000 m (O'Shea 1996).

Frogs in New Guinea occur at elevations up to 4,000 m elevation (Zweifel 2000) although species richness attenuates markedly at elevations above about 2,000 m, and is extremely low above 3,000 m. The herpetofauna occurring at these high elevations includes a number of interesting evolutionary lineages that are poorly represented at lower elevations (e.g. Greer et al. 2005) and a number of species that appear to be restricted to a unique, alpine grassland/*Cyathea* habitat. Because high-montane environments are thought to be at great risk from cli-