
Lizard discoveries and rediscoveries in the New Caledonian region

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Abstract

Despite more than 150 years of herpetological research in New Caledonia, including 40 years of fine-scale sampling across the territory as a whole, novelties continue to be found that shed light on evolutionary patterns and processes in the southwest Pacific. The most noteworthy of these is the discovery of a new genus and species of giant gecko with semi-aquatic habits. It is not closely related to the other giant geckos (*Rhacodactylus*, *Mniarogekko*, and *Correlophus*), but rather is sister to *Dierogekko*, the smallest-bodied genus in the region. Morphologically, however, it resembles species of the New Zealand genus *Dactylocnemis*, one over very few other geckos globally to exhibit any aquatic tendencies. It also shares some features with the extinct *Hoplodactylus delcourti*, the largest gecko that ever lived. This species had been presumed to have a New Zealand origin, but recent ancient DNA study has revealed that it is also part of the New Caledonian radiation. Among eugongylid skinks another giant species, *Phoboscincus bocourti*, has been rediscovered on several islands in the Île des Pins region. Preliminary data suggest that this species has highly restricted ecological preferences and occurs in very small populations that are particularly susceptible to habitat degradation and introduced mammals. Another skink, *Epibator greeri*, previously known from two specimens from near Koumac in the north of the island, has been rediscovered in the southern Grande Terre, 265 km distant. Its congener, *E. insularis*, was described in early 2019 from Île Walpole, 140 km distant from both the Île des Pins and the Loyalty Islands, and is the first endemic terrestrial vertebrate recorded from the island. These and other recent discoveries indicate that 1) current estimates of lizard species richness and endemism are underestimated, 2) there have been multiple *in situ* derivations of large body size in New Caledonian geckos, 3) some geckos and skinks exhibit unique ecologies that have helped conceal their existence or persistence, and 4) small, low-lying satellite islands play a role in both the generation and the conservation of lizard species in the New Caledonian region.

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