

## **The biogeography of bent-toed geckos, *Cyrtodactylus* (Squamata: Gekkonidae)**

### **ABSTRACT**

The gekkonid genus *Cyrtodactylus* is the third largest vertebrate genus on the planet with well over 300 species that range across at least eight biogeographic regions from South Asia to Melanesia. The ecological and morphological plasticity within the genus, has contributed to its ability to disperse across ephemeral seaways, river systems, basins, land bridges, and mountain ranges—followed by in situ diversification within specific geographic areas. Ancestral ranges were reconstructed on a mitochondrial phylogeny with 346 described and undescribed species from which it was inferred that *Cyrtodactylus* evolved in a proto-Himalaya region during the early Eocene. From there, it dispersed to what is currently Indoburma and Indochina during the mid-Eocene—the latter becoming the first major center of origin for the remainder of the genus that seeded dispersals to the Indian subcontinent, Papua, and Sundaland. Sundaland became a second major center of radiation during the Oligocene and gave rise to a large number of species that radiated further within Sundaland and dispersed to Wallacea, the Philippines, and back to Indochina. One Papuan lineage dispersed west to recolonize and radiate in Sundaland. Currently, Indochina and Sundaland still harbor the vast majority of species of *Cyrtodactylus*.