

The Reunion Day Gecko, *Phelsuma borbonica* Mertens, 1942 cannibalism behaviour (Sauria : Gekkonidae)

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The Reunion Day Gecko, *Phelsuma borbonica* Mertens, 1942, is a diurnal gecko endemic to La Réunion. *P. borbonica* occupies indigenous forest, especially on the east coast of the island. It is easily observed on the wooden roof structures used to shelter the numerous picnic tables (kiosks) constructed along Reunion's network of footpaths (Fig. 1). Indeed, these kiosks are frequently used by day geckos for thermoregulation, eggs laying and refugia (PROBST, 1995; PROBST, 2002; DESO, 2006; SANCHEZ, 2007).

P. borbonica has a generalist diet, eating insects, pollen, nectar and fruit (DESO et al., 2008). Adults are 12 to 17 cm in length. This species is very territorial and intense aggressive interactions can be observed among adult females as well as males (SANCHEZ, 2007). Adults, especially males, are often injured on their flanks and may also lose their tails. These injuries are the result of interspecific aggressive interactions or predation attempts by common gecko predators such as introduced reptiles (*Lycodon aulicus* L., 1758 and *Calotes versicolor* Daudin, 1802) or mammals (*Rattus* sp., *Suncus murinus* (L. 1766)) (DESO & PROBST, 2007). Cannibalism is known in other *Phelsuma* species, notably in the Ornate Day Gecko *P. ornata* (Cole, 2005), but to date it was only suspected for *P. borbonica* (PROBST & DESO, 2001). Hence, to our knowledge, this paper presents the first observation of cannibalism behaviour in *P. borbonica*.

This observation was made on November 22nd, 2009, in the forest of Dioré "Espace Naturel Sensible" near Saint-André, on the eastern coast of La Réunion (WGS84 : 20°59'21,62" S, 55°36'4,43" E ; 580 m above the sea level). The primary objective of the survey was to count *P. borbonica* present on different kiosks of the Dioré forest. On a single kiosk eighteen individuals were counted, among which were adults, sub-adults and juveniles. This was despite the weather being cloudy and unsuitable for observations. The largest male was motionless thermoregulating in the sun and was well exposed to be photographed. After some minutes, one juvenile (less than 5 cm total length) came near the largest male and this adult rapidly grabbed it by the head. To swallow the prey, the adult male inflated its throat and protruded its tongue several times to make space in the mouth. At the same time it moved backwards. Two to three minutes were necessary for total ingestion.



Figure 1 : Cannibalism in a Reunion Day Gecko, *Phelsuma borbonica* Mertens, 1942.

Cannibalism behaviour and gecko predation is relatively frequent in other *Phelsuma* species. For instance, on La Réunion (J-M. PROBST and T. DUVAL pers. comm.) and in Madagascar (GARCIA & VENCES, 2002), the Madagascar Day Gecko, *Phelsuma madagascariensis* Gray, 1831, frequently captures other Gekkonids such as *Hemidactylus frenatus* Schlegel, 1836 and *Gehyra mutilata* Wiegmann, 1834. Furthermore, DESO et al. (2007) noted that *Phelsuma lineata* Gray, 1842 predated another gecko, *Hemiphyllodactylus typus* Bleeker, 1860 on La Réunion. In Mauritius, *Phelsuma ornata* Gray, 1825 is known for occasionally feeding on its juveniles (COLE, 2005).

This field observation confirms the intraspecific predation of a juvenile by an adult male in *P. borbonica*. The situation for females remains unknown. The density of the population on the picnic table shelter was relatively high and this may have facilitated encounters between predators and prey. Thus it is possible that the high density may promote cannibalism behaviour. Only further observations will enable us to understand the mode and frequency of cannibalism in *P. borbonica*.

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