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NOTES ON HABITAT SELECTION AND COLOURATION IN LIFE OF *PHELSUMA BORBONICA AGALEGAE* CHEKE, 1975 (REPTILLIA: GEKKONIDAE)

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During an excursion from Mauritius to the Seychelles A.S. Cheke had the opportunity to shortly visit Agalega, where he discovered an unknown form of Day Gecko, which he described as a new species, *Phelsuma agalegae* (Cheke 1975). In a subsequent paper (Cheke 1982) he raised *Phelsuma cepediana borbonica* Mertens, 1966, an endemic of Réunion, to specific rank and classified the Agalega population as a subspecies of the latter: *P. borbonica agalegae.*

The senior author had the opportunity to visit Agalega from November 18 to 29, 1989, with the permission of the Ministry of Agriculture, Fisheries and Natural Resources of Mauritius, and supported by the O.I.D.C. Corporation at Port Louis. He was accompanied by Mr. Y. Mungroo as a representative of the Ministry. The results of this herpetological excursion make the following notes possible, where, however, the extensive remarks made by Cheke (1975) will not be repeated in detail.

REMARKS ON HABITAT SELECTION

The main study area was the village Vingt-Cinq on the northern island and its environments (Fig. 1). Vingt-Cinq consists mainly of one street with more or less scattered houses. Half-

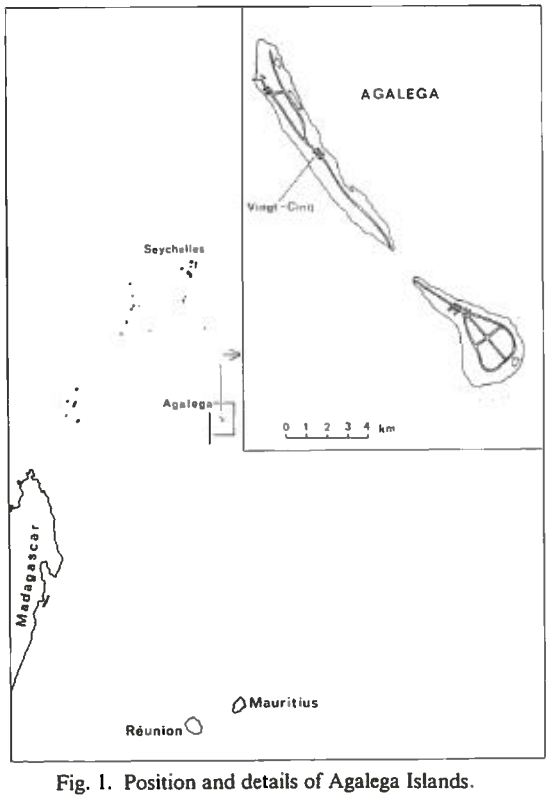

Fig. 1. Position and details of Agalega Islands.

day excursions were made to the northernmost part of the island and also to the southern island. The situation of the *Phelsuma* populations, however, was everywhere similar to that observed around Vingt-Cinq. Preferred microhabitat were generally coconut palms *(Cocos nucifera)* from 2 m height upwards, also dead palms if these were in contact with smaller deciduous trees or living palms. Regardless of this preference, *P.b. agalegae* was also found on other trees, mostly on *Terminalia catappa* (Plate 1) which resembles a mango tree, but

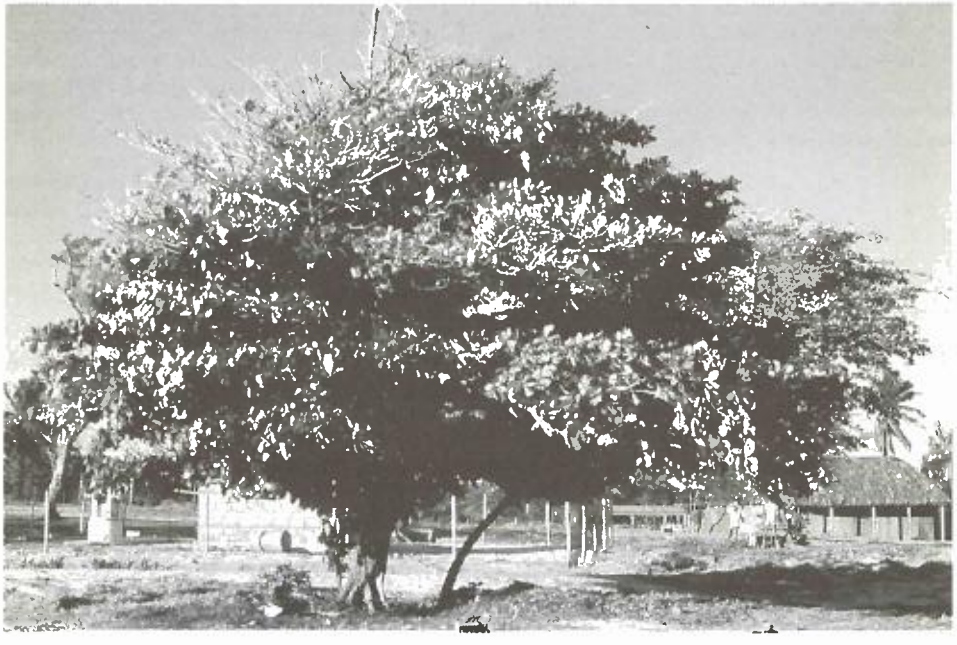

Plate 1. *Terminalia catappa* tree as habitat of *Phelsuma borbonica agalegae.*

has larger leaves. All nine *Terminalia* trees that stood within Vingt-Cinq were populated by 2-6 *Phelsuma,* as was recorded over 5 days. The density per tree, however, may well have

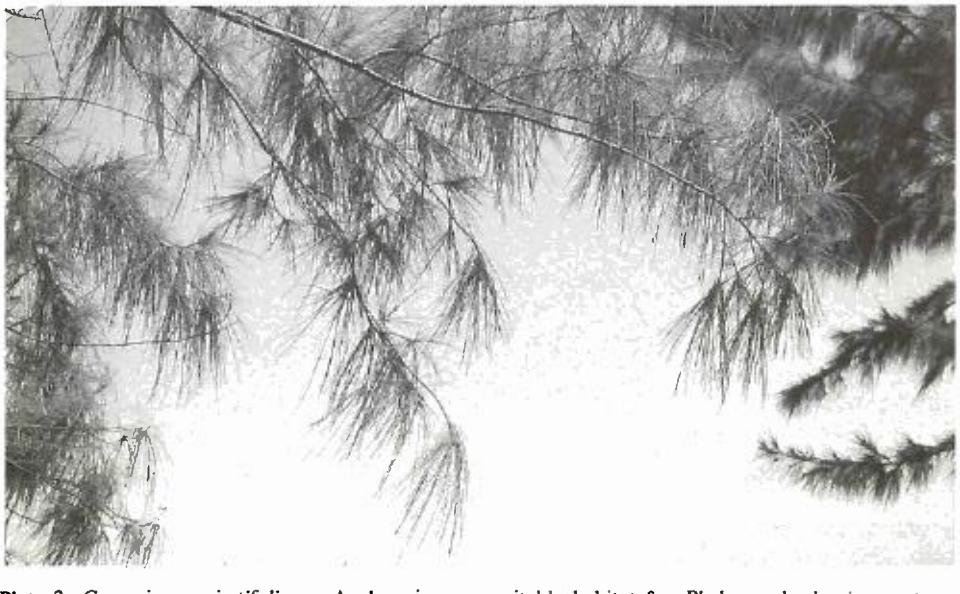

Plate 2. *Casuarina equisetifolia* on Agalega is an unsuitable habitat for *Phelsuma borbonica agalegae* due to leaf shape.

been greater. The habitat selection resembled that of *P. sundbergi* in the Seychelles, which is very common on coconuts, but is not restricted to them (Thorpe & Crawford 1979). The only specialized *Phelsuma* restricted exclusively to *Cocos nucifera* trunks is, according to our present knowledge, the eastern Malagasy *P. serraticauda*.

In contrast to Cheke's (1975: 42) observations we failed to find any *Phelsuma* on *Musa* sp. There was not a single Day Gecko to be seen in 20 thoroughly investigated Banana trunks. Therefore, *Musa* obviously does not play a similarly important role as a *Phelsuma* habitat as compared with Madagascar or the Comoro Islands (see Meier 1982). Another statement by Cheke (op. cit.) viz. that *P.b. agalegae* "occur on all species of tree" should be more precise. At least the Shave-Grass-Tree *(Casurina equisetifolia),* which is widely cultivated in the tropics and common on the Agalega Islands, obviously lacks *Phelsuma;* apparently because the long and scattered Shave-grass-like leaves cannot provide enough shadow (Plate 2).

Only once *P.b. agalegae* was found to inhabit human buildings. 4 specimens were found in a single house, where they obviously lived in the reed of the roof. The vicinity of houses can, however, be well populated, if trees are integrated in such a habitat structure. For instance, in an empty tin-shed (tin-hut), only a few meters distant from the living house, 11 *agalegae* specimens could be encountered on an area of 2-3 square metres. On the *Terminalia* which overgrew this shed only once a single Day Gecko was found.

The daily activity of the *Phelsuma* starts, according to our findings, shortly after 6 a.m. when the first sunrays attract the lizards from their nocturnal hiding places. At 9 a.m. the temperature is already 28°C, the lizards being extremely active and fast. Between 11 a.m. and 4 p.m. no single *Phelsuma* was to be seen on any observation day. Already before sunset (ca. 5.30 p.m.) the night quarters are entered again. Eggs are laid in various hiding places. A site of communal egg-laying (4 females) was discovered under the loose bark of a Coconut Palm at a height of 50 cm; it contained 8 intact eggs (Plate 3).

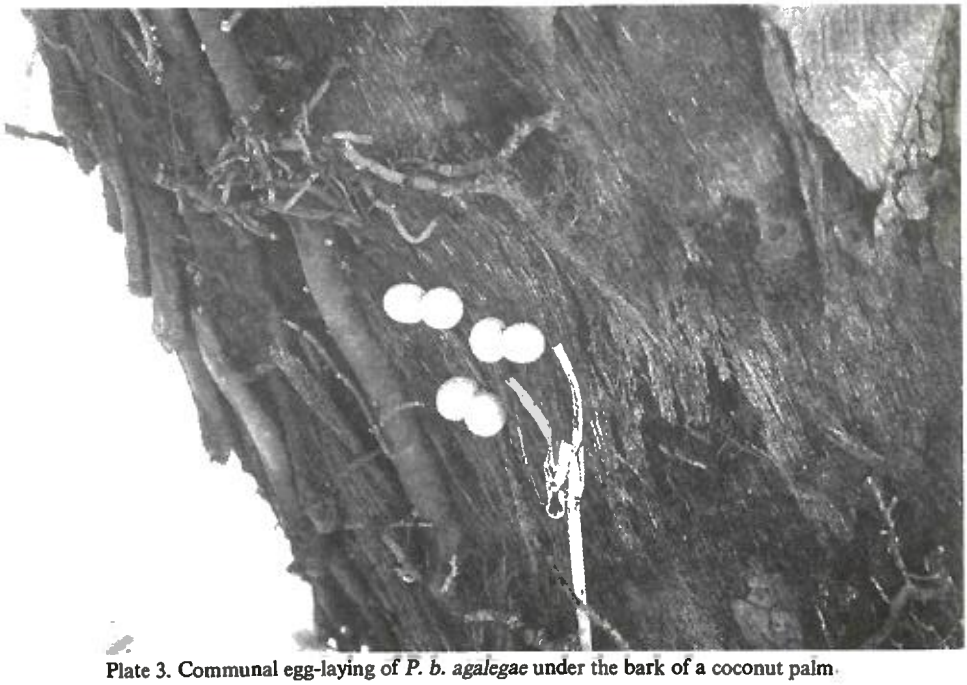

Plate 3. Communal egg-laying of *P. b. agalegae* under the bark of a coconut palm.

NOTE ON THE COLOURATION IN LIFE

In spite of the very detailed description of pattern and colouration of *P.b. agalegae* by Cheke (1975, 1982) our knowledge remained incomplete, mostly due to the lack of photographic documentation. This will be given here in extenso.

There is no evidence for the assumption that there might be two distinct, discernible forms on the North and South Island respectively. On the contrary, the colour pattern is highly variable and also not sexually correlated in such a degree as suggested by Cheke (1975). Only

Plate 4. Male *P.b. agalegae.*

a bluish tinge seems to be more common in males than in females. The light dorsolateral stripes, however, occur in both sexes, as does the brownish head colouration (Plates 4 and 5).

The variability of *P.b. agalegae* as compared with *P.b. borbonica* Mertens (1966) seems to make the status of the former more arguable than before believed. This is also strengthened by the zoogeographical/chorological pattern of both populations, where a human transportation of the Réunion population to the Agalega Islands surely cannot be ruled out. It is, however, necessary to carefully study more material of both nominal taxa in order to assess whether the differences between them are due to evolutionary divergence or merely short-term genetic drift.

Plate 5. Female *P.b. agalegae.*

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