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## NOTES

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### Observations on the Seychelles tree frog living in residential habitats

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The Seychelles tree frog *Tachynemis sechellensis* (Gunther, 1868) is common on the highlands of Mahé and Silhouette, where the loud call of the males - a single percussive syllable repeated 4-10 times in a slight crescendo-decrescendo - can be heard at night in the woodlands and is a typical and dominant component of the soundscape (Rocamora *et al.* 1999). On Mahé, the species can also be found in gardens and houses of the residential areas above 300m and bordering the forests of the Morne Seychellois National Park such as La Misère-Souvenir, Fairview Estate, Mission Road and Le Niol. Between 1995 and 2003, I lived with my family in a house at Fairview that permanently hosted 6 to 8 Seychelles tree frogs, and we had the opportunity to make a number of interesting observations on their morphology, behaviour and ecology.

#### *Colour and size*

Four different colour morphs were regularly found in or around the house. The large majority of these frogs (c.90%) were light green, and measured 5-7cm head and body length. Exceptionally some measured up to 8-9cm. All these were identified as adult females and were the only ones found living almost permanently inside the house, although they were found as well on various trees in the garden (pis-pis *Spathodea campanulata*, frangipanier *Plumeria obtusa* and other ornamental species). The three other morphs, dark red, brown and beige, were normally found only in the garden and very occasionally inside the house. These were smaller (4-5cm) and presumed males or young individuals.

#### *Diurnal roosting*

The tree frogs were only active at night. During the day, between dawn and dusk, they used to stay at roosting sites, either inside or outside the house, completely immobile, with no perceptible breathing movements, their eye pupil reduced to a tiny thin vertical line. The most regular roosting sites were in a first floor bathroom, a cool place well shaded by large trees from the neighbouring woodland. There, 2-3 frogs, sometimes up to 4, used to roost in a variety of places, generally on the wall in well hidden corners, sometimes behind a curtain or a piece of furniture. Some frogs also used to roost on the large window panes of the veranda. In the bathroom, they were often found inside or close by two flush-type reservoirs permanently filled with water into which they entered through small circular holes. One reservoir had larger holes compared to the other (c. 2.8 compared to 2.5cm diameter) and was clearly preferred by the frogs. Being for our own water consumption, the latter reservoir had normally its holes blocked and the frogs would then roost nearby or in the other one. When these reservoirs were checked, frogs present inside were always found close to the water level. In addition, there was in this bathroom a tank permanently filled with 50-150 litres of water, although the frogs could not get inside it. The tree frogs seemed to have a preference for roosting sites close to open water, probably because humidity was higher and facilitated their skin breathing, apparently responsible for most of their respiration during their immobile diurnal phase. Some of these frogs had distinctive black marks on the skin of their head or elsewhere and could be identified individually. We noticed that the same frog normally returned to the same roosting site over a certain period of time (several weeks to several months), although sometimes they could be found roosting for a few days in a different place nearby before returning to the original site. During the rainy days, when the humidity was high, the frogs usually went outside the house through an open window and did not return to their bathroom roost for one or more days. On several occasions they were observed during day time roosting on the leaf of exotic ornamental trees close to the bathroom. Sometimes, several frogs were observed roosting close to each other, especially in the reservoirs (up to 3 frogs roosting), but most of the time they used to roost in scattered places outside the flush reservoir. Individual frogs recognisable from a distinctive mark eventually disappeared from their bathroom roost after a few months and were almost immediately replaced by others at the same spot (inside the reservoir or behind a furniture). Sometimes they were seen again after a while somewhere else in the house, and then never seen ever again.

### *Nocturnal activities*

During the night the frogs used to hunt for prey in or outside the house. On many occasions we observed the frogs coming out of their roosts at dusk. As daylight was diminishing, the frogs were becoming progressively active, their pupils enlarging to occupy their entire eyes to allow a good night vision. Active respiration and blood circulation became also apparent from the movement of the skin under the frogs' throat. Most of the time, tree frogs were observed hunting in the vicinity of their diurnal roost, although sometimes as far as 10-15 meters. The three tree frogs roosting in the bathroom were normally seen hunting in different rooms. Whilst one frog generally remained in the bathroom at night, the two others were observed repeatedly in different neighbouring rooms or downstairs, as if each had its own hunting area. Every time we could recognise a particular individual from some peculiar skin coloration and size patterns, we clearly observed some sort of site fidelity over a certain period of time. One particular individual was repeatedly seen coming downstairs

to the living room at night and was always back to its first floor roost the following mornings. Although we had the impression that frogs were avoiding each other when hunting, we never observed any sign of aggression or territoriality between individuals that were found close to each other. The frogs living inside the house used to hunt in complete darkness, over the white interior walls of the house or perching on various objects and furniture from where they could spot their prey and jump on them. In contrast, other frogs (normally 2 to 3) preferred to hunt close to the lights of our garage and veranda where insects were always attracted, as did house geckos *Gehyra mutilata* and day geckos *Phelsuma astriata* with which they were directly competing for insects. There too, tree frogs normally hunted in different areas (normally one in the garage and one in the veranda around each bulb) as if there was some sort of mutual exclusion, although this was not systematic. One of these frogs had for example a clear preference for a large door glass where we could easily observe its hunting behaviour. Tree frogs were trying to catch a variety of flying insects that would perch or fly close to them. We observed catching attempts on small moths, mosquitoes, flies, flying ants and termites, but very few effective captures. The best way to investigate the diet of the tree frogs would be to collect their faeces (which are very easy to find in a house environment) and identify the invertebrates present from the remains. We once observed a same frog of c. 6cm snout-vent length that had caught by a wing a large moth with a body length of c. 4cm long. After a while, the moth was able to escape, possibly because our presence created some disturbance to the frog. On another occasion, the same frog had caught a small house gecko (c. 4cm long) whose tail was coming out of its mouth. The frog kept the gecko a very long time (c. an hour) in its mouth, probably waiting for it to die before swallowing it. We observed this phenomenon only once, but it is likely that the tree frogs were able to catch such small geckos on a regular basis. Tree frogs being in that particular circumstance direct competitors and occasional predators of house geckos, it is possible that their high density in this house may have limited the abundance of geckos.

Tree frogs, presumably males, were regularly heard singing at night in the garden outside the house. We never heard any of our light green (presumed female) individuals producing any kind of sound at any time of the year.

Despite the fact that our observations were done in a very peculiar artificial environment and not in the usual natural habitat of the Seychelles tree frog, these may still contribute to improve our knowledge of this relatively common but still poorly known endemic frog of Seychelles.

## References

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