

# New habitat and calling activity observations of the Malagasy Frog *Gephyromantis tschenki* (Mantellidae)

Noelikanto Ramamonjisoa<sup>1, 2</sup> and Harisoa Rakotonoeily<sup>1, 3</sup>

*Gephyromantis tschenki* (family Mantellidae) is a relatively small frog (33-35mm snout-vent length) endemic to Madagascar and is listed as "Data Deficient" in the IUCN Red list. There is still very little information on the extent of its occurrence, status, and ecological requirements (Cadle and Glaw, 2004). *G. tschenki* occurs in a protected area, Ranomafana National Park and has been also recorded from Midongy (Glaw and Vences, 2007). It is known to require pristine rainforest and is usually observed near streams and tiny trickles of water, where it climbs on low vegetation, not in disturbed areas (Cadle and Glaw, 2004). Males call at night from the vegetation inside or close to rainforest, 1-2 m above the ground, sometimes not in vicinity of open water (Glaw and Vences, 2007).

We carried out fieldwork in Ambatolahidimy (21°15'2.90"S, 47°25'18.38"E, altitude=993m), a relatively small forest adjacent to Ranomafana National Park disturbed by forest resource extraction. Juxtaposed to the forest are agricultural plots, mainly occupied by rice and banana plantations. From October 26th to November 12th 2008, we conducted call surveys along 5 transects of 150 m each in the agricultural plots. We walked each transect during the day from 6h30 to 9h00 in the morning and from 15h30 to 18h00 in the afternoon. We performed point count survey every 30m along each transect and stayed for 15 minutes at each point (Pierce and Gutzwiller, 2004). Prior to sampling, we learnt and memorized the call from "The calls of the frogs of Madagascar" (Glaw et al., 2006) and while in the field we recorded the calls for later confirmation. At each

detected call, the position along the transect, the number of calling males and the associated microhabitats were recorded.

We heard 30 and 45 individuals respectively in morning and afternoon sessions during the whole study. Individuals were calling from small streams in plantation up to 50 m away from forest edge. *Gephyromantis tschenki* is known to call at night (Glaw and Vences, 2007) but we observed that the species can be active during the day as well. We also found that the species can live in very disturbed areas (agricultural plots) while it has only been reported in pristine forest before (Cadle and Glaw, 2004). These observations highlight our lack of knowledge of amphibian diversity in disturbed areas in Madagascar but also the need to further explore the ecology of Malagasy amphibians for their effective conservation.

**Acknowledgments.** The study was possible thanks to the Stony Brook Study Abroad Program 2008. We are thankful to the local assistants Dina, Naina, Dominique and all other people who helped us in the course of this work. In particular, thanks are due to Eileen Larney, ICTE/MICET and Centre Valbio staff, Madagascar National Parks and all Study Abroad 2008 students. We also thank Dr. Frank Glaw and Darek Gordon for comments on the manuscript and last but not least Dr. Natuhara Yoshihiro for laboratory support.

## References

- Cadle, J., Glaw, F. (2004): *Gephyromantis tschenki*. IUCN Red List of Threatened Species 2011. Available at: [www.iucn-redlist.org](http://www.iucn-redlist.org). Last accessed on 7 June 2012
- Glaw, F., Vences, M. (2007): A fieldguide to the amphibians and reptiles of Madagascar, 3rd Edition. Cologne, Frosch Verlag.
- Glaw, F., Vences, M., Andreone, F., Glos, J., De La Riva, I., Blommers-Schlösser, R.M.A., Randrianirina, J.E., Riccardo Jesu, Schimmenti, G., Vallan, D., Klaas, P., Mercurio, V., Glaw, K., Rasoamampionona, N.R.(2006): The Calls of the Frogs of Madagascar. Vences, M., Glaw, F., Marquez, R. Eds., Barcelona, Spain: Alosa, sons de la natura.
- Pierce, B.A., Gutzwiller, K.J. (2004): Auditory Sampling of Frogs: Detection Efficiency in Relation to Survey Duration. *Journal of Herpetology* **38**: 495-500.

1 Département des Eaux et Forêts, Ecole Supérieure des Sciences Agronomiques, Université d'Antananarivo, B.P. 175 Ankatso - 101 Antananarivo, Madagascar

2 Graduate School of Environmental Studies, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8601, Japan

3 Graduate School of Environmental Sciences, Hokkaido University, N10 W5, Kita-ku, Sapporo, Hokkaido 060-0810, Japan

Corresponding author: noelikanto@gmail.com