

New distribution record of the critically endangered chameleon *Calumma tarzan* west of the Mangoro river in eastern Madagascar

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Malagasy *Calumma* chameleons are mainly restricted to humid forest which is a highly threatened habitat type. *Calumma tarzan* was recently discovered by Gehring et al. (2010) in two small humid forest fragments in eastern Madagascar and is listed as Critically Endangered on the IUCN Red List (Jenkins et al. 2011). There are other potentially suitable fragments of forest within close proximity to the original collecting sites of Tarzanville and Ambatofotsy, and Gehring et al. (2010) suggested that additional surveys were needed to determine the true occurrence of *C. tarzan*.

The Ampotaka forest (Anosibe An'Ala District, Alaotra-Mangoro Region) has a surface area of 75 ha and is located 29.3 km southwest of Anosibe An'Ala town (19.64850 S, 48.03353 E), within an elevational range of between 749 m and 817 m above sea level (Figure 1).

In 2008, this small fragment obtained provisional protected area status and some forest conservation activities are conducted by a local community association.

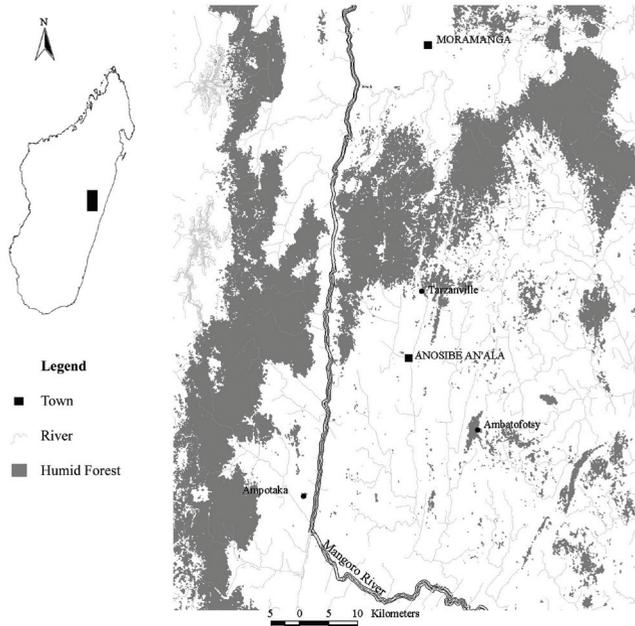


Figure 1. Map showing the three sites of *Calumma tarzan*.

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The Ampotaka forest was surveyed for reptiles and amphibians between 21 and 23 April 2011 by one herpetologist (the author), an assistant and three local guides. One transect was established from the west to the east of the forest. A nocturnal survey was undertaken



Figure 2. Adult male of *Calumma tarzan* from Ampotaka forest. Photograph by Christian Randrianantoandro.

with a head lamp. Each amphibian and reptile species observed was identified using published reference material (e.g. Glaw & Vences 2007; Gehring et al. 2010). For each individual *C. tarzan*: the perch height and plant type was recorded and the body orientation and head direction noted. Chameleons were categorized as adult or juveniles based on snout-vent length (adults more than 38 mm) and male (presence of hemipenial bulges) or female. The geographic coordinates of each individual was recorded using GPS Etrex Venture HC and an altimeter Ventura Oregon Scientific.

Five individual *C. tarzan*, including one adult male and four juveniles, were recorded (Figure 2).

Two specimens referenced UADBA 70538 and 70557 were collected and deposited at the University of Antananarivo. This is the first record of *C. tarzan* west of the Mangoro River and suggests that the species may be more widely distributed within its relatively narrow elevational range.

The abundance index of *C. tarzan* in the Ampotaka forest was 1.05 individuals per 100 m. All individuals were found on living leaves of the tree *Tambourissa thouvenotii* (Monimiaceae) with the body oriented vertically and the head pointing upwards.

The male used a perch at 0.80 m above the ground. The distribution of *C. tarzan* in Ampotaka forest appeared to be related to elevation, as it was not recorded in suitable habitat above 811 m. This is consistent with the elevational range reported by Gehring et al. (2010). An additional five reptile and two amphibian species were found in the Ampotaka forest. In the Ampotaka forest fragment, the main threat observed was the loss of forest habitat caused by the creation of trails to improve access for selective logging and for children to attend school.

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