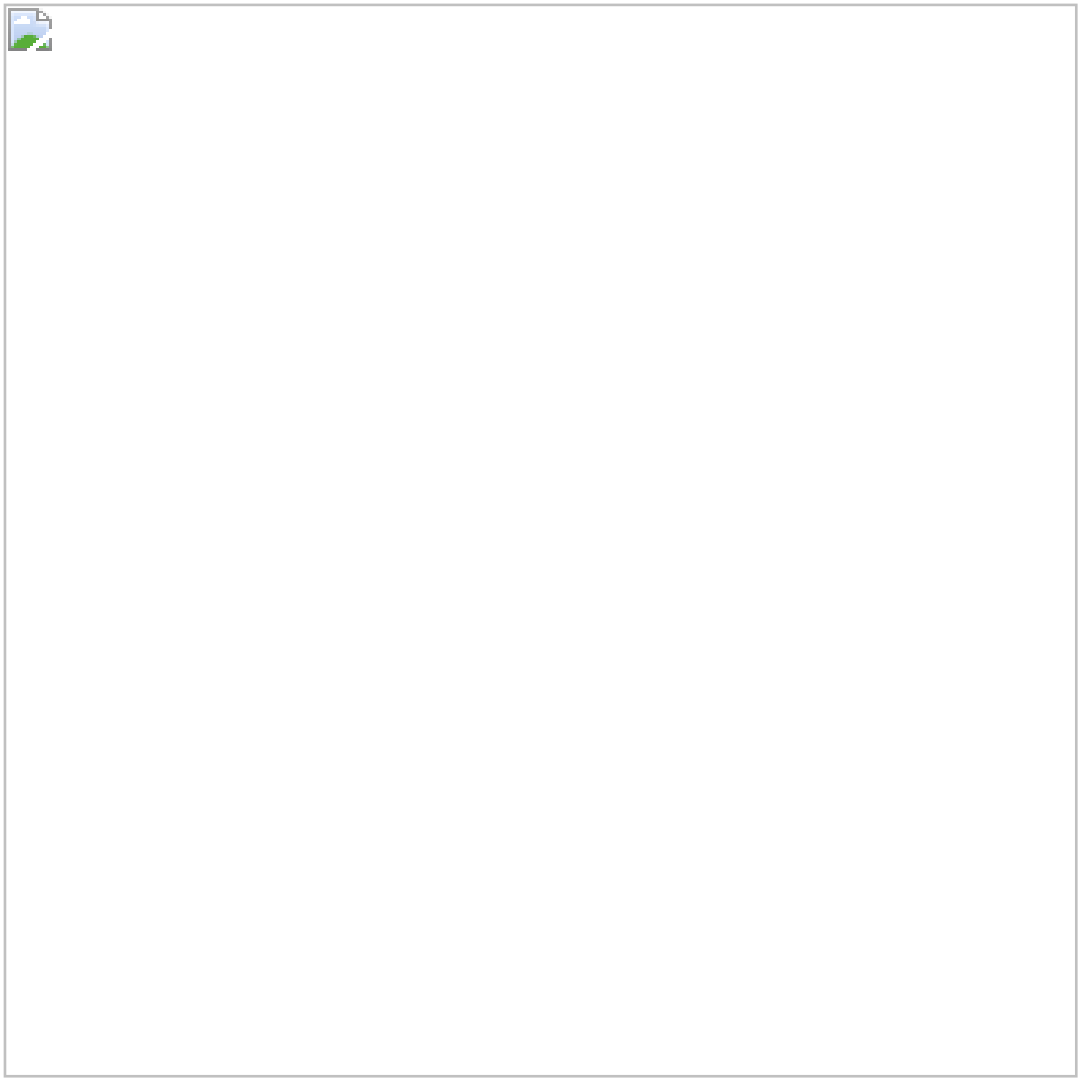

Distribution and Conservation Status of Two Newly Described Cheirogaleid Species, Mirza zaza and Microcebus lehilahytsara

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Distribution and Conservation Status of Two Newly Described Cheirogaleid Species, *Mirza zaza* and *Microcebus lehilahytsara*

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Abstract: The northern giant mouse lemur, *Mirza zaza* Kappeler and Roos in Kappeler *et al.*, 2005, and Goodman's mouse lemur, *Microcebus lehilahytsara* Roos and Kappeler in Kappeler *et al.*, 2005, are known from the region of the Ampasindava peninsula in northwestern Madagascar, and Andasibe and surrounding regions in east-central Madagascar, respectively. The presence of *M. zaza* in protected areas has yet to be confirmed, but it may occur in the Manongarivo Special Reserve and the Tsingy de Namoroka National Park. *Microcebus lehilahytsara* occurs in the Analamazaotra Special Reserve and Mantadia National Park. In this paper, we review what little is known of these two species in terms of their distributions and conservation status. *Mirza zaza* is possibly Vulnerable, following the IUCN Red List criteria, whereas *Microcebus lehilahytsara* is Data Deficient.
Key Words: Northern giant mouse lemur, *Mirza zaza*, Goodman's mouse lemur, *Microcebus lehilahytsara*, Madagascar, distribution, conservation status

Introduction

In 2005, we identified and described two species of cheirogaleid primates that were new to science. The genus *Mirza* was long known to occur in a disjunct fashion in western Madagascar. The taxonomic status of different subpopulations remained unknown, however. In particular, it was not clear whether all giant mouse lemurs belonged to one and the same species (*Mirza coquereli*), or whether there was any significant taxonomic variation. Our field studies and subsequent genetic analyses revealed a number of behavioral, morphological, and genetic differences between a population from the northern end of the range on the Ampasindava peninsula and a second population from the southern part of the range in Kirindy forest. The differences were such as to warrant their separation at the species level (*Mirza zaza* Kappeler and Roos in Kappeler *et al*. 2005). While compiling genetic data for an assessment of the magnitude of genetic variation within and between closely related species to assess the status of the northern and southern *Mirza*, we also identified a highly divergent sequence from a mouse lemur (*Microcebus* spp.) from Andasibe. These animals also represented a new species that we named *Microcebus lehilahytsara* Roos and Kappeler in Kappeler *et al.* 2005. Here, we update information on their distribution and conservation status.

Northern Giant Mouse Lemur, *Mirza zaza*

Distribution

As for many newly described species, information about the exact distribution area of *M. zaza* is limited. Currently, *M. zaza* is known from the region of the Ampasindava peninsula in northwestern Madagascar, specifically from Ambato and Pasandava (Kappeler *et al.* 2005) (Fig. 1). Further genetic studies confirmed the species' occurrence also in the forests of Ankarafa in the Sahamalaza region, and it is likely that the giant mouse lemurs from the Befotaka region also belong to *M. zaza* (Mittermeier *et al*. 2006). The southern limit of the distribution of this species is particularly uncertain; it may range as far south as the Tsingy de Namoroka National Park. However, the identity of this population is unclear—it may be *M. coquereli* and not *M. zaza*.

Conservation status

Andrianarivo (1981) and Kappeler *et al.* (2005) have both reported high local population densities for *M. zaza* near Pasandava. Indeed, their estimates of 385 and 1,086 individuals/km² are several times higher than those obtained for *M. coquereli* in Kirindy forest (Kappeler 1997). The concentration of animals in rather isolated forest fragments and the presence of mango, cashew, and other introduced food tree species in the Ambato region may help to explain the higher

densities. Detailed surveys throughout the Sambirano region are clearly indicated to determine the distribution and abundance of *M. zaza* on a regional scale.

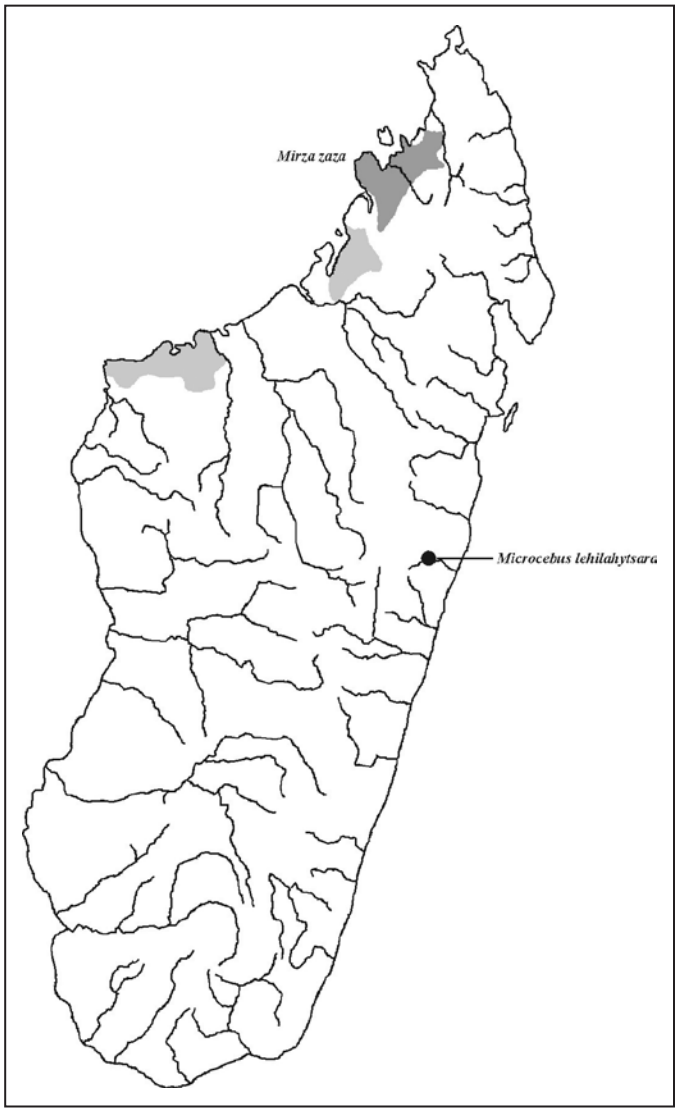

Figure 1. Distribution of *Mirza zaza* and *Microcebus lehilahytsara*. The dark and light grey areas indicate confirmed and inferred distribution zones for *M. zaza*, respectively.

Figure 2. *Mirza zaza*. Photograph by D. Haring.

Because the species is newly described and its conservation status has yet to be assessed by further research, it has been tentatively categorized as Data Deficient (Mittermeier *et al*. 2006). However, given that *M. coquereli* is currently listed as Vulnerable (VU A2c) (IUCN 2006), and that *M. zaza* most likely has a much smaller distribution—albeit perhaps with a higher population density—than *M. coquereli*, *M. zaza* must be considered at least as Vulnerable and could very well be Endangered. Although the species' presence in any protected areas has yet to be confirmed, *M. zaza* may occur in the Manongarivo Special Reserve and the Tsingy de Namoroka National Park.

Goodman's Mouse Lemur, *Microcebus lehilahytsara*

Distribution

The exact distribution area for *M. lehilahytsara* has still to be assessed. Currently, it is known only from the type locality of Andasibe and surrounding regions (for example, Maromizaha Forest; Randrianambinina and Rasoloharijaona 2006), including the two protected areas Analamazaotra Special Reserve and Mantadia National Park (Kappeler *et al.* 2005; Mittermeier *et al*. 2006) (Fig. 1). The extent of the distribution of this species to the south and north is still unknown. Based on currently available information, it is unlikely that Goodman's mouse lemurs occur in sympatry with other mouse lemur species. The maximum extent of its range to the south may be Ranomafana National Park, where it is replaced by *M. rufus*, and to the north to the Betampona Strict Nature Reserve and Zahamena Strict Nature Reserve

Figure 3. *Microcebus lehilahytsara*. Photograph by D. Haring.

Figure 4. *Mirza zaza*. Photograph by R. Zingg

and National Park, where it is replaced by *M. simmonsi* (Kappeler *et al*. 2005; Louis *et al*. 2006).

Conservation status

The conservation status of *M. lehilahytsara* remains unknown, so that it has to be categorized as Data Deficient (Mittermeier *et al*. 2006). It occurs in at least two protected areas (Analamazaotra Special Reserve and Mantadia National Park), but whether the species is present in a third, Mangerivola Special Reserve, remains to be confirmed.

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