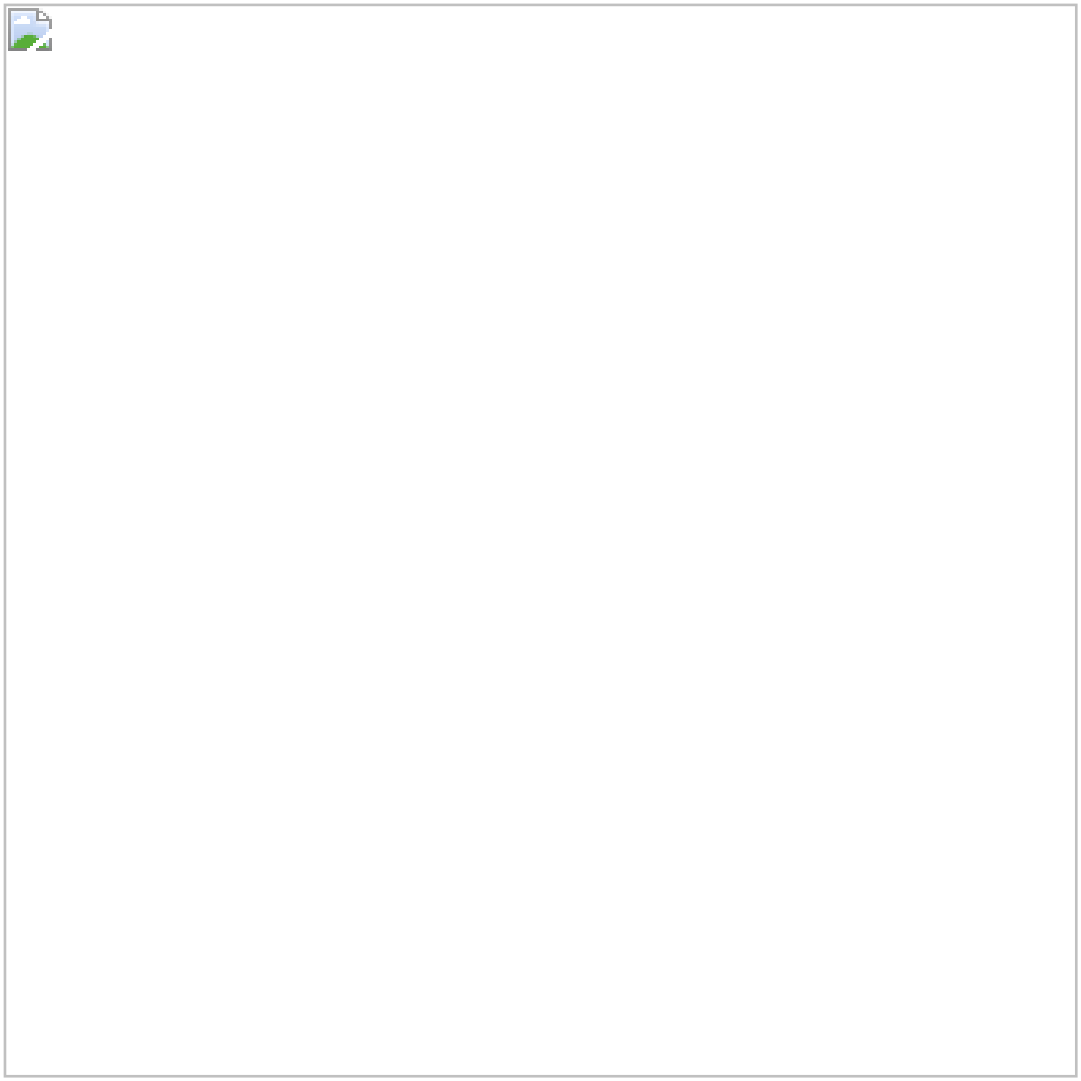

Special Section on the Crowned Sifaka Propithecus coronatus: Introduction

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Special Section on the Crowned Sifaka *Propithecus coronatus*: Introduction

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Madagascar is home to over 100 endemic lemur taxa (Schwitzer *et al.* 2013), one of which is the crowned sifaka *Propithecus coronatus*. As with the vast majority of lemurs (a staggering 94% according to Schwitzer *et al.* 2013), the crowned sifaka is threatened with extinction; it is currently ranked as Endangered on the IUCN Red List (Andriaholinirina *et al.* 2014). In February 2011, following the discovery of several small and isolated populations distributed across central Madagascar (Razafindramanana and Rasamimanana 2010; King *et al.* 2012; Rakotonirina *et al.* 2014), a number of stakeholders, including government ministries and non-governmental organizations, participated in a workshop with the aim of sharing and updating information on the crowned sifaka, and of discussing conservation approaches for such fragmented populations (MEF/GERP/TAF 2011). This special section of *Primate Conservation*, focusing on the crowned sifaka, is one outcome of that workshop.

The special section has taken much longer to publish than we had originally hoped, for which we apologize. One reason is related to the usual issues of authors finding the time to write, submit and revise their papers, and of reviewers and editors finding the time to review and edit. Another, more interesting reason is that during the review and editing process of virtually every paper, it became increasingly clear that the crowned sifaka is a remarkably little-known and misunderstood primate. The need to publish this special section has therefore become ever more pressing, and we hope that the papers presented herein will clarify many issues regarding the species, and also highlight others which remain in dire need of investigation and resolution.

The distribution of the crowned sifaka in the wild, which has often been erroneously described in recent years despite fairly accurate descriptions provided by early explorers such as Milne-Edwards and Grandidier (1875), is described, refined, and described again, by Rakotonirina *et al.* (2014) and King *et al.* (2014), based on a series of field surveys and a comprehensive literature review. These two papers also describe in detail the chromatic variation observed in crowned sifaka and the closely related Decken's sifaka *Propithecus deckenii*, providing maps illustrating the distribution of chromatically variable populations of the two taxa. The authors argue that, although individuals resembling both taxa may sometimes be found in sympatry, and chromatically variable populations may be the result of gene-flow between them, there is no evidence of the occurrence of sympatric populations of the two taxa, as has been suggested in the past. The two papers also summarize the taxonomic uncertainties surrounding the validity of the specific status of the crowned sifaka.

The abundance of the crowned sifaka in the northern part of its distribution is presented by Salmona *et al.* (2014), based on an extensive series of transect surveys. These authors extrapolate their density estimates across the entire range of the crowned sifaka, to give an indication of total population size, and propose an updated conservation assessment of the species based on the IUCN Red List criteria.

The paper by Andriamasimanana and Cameron (2014) provides a quantitative assessment of changes over time of the habitat available to crowned and Decken's sifakas within one of the largest protected areas in their range, the Mahavavy-Kinkony wetland complex. Habitat loss and fragmentation are considered as two of the major causes of past and predicted population decline in the crowned sifaka, so this paper provides valuable insights into the dynamics of habitat change in this region.

By far the best-studied population of crowned sifaka occurs in the far north of its range, in the Antrema Forest Station. A long-term research and conservation project has been ongoing there since 1998 (Gauthier *et al.* 1999; Pichon *et al.* 2010). The paper by Ramanamisata *et al.* (2014) provides further information on this population, presenting the results of their study on the social behavior and dominance hierarchy in three groups of crowned sifaka. The authors report that the most frequently observed social behaviors were, in descending order, allogrooming, agonistic behaviours, and play. They ascertained a social hierarchy, with

The crowned sifaka, *Propithecus coronatus*, Katsepy, Madagascar, July 2010. Photo by Tony King / The Aspinall Foundation.

females dominating males, and found that, although groups defended their territories, the most frequent outcome of intergroup interactions was tolerance.

Antrema was also the site chosen by Fichtel (2014) for her study of the acoustic structure of the loud calls ("tchi-faks") of crowned sifakas, which she compared with the calls of Decken's sifakas at Bemaraha, finding that the calls differed significantly between the two populations. Fichtel also found that the "tchi-faks" of both populations were highly individually distinctive. The study highlights several interesting hypotheses, the verification of which will require study of additional populations of the two species.

Finally, Roullet (2014) provides a thorough overview of the small captive population of crowned sifaka, presenting the results and lessons learnt during 25 years of captive management since the first export from Madagascar to Paris in 1987. Roullet concludes her article with a summary of the support that European holders of crowned sifaka provide to the conservation of the species in Madagascar. This includes the initiation of the project at Antrema by the Parc Zoologique de Paris (Muséum national d'histoire naturelle), the creation and coordination of the Tsibahaka Project by The Aspinall Foundation, and the facilitation and support by several European organizations of a metapopulation management approach to integrating *ex situ* and *in situ* conservation of the crowned sifaka. This latter is implemented under the Sifaka Conservation Project, in close collaboration with European institutions and GERP (*Groupe d'Etude et de Recherche sur les Primates de Madagascar*). Several of the small or isolated populations of crowned sifaka newly reported from central Madagascar by Razafindramanana and Rasamimanana (2010), King *et al.* (2012) and Rakotonirina *et al.* (2014) have subsequently benefited from community-based conservation interventions within the framework of the metapopulation conservation project.

The collection of papers presented in this special section gives a good overview of the current state of our knowledge about the conservation needs and ecology of the crowned sifaka. Conservation action plans for several sites with crowned sifaka populations have recently been described (Rakotonirina *et al.* 2013; Ramanamisata and Razafindraibe 2013; Razafindramanana *et al.*

2013a, 2013b), but support and funding for these and other priority sites for the species is still required. Clearly there is still much to be learnt, and much to be done, to ensure the continued survival of this remarkable primate across the entirety of its range.

We thank all the authors of the papers included in this special section, and the reviewers who provided penetrating insights with remarkable enthusiasm. The production of this special section has benefited tremendously from the editing skills of Anthony Rylands, to whom we are very grateful. Financial subsidies for the volume were obtained from the Margot Marsh Biodiversity Foundation and Conservation International. LC was funded by the FCT (ref. PTDC/BIA-BIC/4476/2012), and the LABEX entitled TULIP (ANR10-LABX-41).

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