

Madagascar: new mouse lemur species discovered

Deforestation and habitat removal may accelerate extinction

27 July 2020 - Group of researchers, from six countries, identified, genetically and morphologically, a new population of rats (*Microcebus*) that inhabit the same forests as another usual species previously described. The research investigation was published in two scientific articles, in *Systematic Biology* and in the *American Journal of Primatology*, and studied the smallest nocturnal primates. The work highlights the consequences of deforestation and habitat removal, accelerating an extinction of species yet to be described.

Madagascar is a biodiversity hotspot. In the last 20 years new lemur species have been discovered while forested habitats have been quickly disappearing. Recent reports by the IUCN (International Union for the Conservation of Nature) have identified the lemurs as one of the most threatened groups of vertebrates, with 33 of the 107 recognized species being critically endangered.

In the last decades, the number of mouse lemurs has grown from two to more than 20 species today. Many of the new species discovered have been described on the basis of few genetic markers and some scientists have criticized the “species inflation” questioning the existence of nearly half of current species but without questioning the extinction risks.

Researchers studied 117 individuals and compared data such as description of size, hair color and habitat in northeastern Madagascar. According to Lounès Chikhi, principal investigator at the Instituto Gulbenkian de Ciência involved in this important international scientific work, reveals that “instead of a limited number of genetic markers, we resort to genomic, ecological and morphological data, together with several sophisticated methods of inference. We demonstrated that the new individuals identified belong to a divergent lineage, a species never described before”.

The new species now identified is called the Jonah rat lemur (*Microcebus jonahi*) in honor of the primatologist and conservation biologist Malagasy Prof. Jonah Ratsimbazafy, and is one of the smallest primate species in the world, with a total length from nose to tail of about 26 centimeters and a body weight of about 60 grams. They

are very discreet animals that inhabit a small region in the tropical forests of the lowlands of northeastern Madagascar.

Interestingly, the same statistical analyzes the researchers conducted “suggest that two species described before did not meet the criteria applied to this new species” reinforces Lounès, explaining the work they developed.

In a period of intense and increasing deforestation and loss of habitat, the discovery of new species in places with a biodiversity as rich as Madagascar provides an important warning of how unique species may be very close to extinction.

"The loss of natural habitats and the constant change in land use in the region lead to the isolation of small populations and this favors their disappearance" warns the investigator. The path of discovery is not yet complete and other species may not have been described yet and are disappearing without knowing it.

Cientific papers references:

1. Poelstra J, Salmona J, Tiley GP, Schüßler D, Blanco MB, Andriambelason JB, Bouchez O, Campbell CR, Etter PD, Hohenlohe PA, Hunnicutt KE, Iribar A, Johnson EA, Kappeler PM, Larsen PA, Manzi S, Ralison JM, Randrianambinina B, Rasoloarison RM, Rasolofoson DW, Stahlke AR, Weisrock D, Williams RC, Chikhi L, Louis Jr EE, Radespiel U, Yoder AD (2020) Cryptic patterns of speciation in cryptic primates: microendemic mouse lemurs and the multispecies coalescent. **Systematic Biology**.
2. Schüßler D, Blanco MB, Salmona J, Poelstra J, Andriambelason JB, Miller A, Randrianambinina B, Rasolofoson DW, Mantilla-Contreras J, Chikhi L, Louis Jr EE, Yoder AD, Radespiel U (2020) Ecology and morphology of mouse lemurs (*Microcebus* spp.) in a hotspot of microendemism in northeastern Madagascar, with the description of a new species. **American Journal of Primatology**.

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