



ZSL
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FOR WILDLIFE

**EVOLUTIONARILLY DISTINCT
& GLOBALLY ENDANGERED**

Survival Blueprint

The Northern giant mouse lemur, *Mirza zaza*



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1. STATUS REVIEW

1.1 Taxonomy:

Kingdom: **Animalia**

Class: **Mammalia**

Order: **Primate**

Family: **Cheirogaleid**

Genus: **Mirza (Grey ,1867)**

Species: **zaza**

Common name: **Northern Giant mouse lemur**

Malagasy: **Valovy, Tanta**

1.2 Distribution and population status:

1.2.1 Global distribution:

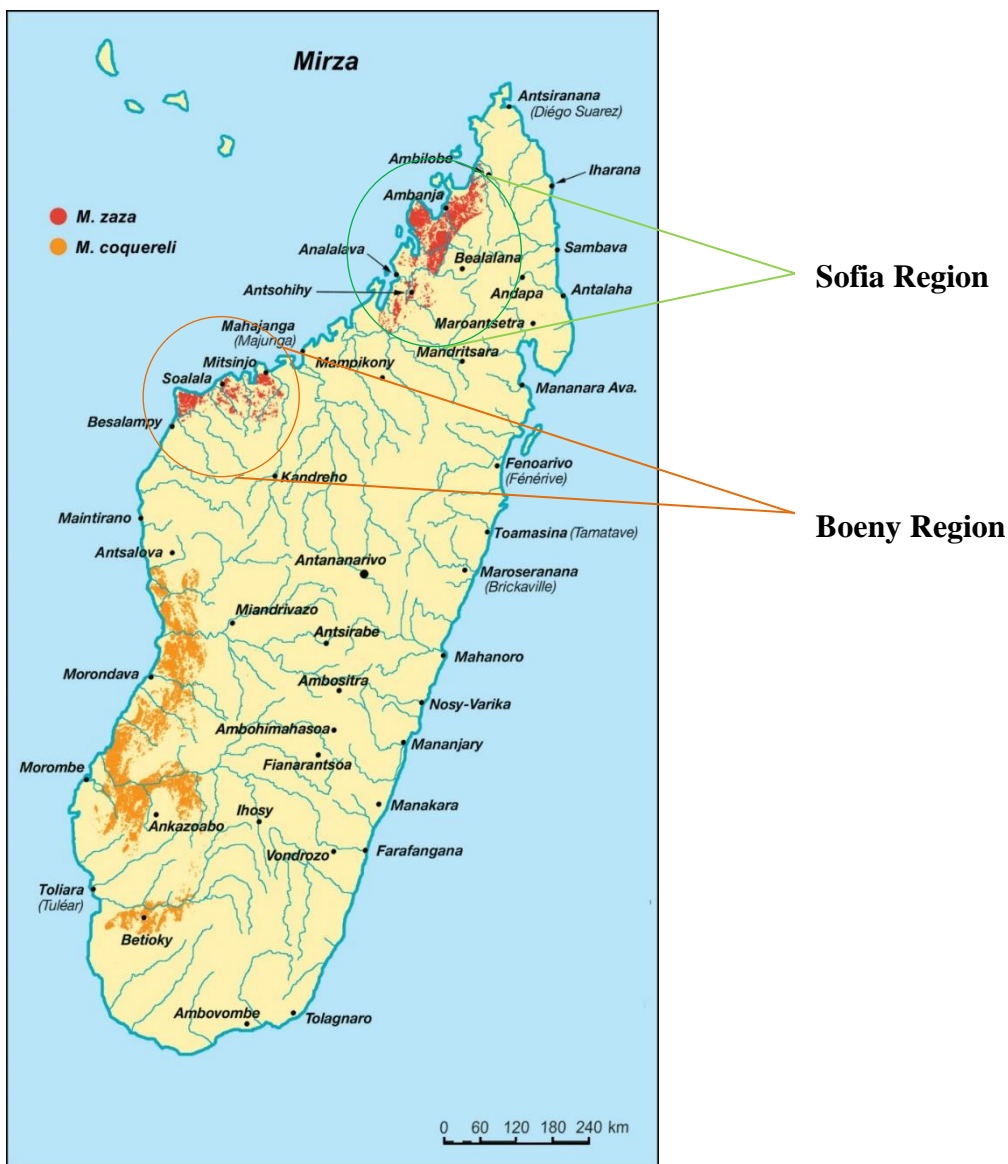
Country	Population estimate (plus references)	Distribution	Population trend (plus references)	Notes
Madagascar	unknown	North-western of Madagascar, Sofia Region, Analalava District	Unknown.	A global study hasn't been yet conducted.

1.2.2 Local distribution:

Country	Region / province	Site	Level of Protection	Population size	Reference(s)	Notes
Madagascar	Sofia Region	Ankarafa	National Park	157	Rabemananjara et al. (2018)	
Madagascar	Sofia Region	Ambato	Unprotected	1000	Kappeler et al. (2005)	
Madagascar	Boeny Region	Namoroka National Park	National Park	?	Markholf et al. (2008)	Unidentified species (M.zaza or M. Coquereli)
Madagsacar	Sofia	Ambato	Unprotected	1086	Kappeler et al.	



	Region	Peninsula		ind/km2	(2005)	
Madagascar	Sofia Region	Ambendrana	Unprotected	?	Markholf et al. (2008)	Direct observation for one or two night in the field.
Madagascar	Sofia Region	Andranobe	Unprotected	?	Markholf et al. (2008)	
Madagascar	Sofia Region	Ankiabe	Unprotected	?	Markholf et al. (2008)	
Madagascar	Sofia Region	Benavony	Managed by local people	?	Markholf et al. (2008)	



Map of global distribution of *Mirza* in Madagascar. (source: Lemurs of Madagascar, Mittermeier et al.2013)

1.3 Protection status:



According to the IUCN red list assessment (2013), the Northern Giant mouse lemur is Endangered. *Mirza zaza* occurs in the forest in the Sambirano Region in far north-west of Madagascar (Schwitzer&Lork,2007) which suffers multiple causes of degradation, including erosion, a result of deforestation and fragmentation, and a long drought in the dry season (May- October). So far, only one site where *Mirza zaza* occurs is protected, the Sahamalaza National Park, the site where our study took place.

No conservation plan targets this species directly.

1.4 Ecology, behaviour and habitat requirements:

The genus *Mirza* contains at least two species of small, omnivorous, nocturnal lemurs, *Mirza coquereli*, and *Mirza zaza*. *Mirza coquereli* was placed in its own genus by Tattersall in 1982 and Groves (2001) agree with it (Mittermeier et al. 2013). Classified as Endangered by the IUCN (Mittermeier et al. 2013), the nocturnal giant mouse lemur, *Mirza zaza*, was described as a species in 2005 (Kappeler et al. 2005). Very little scientific information is available about its range, population density, ecology and behaviour. Previous studies suggest low population density, an omnivorous diet supplemented by fruit from introduced feeding trees like cashew and mango and solitary foragers with sleeping groups (Markolf et al., 2008; Rode et al., 2013; Roos & Kappeler, 2006). Only a few studies have been done on the ecological needs of this species which explains the lack of scientific knowledge about it.

1.5 Threat analysis:

Threat	Description of how this threat impacts the species	Intensity of threat (low, medium, high, critical or unknown)
Bush fire	Bush fire is a huge issue in Madagascar and it constantly affects the forest where <i>Mirza zaza</i> live	High
Slash and burn agriculture	This traditional practice puts all wildlife in danger, not only the <i>Mirza zaza</i> , because year by year they are facing habitat loss.	High
Habitat fragmentation	This is the big issue for this species. The process is slow-working but is a real danger for this species because the population will be isolated, resulting in inbreeding, further increasing the risk of extinction.	High

1.6 Stakeholder analysis:



Country	Stakeholder	Stakeholder's interest in the species' conservation	Current activities	Impact (positive, negative or both)	Intensity of impact (low, medium, high or critical)
Madagascar	Madagascar National Park	Management, protection and conservation of the wildlife, endemic to the area.	Forest control and patrol. Animal monitoring.	Positive	High
Madagascar	AEECL	Protection of the wildlife.	Environmental Education with all villages around the National park of Sahamalaza, research and welfare	Positive	High
Madagascar	Foreigner and Malagasy Researcher	Knowledge and protection.	Animal behaviour population density study, Environmental awareness, effective conservation education	Positive	High
Madagascar	Local authority	No interest	Encourage people to destroy the forest by telling them during their campaign that the forest belongs to the people not to the foreigner.	Negative	Medium
Madagascar	Local people	Livelihood	Poaching, logging. Burning. Working	Both	High.



1.7 Context and background information that will affect the success of any conservation action for this species:

	Description	Threats	Opportunities
Socio-cultural effects and cultural attitudes	People are dependent on the natural resources and it is a legacy from their ancestors.	Continuation of the current activities (illegal logging, bushmeat consumption, slash and burn)	Include the local community in all conservation program and give them important responsibility.
Economic implications	People depend in natural resources and most of the economic activities depend on it.	Poor country and it will be really difficult to start up new economic activities.	Bringing a new income sources which do not depend to the forest (e.g. provide a new technique for the agriculture)
Existing conservation measures	<ul style="list-style-type: none"> -Control and patrol of national parks are already done by the MNP (Madagascar National Park). -Local NGOs are closely working with local community in some protected area by helping them financially and involving them to the conservation itself. -In some unprotected forests, local based communities 	<ul style="list-style-type: none"> -Not enough survey inside the forest due to the lack of forest agents. -There is no strict law according to the park entrance leading to unsupervised access (cars of illegal mining company and local people moving from one village to another) inside the forest. -Lack of environmental knowledge in the unprotected area conducting people to continue hunting and logging. 	<ul style="list-style-type: none"> -Intensify forest patrol by including local communities in the conservation activity. -Creation of new protected area by a collaboration between authority and local community.



	<p>created a local association and promote ecotourism activities and make some money out of it to improve their livelihood. (Benavony forest, Sofia Region).</p>		
Administrative/political set-up	<ul style="list-style-type: none"> -Conservation is not among the government priorities. -Lack of regional collaboration and information sharing and an absence of communication between government administrations and communities. 	<p>Laws and penalties are often outdated, and lack of respect for the law, weak enforcement and corruption are widespread.</p>	<p>The new government has started to take initiatives towards biodiversity and conservation issues like improvement of the dialogue between local people and authority, job creation such ecotourism.</p>
Local expertise and interest	<p>Due to the lack of awareness and environmental education, most of local communities doesn't know how endangered <i>Mirza zaza</i> is. Environmental program is not included in the education system.</p>	<p>Many places where <i>Mirza zaza</i> occurs are unprotected areas which means if knowledge of the species status within local communities does not improve, illegal hunting and logging will persist leading to its extinction.</p>	<p>Raise awareness as much as possible.</p>
Resources	<ul style="list-style-type: none"> - Apart from the EDGE program, no conservation fund has been yet targeted <i>Mirza zaza</i>, directly. -Due to poverty and financial 	<p>Given the lack of resources, people will continue to destroy the forest and will contribute to widespread habitat degradation.</p>	<ul style="list-style-type: none"> -Apply for a fund and conduct research on <i>Mirza zaza</i>. -Improve local people's financial status by



	issues, local community tend to rely on natural resources.		introducing them to new agricultural techniques and to some income generating-activities as well.
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2. ACTION PROGRAMME

Vision (30-50 years)	
Conservation of a viable population of <i>Mirza zaza</i> in Sahamalaza Iles Radama National Park	
Goal(s) (5-10 years)	
Improve the scientific knowledge of <i>Mirza zaza</i> to establish sustainable conservation of the species.	
Objectives	Prioritisation (low, medium, high or critical)
1. <i>Mirza zaza</i> population monitoring	Critical
2. Quantification of threats	Critical
3. Increase environmental awareness around the study site	High
4. Creation of sustainable activities (agriculture)	High
5. Creation of protected area	High



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Objective 1: Mirza zaza population monitoring								
Assess presence/absence of Mirza zaza in each site.	All the Sofia Region (North western), Boeny Region (Western) of Madagascar.	Critical	10,000€/year	2 years	Ministry of Forest and environment, Forest manager (MNP, Ngo,) Researcher. Local guide	Data will be collected in all locations mentioned. Night surveys will be carried out between 18:00 and 21:00 hour using transects lines of 1km long (number of transect depending of the size of the fragment)	The forest where occurs. have been destroyed. The road to the study area is far and it is a secondary road; Political crisis may have an impact in accessing to our site, Cyclones may delay our work and might have a risk of flooding.	Improving knowledge
Assess population density of Mirza zaza.	All the Sofia Region in the north western of Madagascar	Critical	£10.000/year	2 years	Local NGO, researchers, local community.	Build a grid of 280m length and 60m width with 4 transect lines inside it in five locations along the gradient of forest fragmentation	Equipment may be broken during work, One or couple member of a team might be injured during work These risks will be reduced by having experienced people working on the project.	Improving Knowledge



Activities	Country / region	Priority (low, medium, high or critical)	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Assess genetic study of <i>Mirza zaza</i> for new species identification.	Sofia region (north-western) and Boeny Region (western), Madagascar.	Critical	£30.000/year	3 years	University of Antananarivo, Local NGO, Hannover University.	About 60 samples to be analysed.	Exportation permit from the ministry of environment might be refused. Samples might be broken or destroyed during transportation.	Improving Knowledge.
Objective 2: Quantification of threats								
Habitat survey	Sofia region, Boeny Region, Madagascar	Critical	£5.000/year	5 years	Local NGO, researchers, local community	Data sheet report back by the end of the project.	Lack of time in the field to quantify all the threats	Improving knowledge.
Objective 3: Increase environmental awareness around the study site.								
Workshops, seminars with local people on conservation issues.	Sofia region, Boeny Region, Madagascar	High	£3.000/year	10 years	Local NGO, researchers, local community	At least 50 villagers per village will attend the activity	People might not be interested by my project.	Education and awareness.
Conservation education in schools	Sofia region, Boeny Region, Madagascar	High	£5.000/year.	10 years	Local NGO, researchers, local community	Number of teachers trained (increasing capacity) and number of school children approached.	Difficult to reach all the teacher and school children in all the study area.	Education and awareness.
Objective 4: Creation sustainable activities for local community								
Support sustainable agriculture practices	Sofia region, Boeny Region, Madagascar	High	£ 30.000/year	5 years	Local NGO, researchers, local community	All people trained and get technical support from the program.	Lack of funding and support from the government.	Education and awareness.



Activities	Country / region	Priority <i>(low, medium, high or critical)</i>	Associated Cost	Time scale	Responsible stakeholders	Indicators	Risks	Activity type
Promote ecotourism	Sofia region, Boeny Region, Madagascar	High	£15000/year	10 years	Local NGO, researchers, local community.	Number of visitor of the area.	Lack of authority support and lack of resources to support increasing tourism demand.	Education and awareness.
Objective 5: Creation of protected area								
Identification of important areas and promotion of information to the local authority (Mayor, Chief of villages, local Association) and national authority (ministry of forest and environment, National Park manager, head of the region)	Sofia region, Boeny Region, Madagascar	High	£30.000/year	10 years	Government, Local NGO, researchers, local community	Creation of an eventual new protected area.	The government is not interested by the program. Conflict with the local community in creating the nature reserve.	Water/land protection.



3. LITERATURE CITED

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