

The IUCN Red List of Threatened Species™ ISSN 2307-8235 (online) IUCN 2008: T19852A45202205

Salanoia concolor, Brown-tailed Vontsira

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View on www.iucnredlist.org

Citation: Hawkins, F. 2016. *Salanoia concolor. The IUCN Red List of Threatened Species 2016*: e.T19852A45202205. <u>http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T19852A45202205.en</u>

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Carnivora	Eupleridae

Taxon Name: Salanoia concolor (I. Geoffroy Saint-Hilaire, 1837)

Synonym(s):

- Galidia concolor I. Geoffroy Saint-Hilaire, 1837
- Salanoia unicolor (I. Geoffroy Saint-Hilaire, 1837)
- Salanoia durrelli Durbin, Funk, Hawkins, Hills, Jenkins, Moncrieff & Ralainasolo, 2010
- Salanoia olivacea (I. Geoffroy Saint-Hilaire, 1839)

Common Name(s):

• English: Brown-tailed Vontsira, Brown-tailed Mongoose, Malagasy Brown-tailed Mongoose

Taxonomic Notes:

Durbin *et al.* (2010) named *Salanoia durrelli* based on one specimen, although other individuals were observed but not taken. The morphological differences are minor and the name is here considered a synonym pending examination of further material. The population to which it refers is ecologically anomalous, occurring in marshland not the forest used by all other populations, and is highly threatened; clarifying its taxonomic status is therefore of urgent conservation importance.

Assessment Information

Red List Category & Criteria:	Vulnerable A3cde+4cde <u>ver 3.1</u>			
Year Published:	2016			
Date Assessed:	March 2, 2015			

Justification:

Brown-tailed Vontsira is listed as Vulnerable because it is a rare species limited to highly threatened lowland forest and marshland habitats: it is likely that over the course of the next 10 years (taken as slightly over three generations), the population will drop by more than 30% (and possibly much more) mainly because of widespread habitat loss and degradation, hunting, persecution, and the effects of introduced carnivores. The breakdown of governance since the coup d'etat in 2009 has led to increased artisanal mining in forest areas, increased hunting, and increased opportunistic rosewood cutting throughout the species's range, especially in its core lowland forest habitat. This is so even in the protected areas such as Masoala National Park, one of the few sites where the species has been recorded recently. The extreme rarity of records of this species in its forest habitat is hard to explain and certainly does not reflect simply low levels of relevant survey effort. It is therefore possible that it is declining at rates sufficient for Endangered but this is masked by the poor quality of the information. This species is a priority for Red List review as soon as further information be generated.

Previously Published Red List Assessments

2008 - Vulnerable (VU) - http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T19852A9024912.en

2000 – Vulnerable (VU) 1996 – Vulnerable (VU) 1994 – Insufficiently Known (K) 1990 – Insufficiently Known (K) 1988 – Insufficiently Known (K)

1986 – Insufficiently Known (K)

Geographic Range

Range Description:

The little-known Brown-tailed Vontsira is endemic to the rainforest of north-eastern Madagascar. There are recent (1995-2014) records only from Masoala National Park, Makira Natural Park, Betampona Strict Nature Reserve, Mananara Nord, and Zahamena Strict Reserve (Hawkins 2012a) and from Lake Alaotra. The latter site's population has been proposed as a new species, Durrell's Vontsira *Salanoia durrelli* Durbin *et al.*, 2010; its entire range is smaller than 100 km². The known records in rainforest range in elevation from 200 to 680 m. Despite substantial trapping efforts since the 1990s in eastern rainforest above 680 m, the species has not been recorded in any such sites (S.M. Goodman pers. comm. 2006), but Lake Alaotra lies at 750 m asl.

Country Occurrence:

Native: Madagascar

Distribution Map

Salanoia concolor



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Population

Brown-tailed Vontsira is rarely seen, even in the sites with most records, Masoala (Hawkins 2012a) and Betampona (Britt and Virkaitis 2003).

Brown-tailed Vontsira had the lowest probability of occupancy (defined as the probability that a site/forest is occupied by the species of interest while taking into account the variation in detectability of the species across the various sites), of 0.25 ± SE 0.09, for any native carnivore across the Makira landscape (Farris *et al.* in review a, Z. Farris pers. comm. 2014). It was not detected in forest fragments over 5 km from contiguous forest. Photographic surveys over a six-year period (2008-2013) and resulting multi-season occupancy analyses at one forest site showed its occupancy decreased from 0.87 (2008) to 0.16 (2013) (trap success [number of captures divided by trap nights multiplied by 100] decreased from 0.99 in 2008 to 0.67 in 2013) which resulted in an extremely high site-specific probability of local extirpation of 0.49 (0.13). No Brown-tailed Vontsira was camera-trapped at additional survey sites. Indeed, across the landscape it was found at only two survey sites. These findings combined with the species's overall rarity warrant conservation attention (Z. Farris pers. comm. 2014).

The population at Lake Alaotra has a very small population, at most a few hundred individuals (Durbin *et al.* 2010).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Brown-tailed Vontsira is a diurnal species recorded only from lowland tropical humid forest (Hawkins 2012a) except for one marsh (Durbin *et al* 2010). In Makira, Brown-tailed Vontsira was camera-trapped in both degraded and non-degraded forest sites. It was recorded at a maximum elevation of 680 m and it did not occur at sites having high activity of feral/domestic dogs, feral/domestic cats or Ring-tailed Vontsira *Galidia elegans* (Farris and Kelly 2011, Farris *et al*. 2012, Farris *et al*. in review a).

Brown-tailed Vontsira was camera-trapped primarily as duos; singles were very rare. It is almost exclusively diurnal with peak activity in early morning, whereas Ring-tailed Vontsira activity peaks at mid-day (Farris *et al.* in review b).

The animals rest in burrows or hollow trees during the night. The gestation period is about three months and there is a single young (Albignac 1973).

Systems: Terrestrial

Use and Trade

For information on use and trade, see under Threats.

Threats (see Appendix for additional information)

Brown-tailed Vontsira is threatened by hunting, introduced carnivores, deforestation through conversion to cultivated land, and forest degradation through selective logging and charcoal production; the lake population faces additional threats.

Lowland forest below 500 m is one of the most threatened habitats in Madagascar. Deforestation and forest disturbance has increased significantly since 2009. R. Rajaonson (pers. comm. 2014) estimated that deforestation in eastern forest increased from 0.5% per annum in 2005-2010 to 0.94% per annum in 2010-2013. Allnut *et al.* (2009) estimated that in Masoala National Park, annual rates of deforestation in the studied area increased to 1.27% per annum in 2011. High levels of illegal settlement in protected areas, especially around the Bay of Antongil, are linked to artisanal mining (for quartz) and logging of rosewood; hunting for food using dogs has increased greatly in these areas as a result. Some villages have seen increases in populations of between 200 and 300% (C. Golden pers. comm. 2014).

In the Makira region there are no data on consumption rates of this carnivore, which is likely to reflect its overall rarity (Farris *et al.* in review a). In Betampona Strict Nature Reserve, Golden *et al.* (in press) reported six Brown-tailed Vontsiras hunted in one year, potentially a large proportion of the population of this very small site (2,228 ha).

Household interviews conducted by Madagasikara Voakajy (pers. comm. 2014) in the Moramanga region of eastern Madagascar in 2008-2009 did not identify Brown-tailed Vontsira as a hunted animal, which again might simply reflect its overall rarity.

Brown-tailed Vontsira had very strong temporal activity overlap with dogs and moderate overlap with feral/wild cats, revealing the potential for increased interactions and competition. These potential interactions and competition perhaps contribute to the absence of Brown-tailed Vontsira at sites where dog activity is high (Farris *et al.* in review b).

The Lac Alaotra subpopulation is very small and is confined to a very small area. It is threatened by killing as a pest, hunting, and the burning of its reed-bed habitat.

Conservation Actions (see Appendix for additional information)

Brown-tailed Vontsira was recorded during 1995-2014 in several protected areas: Masoala National Park, Zahamena National Park, Makira Natural Park, and Betampona Strict Nature Reserve (Hawkins 2012a). Additional survey is needed to determine the current status of the populations of this species across its range, its basic natural history, and the types and magnitudes of the threats it faces. Given the small size of the Lac Alaotra population and the high level of threats it faces, clarification of its taxonomic status is urgent; although even if conspecific it warrants conservation attention as an ecologically anomalous population of a threatened species, if it is specifically distinct it is one of the most threatened carnivores in the world.

Credits

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External Resources

For Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.4. Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands	Resident	Suitable	Yes

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Ongoing	Majority (50- 90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stre	esses -> 1.1. Ecosyster	n conversion
		1. Ecosystem stre	esses -> 1.2. Ecosyster	n degradation
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	Majority (50- 90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stress	es -> 2.1. Species mor	tality
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.5. Motivation Unknown/Unrecorded	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		n degradation
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	 Ecosystem stre Ecosystem stre Species Stress Species Stress 	esses -> 1.1. Ecosyster esses -> 1.2. Ecosyster es -> 2.1. Species mor es -> 2.2. Species distu	n conversion n degradation tality urbance
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.1. Unspecified species	Ongoing	Majority (50- 90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stress	es -> 2.1. Species mor	tality
		2. Species Stress	es -> 2.2. Species dist	urbance
		2. Species Stress 2.3.2. Competition	es -> 2.3. Indirect spe on	cies effects ->

8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Canis familiaris)	Ongoing	Majority (50- 90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
		2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions in Place

In-Place Land/Water Protection and Management

Occur in at least one PA: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): No
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 200
Upper elevation limit (m): 750
Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Population severely fragmented: No
Continuing decline in subpopulations: Yes
Extreme fluctuations in subpopulations: No
All individuals in one subpopulation: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 3.2
Movement patterns: Not a Migrant

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