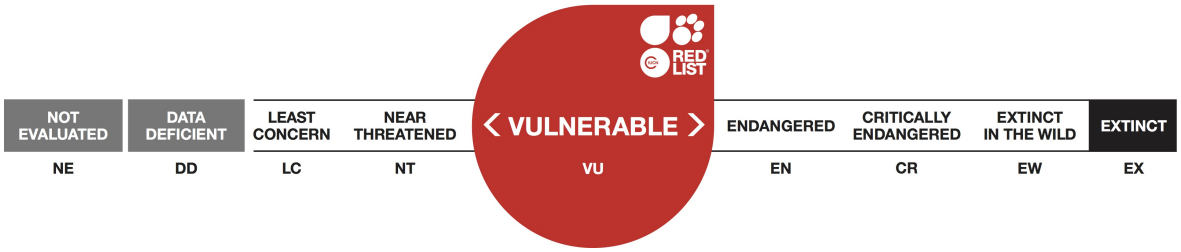
The IUCN Red List of Threatened Species™
ISSN 2307-8235 (online)
IUCN 2008: T8833A45197977

Galidictis fasciata, Broad-striped Vontsira

Assessment by: Hawkins, F.



View on www.iucnredlist.org

Citation: Hawkins, F. 2016. *Galidictis fasciata. The IUCN Red List of Threatened Species 2016*: e.T8833A45197977. http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Carnivora	Eupleridae

Taxon Name: *Galidictis fasciata* (Gmelin, 1788)

Synonym(s):

- *Viverra fasciata* Gmelin, 1788

Common Name(s):

- English: Broad-striped Vontsira, Broad-striped Mongoose, Malagasy Broad-striped Mongoose

Taxonomic Notes:

Two subspecies are sometimes distinguished: the nominate form and *G. f. striatus* (see Wozencraft 2005).

Assessment Information

Red List Category & Criteria: Vulnerable A3cde+4cde ver 3.1

Year Published: 2016

Date Assessed: March 2, 2015

Justification:

Broad-striped Vontsira is widely dispersed from north to south through eastern Madagascar forests, but at low densities. Over the last 16 years (three generations), the population reduction of this species based on the combined impacts of habitat loss (especially given its habitat requirements) and the effects of introduced carnivores, is estimated at 20-25%, However Broad-striped Vontsira is now listed as Vulnerable because it is likely that over the course of the next three generations (taken as 16 years), the population will drop by more than 30% (and possibly much more) mainly because of widespread habitat loss and degradation, especially in the species's core lowland humid forest habitat, hunting, persecution, and the effects of introduced carnivores. The rate of habitat loss and hunting has recently increased significantly because of a breakdown of governance since the coup d'etat in 2009, leading to increased artisanal mining in forest areas, increased hunting, and increased opportunistic rosewood cutting throughout the species' range.

Previously Published Red List Assessments

2008 – Near Threatened (NT) – http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T8833A12935432.en

2000 – Vulnerable (VU)

1996 – Vulnerable (VU)

1994 – Indeterminate (I)

1990 – Indeterminate (I)

http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

1988 – Indeterminate (I)

1986 – Insufficiently Known (K)

Geographic Range

Range Description:

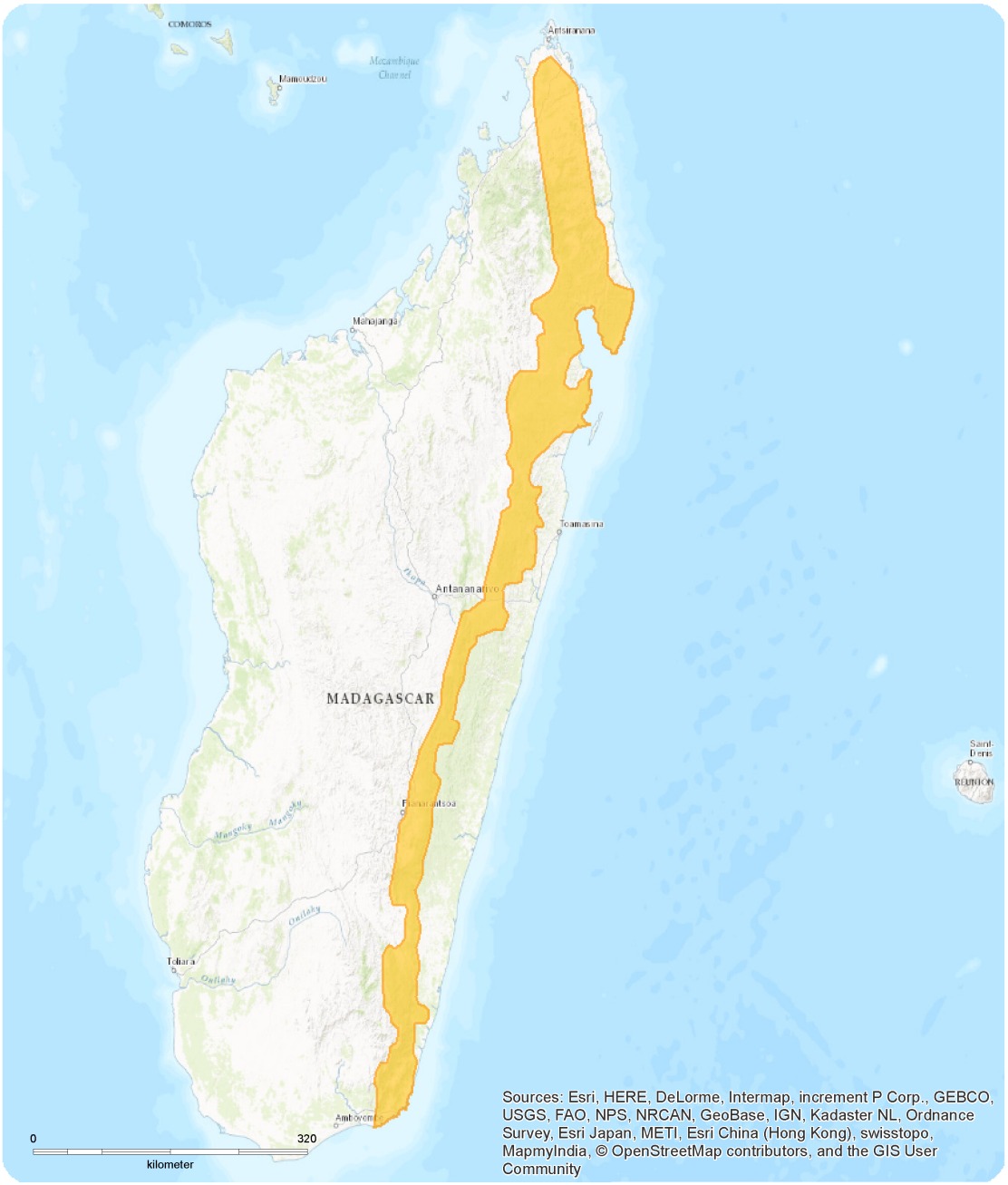
This species is endemic to Madagascar, now known from Marojejy National Park (Hawkins 2012), around 100 km north of its previously recognised range, throughout the eastern rainforest as far south as Andohahela (Goodman 2012). It occurs in the lowlands typically up to around 700 m asl (Goodman 2003); there is only one record from over 700 m, at 1,500 m asl (Goodman 2012, S.M. Goodman pers. comm.).

Country Occurrence:

Native: Madagascar

Distribution Map

Galidictis fasciata

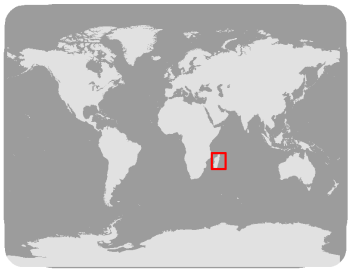


NE | DD | LC | NT | VU VULNERABLE | EN | CR | EW | EX

Range

Extant (resident)

Compiled by:
IUCN (International Union for Conservation of Nature)



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

Population

The population status of this species is not well known, although it generally appears to occur at low densities (Goodman 2003) and is detected very rarely (F. Hawkins pers. comm. 2014).

Camera-trap surveys (Farris *et al*. in review a, Z. Farris pers. comm. 2014) in the Makira region revealed a low 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 0.28 ± SE 0.07 across the Makira landscape for Broad-striped Vontsira, including a much higher probability of occupancy in non-degraded (0.49 ± SE 0.15) than in degraded (0.36 ± SE 0.11) forest sites. Broad-striped Vontsira occupancy had a strong positive association with small mammal trap success; however, Domestic Dog (*Canis familiaris*) occupancy had an inverse relationship revealing a strong possibility of killing or competitive exclusion of Broad-striped Vontsira by dogs particularly in degraded forest (Farris and Kelly 2011, Farris *et al*. in review a).

Photographic surveys over a six-year period (2008-2013) and resulting multi-season occupancy analyses at one contiguous forest site showed that occupancy decreased significantly from 0.77 (2008) to 0.18 (2013) (camera-trap success [number of photo-captures divided by camera-trap nights, multiplied by 100] decreased from 2.59 in 2008 to 0.25 in 2013) which resulted in a high probability of local extirpation of 0.60 (0.12). This dramatic decrease in occupancy and high probability of local extirpation, which were correlated with distance to forest edge, came from a contiguous, non-degraded forest site so would present a serious conservation/management issue if it is representative of the species's range (Z. Farris pers. comm. 2014). However, at a different survey site over a three-year period, trap success increased from 0.20 in 2011 to 1.68 in 2013.

A survey in 1994 in Masoala, recorded only a single individual over the course of 2.5 months (Razafimahatratra pers. comm. 2006).

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

This is a nocturnal, and largely ground-dwelling, species of lowland tropical humid forest. It appears to be limited to forests on lateritic soils, and is seldom encountered outside forest, although there are apparently records from degraded forest (Schreiber *et al*. 1989).

Broad-striped Vontsira probability of occupancy was positively associated with small mammal activity, but negatively correlated with proximity to villages. It was recorded more often and had a higher probability of occupancy in non-degraded, contiguous forest sites (Farris and Kelly 2011, Farris *et al*. in review a). Broad-striped Vontsira had an extremely low activity and resulting probability of occupancy in highly fragmented and degraded sites with only a single capture in fragmented forests more than 5 km from contiguous forest.

Broad-striped Vontsira was primarily recorded in duos and is exclusively nocturnal (Farris *et al*. in review b).

There are few details available on reproduction in this species (Goodman 2003). Its morphology

http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

indicates that it is capable of predating species at or possibly above its body weight.

Systems: Terrestrial

Use and Trade

For use and trade information, see under Threats.

Threats (see Appendix for additional information)

Broad-striped Vontsira is threatened by deforestation through conversion to cultivated land and logging.

Deforestation and forest disturbance across its range has increased significantly since 2009, and is most important in lowland forests where the species is primarily found. R. Rajaonson (pers. comm.) estimates that deforestation in eastern forest increased from 0.5% per annum between 2005-2010 to 0.94% per annum in 2010-2013. Near Ranomafana National Park, the species is found more frequently in larger than in smaller fragments (Gerber *et al*. 2012). 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, and 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. 2015).

Hunting and bushmeat consumption appear to be less of a concern for Broad-striped Vontsira across the Makira landscape than it is for some other carnivores. Only seven Broad-striped Vontsiras were reported consumed across four villages (55 households) from 2005 to 2011 near the Makira Natural Park. However, hunting rates were still positively associated with Broad-striped Vontsira occupancy, demonstrating that hunting efforts are highest where this carnivore is most active/abundant (Farris *et al*. in review a).

Golden *et al*. (in press) reported three Broad-striped Vontsiras hunted in one year at Betampona Strict Nature Reserve.

Household interviews conducted by Madagasikara Voakajy (pers. comm. 2014) in the Moramanga region of eastern Madagascar in 2008-2009 suggest that 284 (17%) of 1,633 respondents interviewed in 129 villages had eaten Broad-striped Vontsira in the preceding year.

Broad-striped Vontsira showed strong temporal activity overlap with the exotic Small Indian Civet *Viverricula indica*, revealing the potential for interactions and competition (Farris *et al*. in review b). Co-occurrence models demonstrate that the vontsira does not occur at sites where dog and/or Small Indian Civet activity is very high. Broad-striped Vontsira probability of occupancy is greatly decreased in the presence of both dogs and civets (Farris *et al*. in review c).

Conservation Actions (see Appendix for additional information)

Broad-striped Vontsira has been recorded from a number of protected areas, including Marojejy, Masoala, Zahamena and Ranomafana National Parks. Further studies into the ecology of this little-known species are needed to allow a more informed assessment of its conservation status and needs.

Credits

http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

Assessor(s): Hawkins, F.

Reviewer(s): Duckworth, J.W.

Contributor(s): Golden, C., Farris, Z.J., Jenkins, R.K.B. & Jones, J.P.G.

Bibliography

Allnut, T.F., Asner, G.P., Golden, C.D. and Powell, G.V.N. 2013. Mapping recent deforestation and disturbance in northeastern Madagascar. *Tropical Conservation Science* 6: 1-15.

Farris Z.J. and Kelly, M.J. 2011. A preliminary assessment of carnivores across the Makira Protected Area, Madagascar: results from a WCS pilot camera study. Wildlife Conservation Society, Antananarivo, Madagascar.

Farris, Z.J., Gerber, B., Kelly, M.J., Karpanty, S., Murphy, F. and Andrianjakarivelo, V. In review b. When the carnivores roam: temporal patterns and partitioning among Madagascar's native and exotic carnivores.

Farris, Z.J., Golden, C., Karpanty, S., Murphy, A., Stauffer, D., Andrianjakarivelo, V., Ratelolahy, F., Holmes, C. and Kelly, M.J. In review a. Effects of poaching, micro-habitat and landscape variables, human encroachment, and exotic species on Madagascar's endemic and exotic carnivore community across the Masoala-Makira landscape.

Farris, Z.J., Karpanty, S., Kelly, M., Murphy, A., Ratelolahy, F. and Holmes C. In prep. c. Spatial co-occurrence and detection of endemic and exotic carnivores in Madagascar: factors impacting their interactions across the Masoala-Makira landscape.

Farris Z.J., Kelly M., Karpanty S.M., Ratelolahy F., Andrianjakarivelo V. and Holmes C. 2012. Brown-tailed Vontsira *Salanoia concolor* (Eupleridae) documented in Makira Natural Park, Madagascar: new insights on distribution and camera-trap success. *Small Carnivore Conservation* 47: 82–86.

Garbutt, N. 1999. *Mammals of Madagascar*. Pica Press, East Sussex, UK.

Golden, C.D., Rabehatonina, J.C.G., Rakotoarisoa, A. and Moore, M. 2014. Socio-ecological analysis of natural resource use near Betampona Strict Natural Reserve. Madagascar Conservation and Development. (in press).

Goodman, S. 2012. *Les Carnivora de Madagascar*. Association Vahatra, Antananarivo, Madagascar.

Goodman, S.M. 2003. *Galidictis*, Broad-striped Mongoose, Vontsira Fotsy. In: S.M. Goodman and J.P. Benstead (eds), *The Natural History of Madagascar*, pp. 1354-1357. The University of Chicago Press, Chicago, USA and London, UK.

Hawkins, A.F.A. 2012. A northward extension of known range for Broad-striped Vontsira *Galidictis fasciata*. *Small Carnivore Conservation* 47: 73–74.

IUCN. 2016. The IUCN Red List of Threatened Species. Version 2016-1. Available at: www.iucnredlist.org. (Accessed: 30 June 2016).

Perschke, M. 1996. Mongooses in the Tsimbazaza Zoo and the Ranomafana National Park, Madagascar. *Small Carnivore Conservation* 14: 1.

Schreiber, A., Wirth, R., Riffel, M. and Van Rompaey, H. 1989. *Weasels, civets, mongooses, and their relatives. An Action Plan for the conservation of mustelids and viverrids*. IUCN, Gland, Switzerland.

Citation

Hawkins, F. 2016. *Galidictis fasciata. The IUCN Red List of Threatened Species 2016*: e.T8833A45197977. http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

Disclaimer

To make use of this information, please check the Terms of Use.

External Resources

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

http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

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
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	-	Marginal	-

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%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.5. Motivation Unknown/Unrecorded	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
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:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Viverricula indica)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.2. Competition		
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 -> 2.3. Indirect species effects -> 2.3.2. Competition		

Conservation Actions in Place

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

http://dx.doi.org/10.2305/IUCN.UK.2016-1.RLTS.T8833A45197977.en

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

Research Needed

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

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population 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): 0
Upper elevation limit (m): 1500
Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: Yes
Population severely fragmented: No
Continuing decline in subpopulations: Yes
Extreme fluctuations in subpopulations: No

Population
All individuals in one subpopulation: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 5.6
Movement patterns: Not a Migrant

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: BirdLife International; Botanic Gardens Conservation International; Conservation International; Microsoft; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London.