

Tarsius tarsier, Spectral Tarsier

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Tarsiidae

Scientific Name: *Tarsius tarsier* (Erxleben, 1777)

Synonym(s):

- *Lemur tarsier* Erxleben, 1777
- *Tarsius buffonii* Link, 1795
- *Tarsius daubentonii* Fischer, 1804
- *Tarsius macrotarsos* Schreber, 1778
- *Tarsius pallassii* É. Geoffroy Saint-Hilaire, 1796
- *Tarsius podje* Kerr, 1792
- *Tarsius spectrum* Pallas, 1778
- *Tarsius spectrum* (Pallas, 1779)

Common Name(s):

- English: Spectral Tarsier, Eastern Tarsier, Sulawesi Tarsier
- French: Tarsier des Célèbes

Taxonomic Source(s):

Groves, C.P. and Shekelle, M. 2010. The genera and species of Tarsiidae. *International Journal of Primatology* 31: 1082 DOI 10.1007/s10764-010-9443-1.

Assessment Information

Red List Category & Criteria: Vulnerable A2cd [ver 3.1](#)

Year Published: 2020

Date Assessed: November 23, 2015

Justification:

Based on habitat loss alone, this species is considered Vulnerable in that at least 30% of the habitat has been converted in the past 20 years (approximately three generations). From 1990 to 2000, about 15.26% of the forest habitat on the island was converted to agriculture (A. Salim pers. comm.), and since that time at least an additional 10% has been lost. This listing is further justified by the fact that the taxon will be subdivided in the future and that some populations will have much greater threats than others. *Tarsius tarsier*, *sensu lato*, has an estimated extent of occurrence (EOO) of 91,781 km². Within this are 1,782 km² of old growth forest and 33,980 km² of good habitat, yielding an estimate of 35,852 km² of tarsier habitat that is considered good or better. Additionally, there are 27,528 km² of fair habitat. This produces an estimate of 63,380 km² of potentially usable tarsier habitat. Assessed in the broad sense, *T. tarsier* is easily the least endangered tarsier found in Wallacea. On the other hand, *T. tarsier*, *sensu stricto* is sympatric with *Macaca maura*, and by analogy is likely to be highly threatened. Thus, under the current taxonomy *T. tarsier* should be considered to have a conservation status of no greater than Vulnerable and possibly as little as Least Concern, but in the more restricted sense it would likely

be a candidate for Critically Endangered. This example illustrates the urgent need for more taxonomic work on Sulawesi tarsiers. The problem is not trivial, since at least 17 potentially new taxa have been discovered within the population of tarsiers that Niemitz (1984) classified as a single subspecies. This is particularly true since, owing to the conservation threats to some smaller populations with restricted ranges, there is the possibility that they may go extinct before they have even been named. This in turn argues in favor of the most conservative conservation estimate that can be justified for *T. tarsier*.

Geographic Range

Range Description:

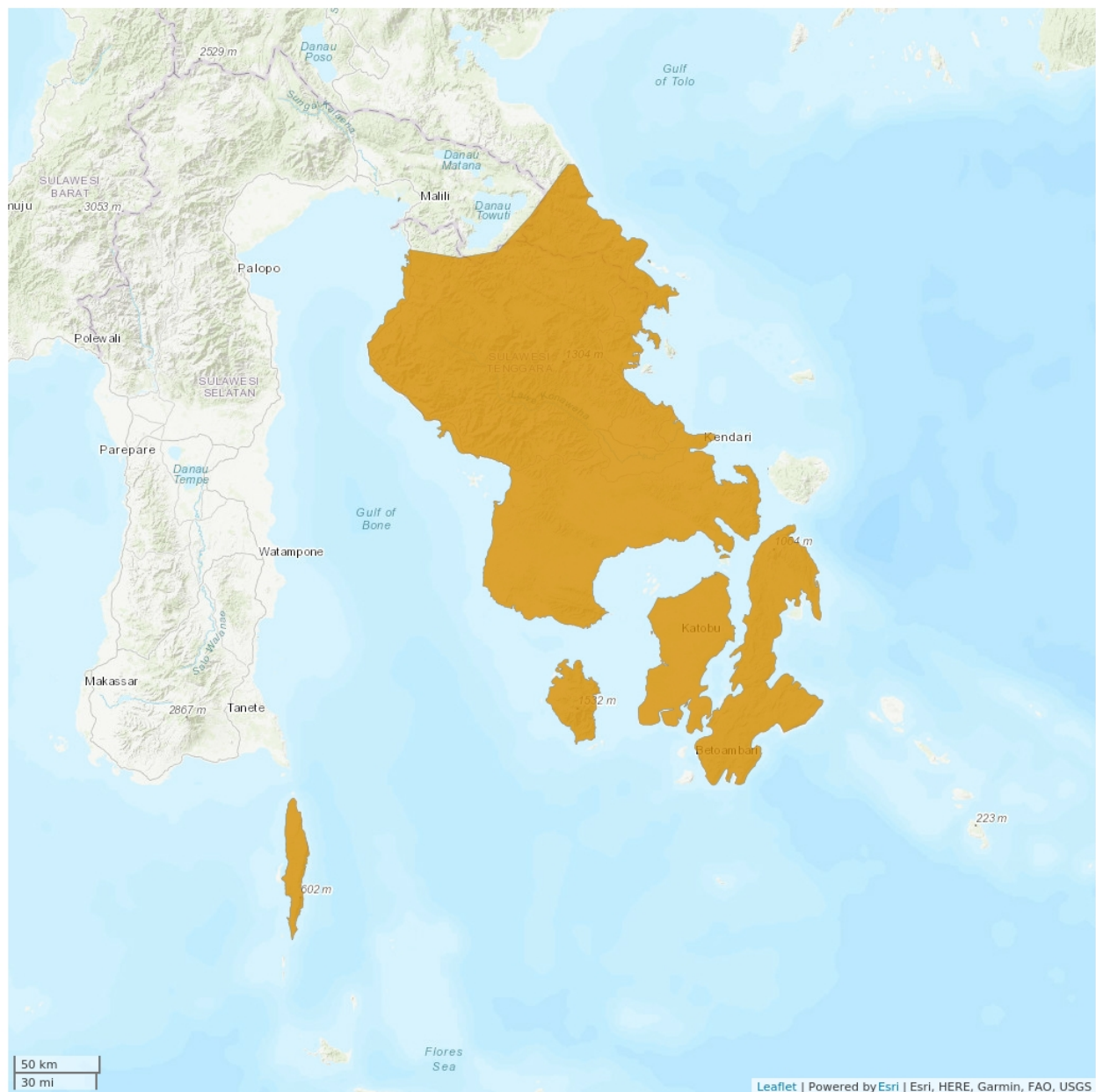
By definition, *Tarsius tarsier* is the rump taxon of tarsiers that remain in the Sulawesi biogeographic region, after excluding the other named taxa, i.e. *T. fuscus*, *T. sangirensis*, *T. pumilus*, *T. dentatus*, *T. pelengensis*, *T. lariani*, *T. tumpara*, *T. wallacei*, *T. spectrumgurskyae*, *T. supriatnai*, and *T. niemitzii*. This leaves *T. tarsier*, *sensu lato*, with an unlikely distribution that includes Selayar Island, Southeast Sulawesi, and the islands of Buton, Muna, and Kabaena, below 1,800 m (with an actual vertical distribution that likely stops somewhere between 1,100–1,500 m). As discussed by Brandon Jones *et al.* (2004), this distribution is improbably disjunct. It is more likely that this population is subdivided into numerous insular and parapatric species, as hypothesized by Shekelle and Leksono (2004) and Brandon Jones *et al.* (2004), as the populations from the northern arm and from the Togian Islands were recently described.

Area of occupancy for this species on Selayar Island is ca 820 km², and it will likely be classified as Endangered, when the alpha taxonomy of the genus *Tarsius* has been settled.

Country Occurrence:

Native, Extant (resident): Indonesia (Sulawesi)

Distribution Map

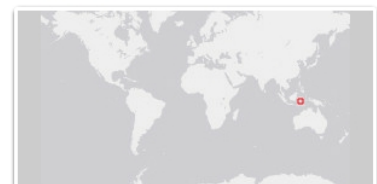


Legend

■ EXTANT (RESIDENT)

Compiled by:

IUCN (International Union for Conservation of Nature) 2020



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

Population

Within *Tarsius tarsier*, *sensu lato*, the best studied population comes from Tangkoko, which is at the extreme northeast peninsula of Sulawesi, whereas Makassar, the type locality of *T. tarsier sensu stricto*, is at the extreme southwestern peninsula, and has not been the subject of systematic study. Population density estimates at Tangkoko are 70 individuals/km² (MacKinnon and MacKinnon 1980) and 156 individuals/km² (Gursky 1997). Merker (2003) estimated population densities for *T. dentatus* in a variety of pristine and human disturbed habitats near Kamarora, on the edge of Lore Lindu National Park. The values he calculated were 270 individuals/km² in pristine habitat, 190 individuals/km² in slightly disturbed habitat, 130 individuals/km² in moderate disturbance, and 45 individuals/km² in heavily disturbed habitat.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Tarsius tarsier sensu stricto has not been the subject of systematic study, but by analogy with wild tarsier populations studied at Tangkoko and with *T. dentatus* at Lore Lindu National Park, it is expected that this taxon is found in primary, secondary and mangrove forests, forest gardens, and a variety of other habitats of varying degrees of human disturbance that provide adequate shrubby cover. It shows extreme adaptations for vertical clinging and leaping (VCL) in the understory of suitable tropical habitats, often two meters or less from the ground. Nocturnal social primates, they likely live in small, monogamous or polygamous groupings of 26. The home range is believed to be less than one hectare. Its diet is 100% live animal prey, mostly insects with some small vertebrates.

Found in hills with bedrocks made of uplifted corals climbing to sparse vegetation and poor soil. Found mainly to occur in degraded forests, secondary growth patches and farmland scrubs. No information is available on their breeding except that a family captured in late September had two juveniles weighing 73g and 75g indicating that they were born just a few months ago. One such trapped family was found to include one adult female, an adult male, sub-adult female, and two juveniles. Monogamous or polygamous family structure with similar home ranges to lowland tarsiers.

Systems: Terrestrial

Use and Trade

The species is caught for the pet trade in parts of its range.

Threats (see Appendix for additional information)

Major threats include habitat loss due to agriculture, illegal logging, mining of limestone for cement manufacture, agricultural pesticides, and predation by domestic animals (dogs and cats). Some animals are entering the pet trade (particularly from North Sulawesi, around Tankoko). Although there has been extensive loss of habitat, this species, however, has demonstrated some tolerance to forest conversion. Although seemingly among the least threatened of tarsiers owing to its relatively wide distribution, the possible existence of undescribed cryptic species makes it likely that some populations are more threatened than others. This species should be reassessed upon further taxonomic revision.

The Selayar Island is proposed for a large oil refinery. Most of the forested region has already been altered and forests reduced or degraded. There are no protected areas either. This situation really calls for an up-gradation of their protected status to Critically Endangered.

Conservation Actions (see Appendix for additional information)

Tarsiers are protected by international treaties, including CITES Appendix II, as well as by national law. Categorized as Vulnerable by IUCN. Earlier IUCN assessments considered all Sulawesi tarsiers as of this species but now the Selayar Tarsier is considered to be a distinct taxon endemic to Selayar Island.

Many portions of the range of this taxon are within conservation areas, but there needs to be improved management of these areas to ensure the continued survival of the species. Public education to overcome the misconception that tarsiers are crop pests would be a step forward in improving conservation measures. Indeed, the species might actually be beneficial to crops, as they eat, and may even have a dietary preference for, some real crop pests such as large grasshoppers.

Credits

Assessor(s): Shekelle, M

Reviewer(s): Molur, S. & Mittermeier, R.A.

Authority/Authorities: IUCN SSC Primate Specialist Group

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External Resources

For [Supplementary Material](#), and 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	-	Suitable	Yes
1. Forest -> 1.7. Forest - Subtropical/Tropical Mangrove Vegetation Above High Tide Level	-	Suitable	Yes
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	-	Suitable	Yes
14. Artificial/Terrestrial -> 14.3. Artificial/Terrestrial - Plantations	-	Suitable	Yes
14. Artificial/Terrestrial -> 14.4. Artificial/Terrestrial - Rural Gardens	-	Suitable	Yes
14. Artificial/Terrestrial -> 14.6. Artificial/Terrestrial - Subtropical/Tropical Heavily Degraded Former Forest	-	Suitable	Yes

Use and Trade

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

End Use	Local	National	International
Pets/display animals, horticulture	Yes	Yes	No

Threats

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

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	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		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming	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		
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem 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 Stresses -> 2.1. Species mortality		

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 -> 8.1.2. Named species (Felis catus)	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
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%)	Slow, significant declines	Medium impact: 6
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.4. Type Unknown/Unrecorded	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: No
Occurs in at least one protected area: Yes
Invasive species control or prevention: No
In-place species management
Harvest management plan: No
Successfully reintroduced or introduced benignly: No
Subject to ex-situ conservation: No
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: Yes
Subject to any international management / trade controls: Yes

Conservation Actions Needed

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

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.1. Species management -> 3.1.2. Trade management
4. Education & awareness -> 4.1. Formal education
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. 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 -> 1.4. Harvest, use & livelihoods
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Estimated extent of occurrence (EOO) (km ²): 98781
Lower elevation limit (m): 0
Upper elevation limit (m): 1,100
Population
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 7.5

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