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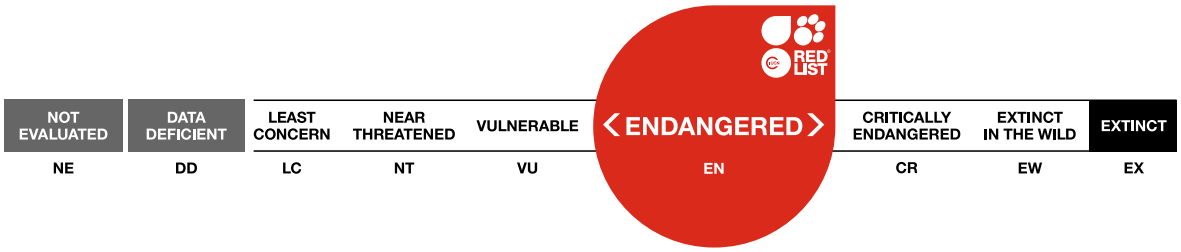
Scope(s): Global
Language: English

Semnopithecus vetulus, Purple-faced Langur

Assessment by: Rudran, R., Dittus, W., Gamage, S.N. & Nekaris, K.A.I.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Cercopithecidae

Scientific Name: *Semnopithecus vetulus* (Erxleben, 1777)

Synonym(s):

- *Trachypithecus vetulus* (Erxleben, 1777)

Infra-specific Taxa Assessed:

- Semnopithecus vetulus ssp. monticola
- Semnopithecus vetulus ssp. nestor
- Semnopithecus vetulus ssp. philbricki
- Semnopithecus vetulus ssp. vetulus

Common Name(s):

- English: Purple-faced Langur, Purple-faced Leaf Monkey
- French: Semnopithèque Blanchâtre
- Spanish; Castilian: Langur De Cara Roja

Taxonomic Source(s):

Wang, X-P., Yu. L., Roos, C., Ting, N., Chen, C.P., Wang, J. and Zhang, Y.P. 2012. Phylogenetic Relationships among the Colobine Monkeys Revisited: New Insights from Analyses of Complete mt Genomes and 44 Nuclear Non-Coding Markers. *PLoS One* 7(4): e36274. doi: 10.1371/journal.pone.0036274.

Taxonomic Notes:

Mitochondrial DNA studies now classify *Trachypithecus vetlus* and *Trachypithecus johnii* under the genus *Semnopithecus* (Osterholz *et al*. 2008, Wang *et al*. 2012). Four subspecies of *Semnopithecus vetulus* are recognized, namely: *vetulus*, *monticola*, *nestor*, and *philbricki*. An additional subspecies, *S. v. harti*, is also recognized by some experts, but is here included as a synonym of *S. v. philbricki* (Groves 2001).

• Southern Purple Faced Langur, *Semnopithecus vetulus vetulus* (Erxleben 1777): Southwestern Sri Lanka in the Wet Zone, from Kalu Ganga (River) to Ranna in the south up to an elevation of 1,000 m.

• Highland Purple Faced Langur, *Semnopithecus vetulus monticola* (Kelaart, 1850): Central Sri Lanka (1,000-2,200 m).

• Western Purple Faced Langur, *Semnopithecus vetulus nestor* (Bennett, 1833): Western Sri Lanka in the Wet Zone North of Kalu Ganga (River), up to 1,000 m elevation.

• Northern Purple Faced Langur, *Semnopithecus vetulus philbricki* (Philips, 1927): Northern and Eastern Sri Lanka in the Dry Zone, up to 1,500 m.

Assessment Information

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Red List Category & Criteria: Endangered A2cd+3cd ver 3.1

Year Published: 2020

Date Assessed: November 21, 2015

Justification:

This species is listed as Endangered as it is suspected to have undergone a decline of more than 50% over the last three generations (36 years, given a generation length of 12 years) due to selective logging, expanding human settlements, agriculture, plantations, ill-conceived capture and releases, which have increased human-primate conflicts. If appropriate steps are not taken this species, which is undergoing same rates of declines presently, is predicted to decline at the current rate over the next three generations, mainly due to ongoing habitat loss and increased conflicts.

Previously Published Red List Assessments

2008 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T22042A9350371.en

2000 – Endangered (EN)

1996 – Vulnerable (VU)

Geographic Range

Range Description:

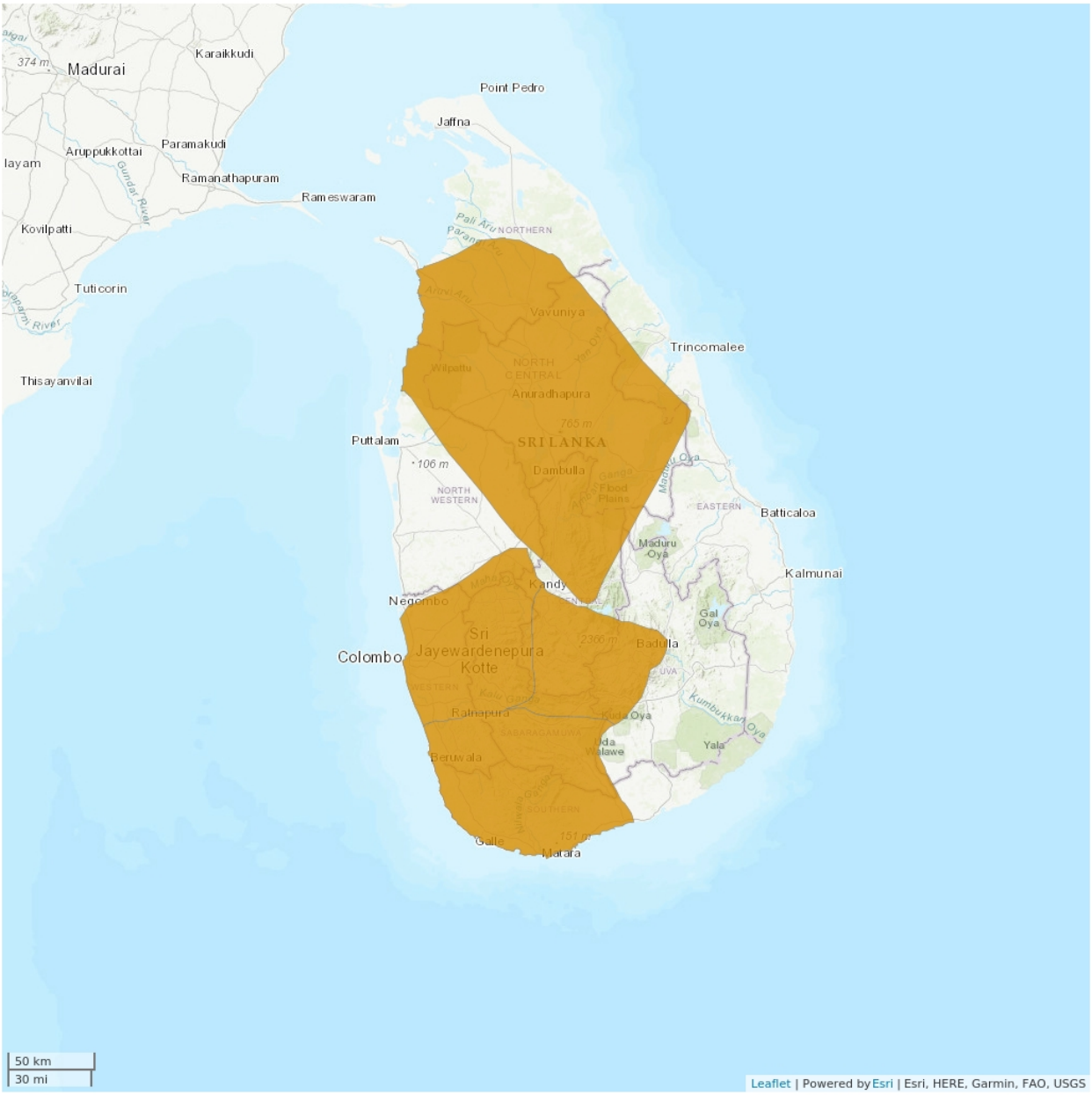
Semnopithecus vetulus is endemic to Sri Lanka (Corbet and Hill 1992). This species is distributed throughout Sri Lanka except in the dry and arid zones in the east and southeast parts of the island (which are occupied by the Grey Langur). It is highly arboreal and inhabits forests along the western and southwestern coasts and extends eastwards beyond the lowland rainforests into intermediate and dry zone forests and the cloud forests in the centre of the island.

This species is estimated to range across 46,500 km² on the island occupying an area of approximately 12,000 km² in many fragmented locations throughout.

Country Occurrence:

Native, Extant (resident): Sri Lanka

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.

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Population

Population counts are scarce but extensive habitat destruction suggests that the species is in serious decline. Average group size is 8.9 individuals (range 3-14, n=27) in *Semnopithecus vetulus monticola* (Rudran 1970). Group sizes vary from 3 to 26 individuals and those larger than 12 were found only in non-forested areas in *S. v. nestor* (Cabral pers. comm).

Current Population Trend: Decreasing

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

This species is diurnal, highly arboreal and territorial. During intergroup encounters it emits loud whoop calls accompanied by spectacular jump displays between branches (Rudran 1970, 2012; Pethiyagoda 2012). Reproductively active social groups vary in size from 3 to 26 individuals and often include a single male, several adult females and their offspring. Predominantly-male groups with several adult and immature males and a few immature females have also been documented in *S. v. philbrickii, S.v. monticola* and *S.v. nestor* (Rudran1970, 1973 a,b, 2012; Dela 1998). Males from such groups invade reproductively active units and periodically succeed in taking over the adult females, and evicting the resident male and his immature offspring of both sexes from their natal groups (Rudran 1973b). Infants of the resident male may get killed in these violent takeovers.

Semnopithecus vetulus vetulus

This subspecies inhabits Sri Lanka's lowland and midland tropical rainforests and human modified areas of this habitat (Molur *et al*. 2003). occupies low to middle elevation rainforests, commercial plantations, home gardens and rocky and treeless coastal slopes of Galle. In forest fragments bordering tea plantations and home gardens thirty white colour morphs were observed mixed with the standard *S. v. vetulus* morph (Pethiyagoda 2012; Roscoe *et al*. 2013).

Where the natural habitat has been destroyed, groups take refuge in home gardens and plantation forests. However, stability of these habitats is also unpredictable and offers no long-term survival prospects for the taxon.

Semnopithecus vetulus nestor

This subspecies is also a denizen of lowland rainforests but is frequently found in urban, semi-urban and rural home gardens or rubber plantations due to destruction of its habitat (Rudran 2007). It is found in fragments of low elevation tropical rainforests, home gardens, and rubber plantations. Groups living near human habitations consume large amounts of cultivated fruits like mango (*Mangifera indica*) jak (*Artocarpus heterophyllus*) and banana (*Musa* spp). However, groups living in fragmented natural habitats exploited a far more folivorous diet comprising an average of about 80% leaves and 5% fruits (Rudran 2007, Rudran *et al*. 2013). Group sizes varied from 3-26 individuals and those larger than 12 were found only in non-forest areas (Cabral pers. comm).

Semnopithecus vetulus monticola

This subspecies inhabits the short stature montane forests (Rudran 1970, 1973a,b) with slow rates of recovery from habitat destruction. It is found in short stature montane forests. Diet: 39% young leaves, 40% mature leaves, 10% flowers and 10% fruits and seeds Breeding occurs throughout the year. Inter-birth interval of 16-17 months. Average group size is 8.9 individuals (range 3-14, n=27). Home range size

varies from 1.1-10.9 ha (average 5.8 ha) (Rudran 1970, 2012).

Sem*nopithecus vetulus philbricki*
This subspecies occupies dry evergreen and semi-deciduous forest, of the dry zone (Rudran 1970, 1973a,b; Vandercone *et al*. 2012).

Diet: Depending on the locality this subspecies exploits 53% to 62% leaves, 25% to 26% fruits and 11% to 17% blossoms (Rudran, 1970, 2012; Vandercone *et al*., 2012). Mating often occurs from October to February and results in a birth peak between May to August (Rudran, 1970, 1973a, 2012) and an inter-birth interval of 24 months. Group size averages 8.4 individuals/group (range 3-14). Home range: 0.9-8.6ha. This subspecies is sympatric with *Semnopithecus priam thersites.*

Systems: Terrestrial

Use and Trade

The species is hunted for food and for making ornaments.

Threats (see Appendix for additional information)

According to government data the country lost more than 50% of its forest cover between 1956 and 2003. Continuing loss of forested areas in the last 36 years at the same rate is still the most serious threat to the survival of the species and all four subspecies. Conflicts with humans have recently become a serious issue as well. Other threats identified by Molur *et al*. (2003) such as selective logging, expanding human settlements, agriculture, plantations, ill-conceived capture and releases, which have increased human-primate conflicts are also evident today.

Semnopithecus vetulus vetulus: Selective logging and deforestation for the establishment of human-settlements, agriculture, and commercial plantations are the most serious threats to this taxon. Occasional hunting for meat and pelts for drums also serve as threats.

Semnopithecus vetulus monticola: When 80% of hill country forests were lost to tea plantations in the 19th century this taxon lost a large proportion of its natural habitat. More recently its habitat was reduced by deforestation within protected areas. Habitat loss through firewood extraction by the rural poor and forest die-backs have also undermined the survival of this subspecies.

Semnopihecus vetulus nestor: Extensive deforestation to satisfy the needs of a rapidly increasing human population around the country's Capital, Colombo is the most serious threat to the survival of this subspecies. In these fragmented human dominated landscapes, death due to electrocution, collision with speeding vehicles and attacks by village dogs also pose serious threats to survival (Rudran 2007). Additionally, habitat fragmentation has resulted in local extinction within the range of this taxon (Rudran 2007, Parker *et al*. 2008).

Semnopithecus vetulus philbricki: Deforestation due to shifting agriculture and colonization schemes has been a perennial survival problem for this subspecies. After the Mahaweli Agricultural Development Scheme was launched in 1978 the habitat available for this taxon was further reduced.

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Conservation Actions (see Appendix for additional information)

This species is listed in CITES Appendix II. To promote the conservation of all four subspecies, Molur *et al.* (2003) recommended several actions like habitat management, scientific research, population monitoring, viability analyses, implementation of extant conservation laws and public education, Given these recommendations a field survey was conducted within the range of *S. v. nestor*, the critically endangered subspecies (Rudran 2007). This survey confirmed that habitat loss due to deforestation was the most serious threat to *S. v. nestor*'s survival. Meanwhile, there was growing awareness that the size of Sri Lanka's forests was inadequate for the country's environmental stability, and led to a Presidential decree that forest cover must be increased from 27% to 36% of the land area (Rajapakse 2010; Yatwara 2011). The decree also stipulated the use of native species to increase forest cover. Hence an excellent opportunity arose to study the food habits of *S. v. nestor*, so that its food plants could be used to reforest degraded habitats (Rudran *et al*. 2013).

While the above investigation was underway, interactions with people living around the study site revealed that increasing forest cover would not be possible without the support of impoverished local communities. Therefore, a comprehensive conservation awareness program was added to the research initiative. This program included a schools lecture and nature walk initiative to promote conservation awareness among the next generation of environmental stewards. It also included vocational training programs for adults to improve their opportunities for employment and income generation. The needs of community elders were addressed as well, through a health clinics initiative that provided medicines for old age problems like diabetes, hypertension, arthritis and spectacles and free cataract surgery for seniors with visual impairments. The success of this program led to its replication at a locality within the range of *S. v. monticola* where a reforestation project and initiatives to prevent firewood extraction from natural habitats were also underway. While conservation actions during the past six years were limited to two areas, several newspaper articles were published to promote conservation awareness throughout the country.

Future conservation actions will include field surveys of the known ranges of all four subspecies with the objective of identifying two or more sites within each range that could be developed as protected areas. The above-mentioned activities will then be launched in nearby communities, and people will also be trained in protected area administration and management, nature guiding and interpretation, small business management and other vocations that help to promote the sustainable use of their protected area under the supervision of the government's Department of Wildlife Conservation. Efforts to mitigate human-monkey conflicts with active participation of local communities will also be an important component of future conservation actions.

Active participation of local communities in managing and deriving sustainable benefits from natural habitats is a new concept in Sri Lanka. It was presented and discussed during two workshops where it received favourable responses from government authorities and non-governmental organizations. Therefore, this idea has been incorporated into a Conservation Action Plan for all Sri Lankan monkey species that is currently being developed according to IUCN guidelines. When this Action Plan is completed it will be submitted to the Sri Lankan government and the IUCN for approval.

While a sensible conservation action plan has been developed its implementation will depend a great deal on political will, financial support and many unknowns about people and their environment.

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Therefore, even with unfettered financial and political support it may take several years to bring this action plan to fruition. However, a start has been made with the hope that the threat of endangerment and extinction of the Purple-faced Langur will be eliminated as soon as possible.

Credits

Assessor(s): Rudran, R., Dittus, W., Gamage, S.N. & Nekaris, K.A.I.

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 -> 1.5. Forest - Subtropical/Tropical Dry	-	Suitable	Yes
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	-	Suitable	Yes
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	-	Suitable	Yes
14. Artificial/Terrestrial -> 14.3. Artificial/Terrestrial - Plantations	-	Marginal	-
14. Artificial/Terrestrial -> 14.4. Artificial/Terrestrial - Rural Gardens	-	Marginal	-

Use and Trade

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

End Use	Local	National	International
Food - human	No	No	Yes
Handicrafts, jewellery, etc.	No	No	Yes

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	-	-	Low impact: 3
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
1. Residential & commercial development -> 1.2. Commercial & industrial areas	Ongoing	-	-	Low impact: 3
	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 -> 2.1.1. Shifting agriculture	Ongoing	-	-	Low impact: 3
	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	-	-	Low impact: 3
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

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2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry 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		
4. Transportation & service corridors -> 4.2. Utility & service lines	Ongoing	-	-	Low impact: 3
	Stresses:	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	-	-	Low impact: 3
	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		

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
Area based regional management plan: No
Occurs in at least one protected area: Yes
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: Yes
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
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
4. Education & awareness -> 4.1. Formal education
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
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 area of occupancy (AOO) (km²): 12000
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 46568
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): Unknown
Lower elevation limit (m): 50
Upper elevation limit (m): 2,200
Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown

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Population
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 12

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.

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