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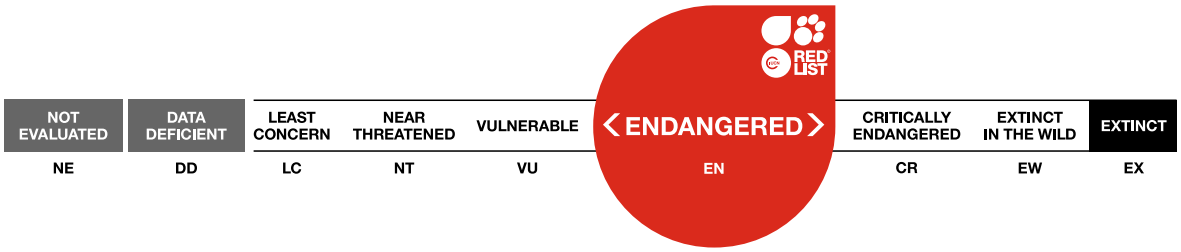
Macaca sinica, Toque Macaque

Assessment by: Dittus, W. & Watson, A.C.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Cercopithecidae

Scientific Name: *Macaca sinica* (Linneaus, 1771)

Synonym(s):

- *Macaca audeberti* (Reichenbach, 1862)
- *Macaca inaurea* Pocock, 1931
- *Macaca longicaudata* Deraniyagala, 1965
- *Macaca pileatus* (Ogilby, 1838)

Infra-specific Taxa Assessed:

- Macaca sinica ssp. aurifrons
- Macaca sinica ssp. opisthomelas
- Macaca sinica ssp. sinica

Common Name(s):

- English: Toque Macaque
- French: Macaque Couronné, Macaque Toque
- Spanish; Castilian: Macaca De Sri Lanka
- German: Hutaffe
- Sinhala; Sinhalese: rilawa
- Tamil: Sen Kurunga

Taxonomic Notes:

Aside from the two previously recognized forms, a third subspecies, *M. s. opisthomelas*, is also now also recognized by primate field biologists in Sri Lanka, which is assessed separately here. There is some inter-gradation between the three subspecies (Groves, 2001; Dittus, 2013).

The taxonomy of *Macaca sinica*:

The species belongs to the *sinica* group (Groves, 2001)**.** Three subspecies are recognized and assessed here:

- *Macaca sinica sinica* (Linnaeus, 1771)
- *Macaca sinica aurifrons* (Pocock, 1931)
- *Macaca sinica opisthomelas* (Hill, 1942)

In addition to the two previously recognized forms, a third subspecies, *M. s. opisthomelas* first described by Hill (1942), is confirmed by primate field biologists in Sri Lanka (Dittus 2013; Eisenberg and McKay 1970; Phillips 1935, 1980). It is a distinct phenotype apical in the higher elevations of the montane zone. It is not a type intermediate (in morphology or geographic distribution) between *M. s. aurifrons* and *M. s. sinica* as had been suggested by Brandon-Jones et al. (2004) and Groves (2001) following the suggestion by Fooden (1979). It was first assessed in 2003 (CAMP 2003, Molur *et al*. 2003, Dittus *et al*.

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2008) and is updated here along with the other macaque subspecies. A fourth population *M. s. longicaudata* has been described by Deraniyagala (1965) but its status is uncertain and has been considered as a variant *of M. s. sinica* (Eisenberg and McKay, 1970). There are some intergradations between the three subspecies where their respective areas of occupancy overlap (Groves, 2001).

Assessment Information

Red List Category & Criteria: Endangered A2cd+4cd ver 3.1

Year Published: 2020

Date Assessed: November 28, 2015

Justification:

Although this is a widely distributed species on Sri Lanka, the population is suspected to have declined by more than 50% in the last 40 years (approximately three generations) due to habitat loss at an equal or slightly higher rate. The species is also threatened from persecution as a pest, and minimally from the pet industry

More specifically, according to government data, during the 42-year period (1956-1993) the country lost 50% of its forest cover, and more than 70% if the last 22 years to the present are included. There is a 1:1 relationship between loss of critical habitat and population number of macaques (Dittus 1977). Since 2003 a new threat has emerged: it involves translocating animals considered pests to unsuitable habitats where macaque survival is at risk (Dittus 2012a,b). In addition, there has been a loss of at least 15% of natural habitat in the Northern Dry Zone areas, especially since the end of the war in 2009 and further losses are expected (Mattsson *et al*. 2012). The large-sized protected areas (as well as unprotected ones) in the dry and arid zones provide suitable ecological habitat in less than 2% of their areas: only along the narrow riverine forests for this water dependent species (Dittus 1977). Therefore, macaque densities in most National Parks and other remaining tracts of the dry zone forests have been estimated to be extremely low: at 0.2–0.5/km² (Eisenberg and Lockhart 1972, McKay 1973, Dittus 1977). Wet zone habitats (*M. s. aurifrons*) are densely populated by humans and macaques are isolated in fragmented patches and are treated as pests (Nekaris *et al*. 2013). In the montane areas, *M. s. opisthomelas* is assessed here as Critically Endangered. This endemic species is threatened also by the fact that it has no legal protection but is managed as a pest species. In human-monkey conflict situations people are at liberty to kill macaque monkeys, and some commercial air-rifle sellers advertise their products with macaques as targets. The overall empirical profile for the species justifies IUCN Endangered status. Notwithstanding, the public perception of macaque numbers countrywide is highly overblown because macaques are often lured out of the forest towards refuse and crops where they are seen easily. Garbage feeding macaque populations can grow exponentially (Dittus 2012, Dittus *et al*. 2019). These facts, together with macaque-human conflict (Nekaris *et al*. 2013, Cabral *et al*. 2018, Dittus *et al*. 2019), have misled some people to question the species' overall threatened status, and therefore poses a political challenge for conservation policy and management.

Previously Published Red List Assessments

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2008 – Endangered (EN)
https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T12560A3358720.en

2000 – Vulnerable (VU)

1996 – Lower Risk/near threatened (LR/NT)

Geographic Range

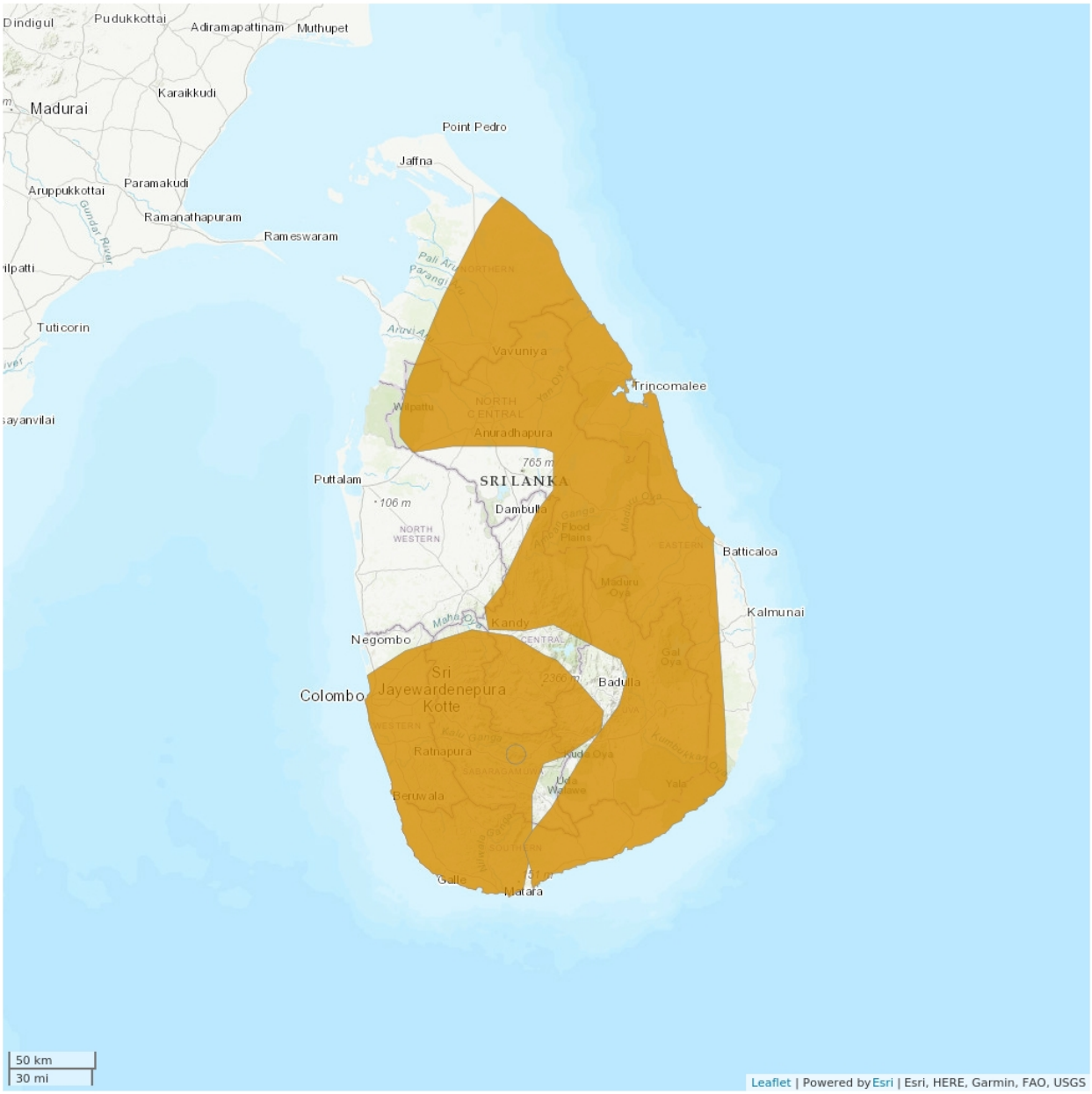
Range Description:

The species as a whole is endemic to Sri Lanka. The subspecies *Macaca sinica sinica* is found in the north and east of the island, *M. s. aurifrons* in the south-west, and *M. s. opisthomelas* in the central montane region. The species and its subspecies are very fragmented in their distribution, with the wet zone form, *M. s. opisthomelas* being highly restricted to less than 500 km² in extent of occurrence and less than 100 km² in area of occupancy (Molur *et al*., 2003; Dittus *et al*. 2018).

Country Occurrence:

Native, Extant (resident): Sri Lanka

Distribution Map



Legend

EXTANT (RESIDENT)

Compiled by:

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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

The species is widely distributed in Sri Lanka where virtually all populations inhabiting undisturbed natural forest are in decline owed to habitat loss. The three subspecies vary in the degree of old-growth habitat remaining to support population numbers and that of the montane subspecies *Macaca sinica opishtomelas* is the most threatened. Towns, tourist and temple provides macaques access to human foods and this has developed into concentrations of conspicuous pest macaques at these sites. These sites are highly localized and do not represent macaque population numbers countywide.

Current Population Trend: Decreasing

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

The species is found in a variety of forest types (Dittus, 1977) at all altitudes up to about 2,100 m (Corbet and Hill 1992). em style="font-family: Georgia, serif; font-size: 12pt;">Macaca sinica aurifrons is found in lowland and midland tropical rainforest and wet zone lowland forests, em style="font-family: Georgia, serif; font-size: 12pt;">M. s. opisthomelas in montane tropical rainforest, and em style="font-family: Georgia, serif; font-size: 12pt;">M. s. sinica in the extensive dry evergreen forest near permanent water. The species is mainly arboreal and terrestrial and diurnal. It is frugivorous, but also consumes flowers, new leaf shoots, tubers, insects, and the occasional small vertebrate. It adapts easily to human foods (Hladik and Hladik, 1972, Dittus, 1977). Its local and wider geographic distributions are limited by the availability of free water; in the dry and arid zones this means that its ecological distribution is far less than suggested by the area of occupancy in red lest assessments (Dittus, 2013).

Systems: Terrestrial

Use and Trade

The species is in trade, kept as pets in the dry zone.

Threats **(see Appendix for additional information)**

The chief threat to this species is habitat loss owing to the encroachment of plantations, and fuel wood collection. Other threats include shooting, snaring and poisoning of the animals, as they are considered to be crop pests (Dittus 2012, Molur *et al*. 2003).

According to government data, during one 42-year period (1956-1993), the country lost 50% of its forest cover and more than 50% if the last 10 years (1994-2003) are included. Over the last 15 years the rate of decline has remained the same with increasing pressures of habitat modification, forest die back, agriculture, plantations, and settlements. There is a 1:1 relationship between loss of critical habitat and population number. Therefore, the species is reduced numerically minimally by 50% (Dittus 2012, Molur *et al*. 2003). Much of the original forested habitat of *M. s. aurifrons* in the southwest rainforest areas has been converted to agriculture, home gardens and plantations. These habitats are inimical to macaque survival because the animals are not tolerated by humans (Molur *et al*. 2003, Nekaris *et al.* 2013, Cabral *et al*. 2018). In addition, 80% of hill country forests were lost to tea plantations during the 19th century. The populatoin of *Macaca s. opisthomelas* has been reduced by >80% over the last 20 years. This trend is continuing as high elevation natural forests are being converted to agriculture (vegetable plots and dairy pasture) (Molur *et al*. 2003, Dittus 2013, Gamage *et al*. 2015, Wickramanayake and Gunatilleke

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2002, Wijesundera 2012); the subspecies is assessed as Critically Endangered. The Mahaweli Development Scheme has destroyed much dry-zone forest habitat of *M. s. sinica* (Molur *et al*. 2003) and continues to impact dry zone forests (Mattson *et al*. 2012, Jayasuriya *et al*. 2006). The protracted civil war in Sri Lanka has had a negative impact on habitat and wildlife in the dry zone (Santiapillai and Wijeyamohan 2003).

The species is also persecuted due to increasing human-wildlife negative interactions throughout the range (Dittus *et al*. 2019, Cabral *et al*. 2018, Nekaris *et al*. 2013). The declines are predicted to continue for another 2-3 decades given the increasing population impacts, development schemes, lack of political will, expanding agriculture and plantations, forest die back, tourism, linear intrusions, and general lack of habitat and wildlife promoting attitudes.

Conservation Actions **(see Appendix for additional information)**

Although protected internationally under CITES Appendix II, this is the only endemic species not protected by law in Sri Lanka (Molur *et al*. 2003).

Macaca sinica sinica occurs in the following protected areas: Menikdene Archaeological Reserve, Ritigala Reserve, Sigiriya Sanctuary, NIFS Popham Arboretum, VRR Sanctuary, Wasgamuwa NP, Angammedilla NP, Hurulu FR , Kaudulla NP, Minneriya NP, Somawathiya NP, Flood Plains NP, Maduru Oya NP, Gal Oya NP, Wilpattu NP, Yala (Ruhunu) NP, Kumana (Yala East) NP, Lahugala Kitulaga NP, Udawalawe NP (intergrades with M. s. aurifrons) , Polonnaruwa Nature Sanctuary, Kanthale Naval Sanctuary, Mihintale Sanctuary, Thangamalai Sanctuary, Kantalai FR, Elahera FR, Baddaragala Sanctuary, Kaludiyapokuna FR, Ritigala Nature Reserve.
Macaca s. aurifrons is known to occur in numerous protected areas, including: Attidiya-Belanwila Sanctuary, Buddaragala Sanctuary, Dombagaskande Forest Reserve, Kitulgala Sanctuary, Kurulukelle Sanctuary, Menikdena Archaelogical Reserve, Muthurajawela Sanctuary, Remmalakanda Forest Reserve, Rendenigala Sanctuary, Sinharaja Forest Reserve, Udawalawe National Park, Udawattekele Sanctuary,

Macaca s. opisthomelas occurs in the Peak Wilderness Area (high elevations) and the Hakgala Strict Natural Reserve, and marginal areas of the Horton Plains National Park. Although listed internationally under CITES Appendix II, this is the only endemic species not protected by law within Sri Lanka (Flora and Fauna Protection [Amendment] Act, no. 22 of 2009) where the species is generally considered a pest. Recent red list reviews by the Sri Lankan government (independently of the IUCN) assess the macaque species' status as "Least Concern"; the subspecies were not evaluated (MOE, 2012). With respect to Sri Lankan primates, different approaches to red list assessment have led to conflicting conclusions about taxon status (Dittus 2013).

The conservation of the Toque Macaque should be improved by upgrading this species to protected status in Sri Lankan wildlife ordinances. Human-monkey conflict would be greatly reduced by effective management of food refuse discarded by humans in a manner that prevents macaques, langurs and other wildlife from gaining access to it. Crop raiding by monkeys can be reduced by engaging professionally trained crop guardians. Human-macaque conflict reduction should be addressed as one component of a more general human-wildlife conflict challenge, and translocation of any wild animals

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considered as pests (macaques, purple-faced langurs, elephants) should be outlawed for the welfare of animals and humans alike (Dittus 2012 a,b; Dittus *et al*. 2019; Fernando *et al*. 2012).

Credits

Assessor(s): Dittus, W. & Watson, A.C.

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

Authority/Authorities: IUCN SSC Primate Specialist Group

Bibliography

Brandon-Jones, D., Eudey, A.A., Geissmann, T., Groves, C.P., Melnick, D.J., Morales, J.C., Shekelle, M. and Steward, C.B. 2004. Asian primate classification. *International Journal of Primatology* 25: 97-164.

Cabral S. J., Prasad T., Deeyagoda T. P., Weerakkody S. N., Nadarajah A. and Rudran R. 2018. Investigating Sri Lanka's human-monkey conflict and developing a strategy to mitigate the problem. *Journal of Threatened Taxa* 10(3): 11391–11398.

Corbet, G.B. and Hill, J.E. 1992. *Mammals of the Indo-Malayan Region: a Systematic Review*. Oxford University Press, Oxford, UK.

Deraniyagala. 1965. A new subspecies of macaques, Macaca sinica longicaudata from Ceylon. *Spolia Zeylanica* 30: 261-264.

Dittus, WPJ. 1977. The socioecological basis for the conservation of the toque monkey (Macaca sinica) of Sri Lanka (Ceylon). In: Primate Conservation. In: H. S. H. P. Rainier and G. H. Bourne, eds. (eds). Academic Press, New York.

Dittus, WPJ. 2012a. An online forum for exchanging ideas for dealing with issues of pest monkeys. *Journal of Primatology* 1: 1-2.

Dittus, WPJ. 2012b. Problems with pest monkeys: myths and solutions. *Loris* 26(3&4): 18-23.

Dittus, W.P.J. 2013. Subspecies of Sri Lankan mammals as units of biodiversity conservation, with special reference to the primates. *Ceylon Journal of Science (Bio. Sci.)* 42(2): 1-27.

Dittus, W.P.J. 2013. Subspecies of Sri Lankan mammals as units of biodiversity conservation, with special reference to the primates. *Ceylon Journal of Science (Bio. Sci.)* 42(2): 1-27.

Dittus, W. P. J, Gunatilake, S. and Felder, M. 2019. Assessing perceptions and solutions to human-monkey conflict from 50 years in Sri Lanka. *Folia Primatologica* 90: 89-108.

Dittus W, Watson A, Molur S. 2008. Macaca sinica.

Eisenberg, J.F. and Lockard, M. 1972. An ecological reconnaissance of Wilpattu National Park, Ceylon. *Smithsonian Contributions to Zoology* 101: 1-118.

Eisenberg, J.F., McKay, G. 1970. An annotated checklist of the recent mammals of Ceylon with keys to the species. *Ceylon Journal of Science, Biological Sciences* 8: 69-99.

Fernando P, Leimgruber P, Prasad T, Pastorini J. 2012. Problem-elephant translocation: translocating the problem and the elephant. *PLoS One* 7(12): e50917.

Flora and Fauna Protection (Amendment) Act. 2009. Supplement to Part II of the Gazette of the Democratic Socialist Republic of Sri Lanka of April 24, 2009. Department of Government Printing, Colombo, Sri Lanka.

Gamage, S.N., Hettiarachchi, C.J., Mahanayakage, C.A., Padmalal, U.K.G.K. and Kotagama, S.W. 2015. Factors influencing site occupancy of montane slender loris (Loris tardigradus nycticeboides) in Sri Lanka. *Wildlanka* 3(2): 68-73.

Groves C.P. 2001. *Primate Taxonomy*. Smithsonian Institution Press, Washington, DC, USA.

Hill WCO. 1942. The highland macaque of Ceylon. *Bombay Nat Hist Soc* 43: 402-406.

Hladik, C.M. and Hladik, A. 1972. Disponibilites alimentaires et domaines vitaux des Primates a Ceylan.

La Terre et la Vie 26: 149-215.

IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-2. Available at: www.iucnredlist.org. (Accessed: 13 June 2020).

Magdon Jayasuriya, A.H., Kitchener, D. and Biradar, C.M. 2006. Portfolio of Strategic Conservation Sites/Protected Area gap Analysis in Sri Lanka. In: Ministry of Environment and Natural Resources (eds).

Mattsson, E., Persson, U.M., Madelene, O.M. and Nissanka, S.P. 2012. REDD plus readiness implications for Sri Lanka in terms of reducing deforestation. *Journal of Environmental Management* 100: 29-40.

McKay, G. 1973. Behavior and ecology of the Asiatic elephant in Southeastern Ceylon. . *Smithsonian Contributions to Zoology* 125: 1-113.

MOE. 2012. *The National Red List 2012 of Sri Lanka; Conservation Status of the Fauna and Flora. Ministry of Environment, Colombo, Sri Lanka.*.

Molur, S., Brandon-Jones, D., Dittus, W., Eudey, A., Kumar, A., Singh, M., Feeroz, M. M., Chalise, M., Priya, P. and Walker, S. 2003. Status of South Asian Primates: Conservation Assessment and Managment Plan Report. Workshop Report, 2003. Zoo Outreach Organization/CBSG-South Asia, Coimbatore, India.

Molur, S., Brandon-Jones, D., Dittus, W., Eudey, A., Kumar, A., Singh, M., Feeroz, M. M., Chalise, M., Priya, P. and Walker, S. 2003. Status of South Asian Primates: Conservation Assessment and Managment Plan Report. Workshop Report, 2003. Zoo Outreach Organization/CBSG-South Asia, Coimbatore, India.

Nekaris KAI, Boulton A, Nijman V. 2013. An ethnoprimatological approach to assessing levels of tolerance between human and commensal non-human primates in Sri Lanka. *Journal of Anthropological Sciences* 91: 219-231.

Pethiyagoda, R. (Ed.). 2012. Horton Plains: Sri Lankas' Cloud Forest National Park. WHT Publications, Colombo.

Phillips, W. W. A. 1935. *Manual of the Mammals of Ceylon*. Dulau and Co. Ltd., London, UK.

Santiapillai, C. and Wijeyamohan, S. 2003. The impact of civil war on wildlife in Sri Lanka. *Current Science* 84: 1182–1183.

Wijesundara, S. 2012. Present status of montane forests in Sri Lanka. In: D. Weerakoon and S. Wijesundara (eds), *The National Red List 2012 of Sri Lanka; Conservation Status of the Fauna and Flora*, pp. 181-185. Ministry of Environment, Colombo.

Wikramanayake, E. D. and Gunatilleke, S. 2002. Sri Lanka montane rain forests. . In: E. D. Wikramanayake, E. Dinerstein, C. Loucks, D. M. Olson, J. Morrison, J. Lamoreux, M. McKnight and P. Hedao (eds), *Terrestrial Ecoregions of the Indo-Pacific.*, pp. 290-293. Island Press, Washington DC.

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

Use and Trade

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

End Use	Local	National	International
Sport hunting/specimen collecting	No	No	Yes
Pets/display animals, horticulture	No	Yes	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	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		
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.1. Small-holder plantations	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 -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.3. Persecution/control	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	2. Species Stresses -> 2.1. Species mortality		

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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		
6. Human intrusions & disturbance -> 6.2. War, civil unrest & military exercises	Past, unlikely to return	-	-	Past impact

Conservation Actions in Place

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

Conservation Action in Place
In-place land/water protection
Conservation sites identified: Yes, over entire range
In-place education
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
4. Education & awareness -> 4.1. Formal education
4. Education & awareness -> 4.3. Awareness & communications
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

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Research Needed
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): 15500-16000
Continuing decline in area of occupancy (AOO): Unknown
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 58373
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): Unknown
Lower elevation limit (m): 0
Upper elevation limit (m): 2,100
Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown
Population severely fragmented: No
Continuing decline in subpopulations: Unknown
Extreme fluctuations in subpopulations: Unknown
All individuals in one subpopulation: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 12-13

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