Grizzled Giant Squirrel *Ratufa macroura* (Pennant, 1769)

Taxonomy

Synonyms

Sciurus zeylanicus (Ray, 1693)
Sciurus macrourus (Pennant, 1769)
Sciurus ceylonicus (Erxleben, 1777)
Sciurus ceylonica (Erxleben, 1777)
Sciurus ceilonensis (Boddaert, 1785)
Sciurus tennentii (Blyth, 1849)
Sciurus macrourus var. *montanus* (Kelaart, 1852)
Sciurus macrourus var. *montana* (Kelaart, 1852)
Ratufa macrourus albipes (Blyth, 1859)
Sciurus macrura (Blanford, 1891)
Ratufa macroura sinhala (Phillips, 1931)

Family: Sciuridae

Level of Assessment: Subspecies - *Ratufa macroura dandolena*

Common Names:
Grizzled Giant Squirrel
Sri Lankan Giant Squirrel

Subspecies

Ratufa macroura macroura (Pennant, 1769)
Ratufa macroura melanochra (Thomas & Wroughton, 1915)
Ratufa macroura dandolena (Thomas & Wroughton, 1915)

Notes on Taxonomy

Ellerman (1961) listed three subspecies that were accepted later by Moore and Tate (1965), Phillips (1981) and Corbet and Hill (1992). *Ratufa macroura dandolena* is the taxon occurring in India (Ellerman 1961) (Agrawal & Chakraborty 1979).

Habit

Arboreal, diurnal, limited social behaviour (Vanitharani 2018).

Habitat and Ecology

Riparian patches (Babu & Kalaimani 2014), five plant species preferred by the *R. macroura* at Chinnar are *Terminalia arjuna*, *Mangifera indica*, *Tamarindus indica*, *Ficus macrocarpa*, and *Syzygium cumini* (Thomas & Nameer 2018).

Niche

Canopy dwellers, forked tree branches (Baskaran et al. 2011).

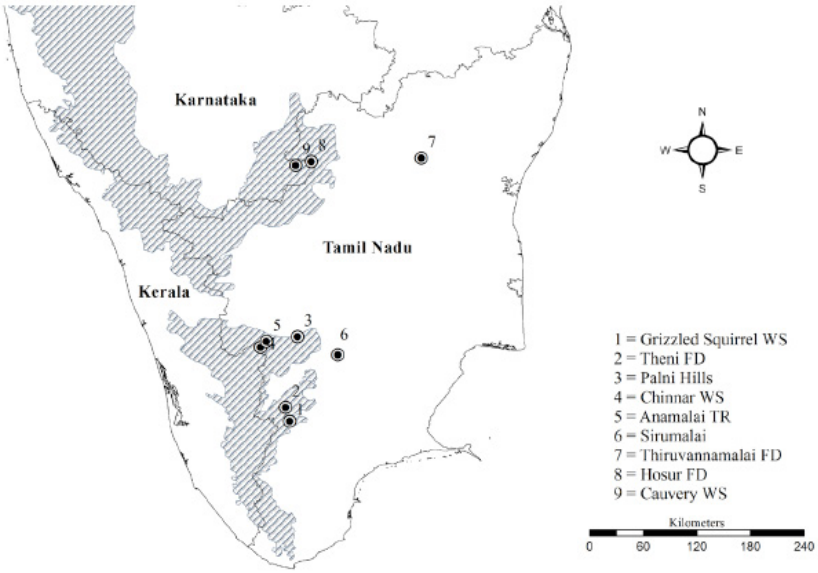
Distribution

Global: India and Sri Lanka (Srinivasulu et al. 2004).
Extent of occurrence: >20,000 km^2
Locations/Subpopulation: 9-10 (in India)

Habitat Status: Severely fragmented by anthropogenic activities, discontinuousforests (Thomas & Nameer 2021).

Geographical Distribution: Srivilliputhur Grizzled Squirrel Wildlife Sanctuary, Theni Forest Division, Palani Hills, Anamalai Tiger

New sighting record of Grizzled Giant Squirrel



Maps indicating geographical distribution of *Ratufa macroura dandolena* in India.
Source: Babu & Kalaimani 2014, *Journal of Threatened Taxa.*

Reserve, Thiruvannamalai Forest Division, Hosur Forest Division, Pakkamalai Reserve Forest in Gingee, Cauvery Wildlife Sanctuary – Shivanasamudra Falls and Mekedatu on the Cauvery river basin, and Chinnar Wildlife Sanctuary (Thomas & Nameer 2021).

Threats: High risk of extinction because of high deforestation rate and habitat fragmentation, eco-tourism, habitat destruction, poor regeneration of fruiting and nesting trees, pilgrim sites, gaps in canopy (Vanitharani, 2018), road kills, increased predation risk due to opening up of the canopy (Baskaran et al. 2011), hybridisation (Thomas et al. 2018).

Trade: Not traded.

Population

Generation Time: 7–8 years (Vanitharani 2018).
Mature Individual: <500 (India = <500) (Thomas & Nameer 2018).

Population trend: The overall population of the species was estimated as >500 mature individuals with the individual populations having declined by 30% in the last three decades (Babu & Kalaimani 2014). There has been a decline of about 78 to 85%, in Chinnar Wildlife Sanctuary from its previous estimates in 1993 and 2007 (Thomas & Nammer 2018).

Population Density: The previous density estimations from Chinnar were 18–23 squirrels/ km^2 (Ramachandran 1993) and 64 squirrels/ km^2 (Senthilkumar et al. 2007). However, in 2018 the population density of the *R. macroura* in CWS was found to be 15.26 squirrels/ km^2 (Thomas & Nammer 2018).
Data Source: Census or monitoring, Field study, informal sightings, literature: observed, estimated and inferred (Joshua & Johnsingh 2015).

Status: Endangered
Red list criteria: A2ace + A3ce + C1 + C2a(i)

Justification

Ratufa macroura are arboreal creatures and the severe fragmentation of forests have impacted their habitat. The threats to the subspecies - *Ratufa macroura dandolena* in India is not reversible in near future. The assessment is based on the following categories and criteria.

Criterion A

Trends in population decline

A2: There has been an increase in percentage of population decline due to loss of habitat from anthropogenic activities. The causes of reduction have not ceased and reduction may not be reversible.

(a) Direct observation - Several studies have recorded the decline in the population.

(c) A decline in AOO or EOO/ habitat quality- The habitat of this species has become severely fragmented due high threats from anthropogenic activities. The degradation and contiguity of canopy has led to loss of the habitat.

(e) Effects of introduced taxa, hybridisation, pathogens, pollutants, competitors, or parasites- One of the studies has reported hybridization between *Ratufa macroura* and *Ratufa indica* from the Chinnar Wildlife Sanctuary.

A3: This criterion can be applied as there is possible future decline.

(c) A decline in AOO or EOO/ habitat quality- The habitat for this species may continue to decline with continues anthropogenic activities like religious tourism, logging, industrial development.

(e) Effects of introduced taxa, hybridisation, pathogens, pollutants, competitors, or parasites- Hybridization may lead to complexities in the offsprings and pose a threat to viable population of the species.

Criterion C

The population size is estimated to be <500 mature individuals.

C1: The population of *R. macroura* has declined by 30% in three decades (Babu & Kalaimani 2014).

C2a(i): The total population is estimated to be approximately 500 mature individuals collectively in 9 different locations. Therefore, there is no subpopulation estimated to contain more than 250 mature individuals.

Hence the assessment for *Ratufa macroura* is EN A2ace + A3ce + C1 + C2a(i).

Recommendations

Research needed: Urgent steps to be taken to undertake studies on the genetics of *R. macroura*, Population Habitat Viability Analysis (PHVA) (Thomas & Nameer 2018).

Management: Habitat restoration to maintain the canopy contiguity and regulation of the pilgrimage and the tourism activities in and around the *R. macroura* habitat (Thomas & Nameer 2018).

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