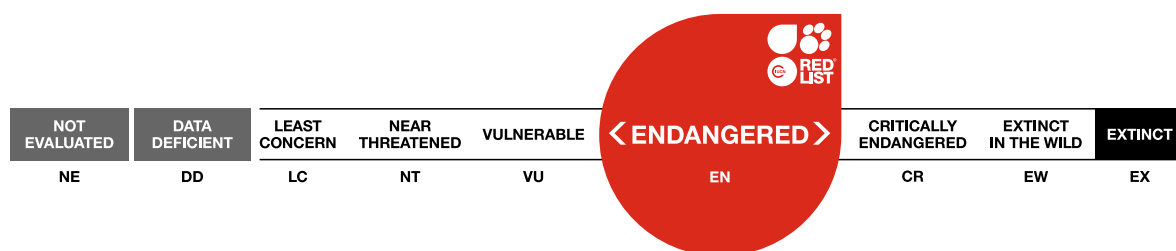


Leontopithecus caissara, Black-faced Lion Tamarin

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Callitrichidae

Scientific Name: *Leontopithecus caissara* Lorini & Persson, 1990

Common Name(s):

- English: Black-faced Lion Tamarin
- Portuguese: Mico-caiçara, Mico-leão Caiçara, Mico-leão-de-cara-preta

Taxonomic Notes:

Four species of Lion Tamarins are recognized. Coimbra-Filho (1990) suggested that *Leontopithecus caissara* was a subspecies, or colour variant of *L. chrysopygus*. Burity *et al.* (1999) and Perez-Sweeney *et al.* (2008) concluded that this was not so, and that *L. caissara* is a valid species. Perez-Sweeney *et al.* (2008) concluded that there are three unambiguous clades revealed by phylogenetic analysis of mtDNA control region sequences: *Leontopithecus chysomelas*, *L. caissara* and *L. chrysopygus/L. rosalia*. According to these authors, *L. chysomelas* occupies a basal phylogenetic position. Here we follow the taxonomy proposed by Rylands (2012).

Assessment Information

Red List Category & Criteria: Endangered B1ab(iii,iv,v)+2ab(iii,iv,v); C2a(i) [ver 3.1](#)

Year Published: 2021

Date Assessed: August 14, 2021

Justification:

This species is endemic and restricted to the Brazilian Atlantic Forest in northeast cost of Paraná state (Superagui Island, valleys of Rio Sebuí and Rio dos Patos, in Guaraqueçaba municipality) and to the region of Lagamar in Cananeia and Ariri, in the south cost of São Paulo state. Major threats are related to small population size and reduced geographic range: its extent of occurrence (EOO) is 358 km² and area of occupancy (AOO) is 244 km². Furthermore, the disconnection of the habitat caused by the construction of the Varadouro Waterway in 1953 isolated the main populations and interrupted gene flow. Almost all currently known distributional range lies in officially protected areas, which are not completely protected from illegal selective logging. Using the lowest range of population size (as estimated by Nascimento *et al.* 2011a), it is likely that there are up to 250 mature individuals in total and the number of mature individuals in each population is not greater than 50. Thus, the species is assessed as Endangered.

Previously Published Red List Assessments

2021 – Critically Endangered (CR)

<https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T11503A192327024.en>

2020 – Critically Endangered (CR)

<https://dx.doi.org/10.2305/IUCN.UK.2020-2.RLTS.T11503A17934846.en>

2008 – Critically Endangered (CR)

<https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T11503A3289886.en>

2003 – Critically Endangered (CR)

2000 – Critically Endangered (CR)

1996 – Critically Endangered (CR)

1994 – Endangered (E)

1990 – Endangered (E)

Geographic Range

Range Description:

The Black-faced Lion Tamarin is endemic to Brazil, occurring in the states of Paraná and São Paulo, where it is resident and native (Lorini and Persson 1994, Kierulff *et al.* 2008). The species occupies the southernmost limits of the distribution of the callitrichids in the Atlantic Forest (Rylands *et al.* 2002). There are at least two main populations: insular (Superagui Island, Guaraqueçaba/PR) and continental (Ariri in Cananeia/SP; Rio Sebuí Valley and Sebuí region, in Guaraqueçaba/PR). The distribution is limited in the north by the Rio Varadorzinho, and in the west by the Serra da Utinga, Morro do Bico Torto, Morro do Poruquara and Serra do Gigante (Persson and Lorini 1991, 1993). Martuscelli and Rodrigues (1992) reported four localities in the extreme south-east of São Paulo, two in the basin of the Rio do Turvo (Rio do Turvo and Morro do Teixeira) and two further north in the region of Itapitangui. Valladares-Padua *et al.* (2000) reported the species between the villages of Ariri and Taquari, in the municipality of Cananeia, and suggested that its range may extend only a short distance to the north. The species is restricted to lower altitudinal areas in coastal regions (Nascimento and Schmidlin 2011). Despite efforts in surveys by IPÊ Institution in studying the distribution across the continental region in 2000 (Valladares-Padua *et al.* 2000; Prado *et al.* 2003), the low density registered (1.79 individuals/km²) (Nascimento *et al.* 2011a) and the small size of the species makes it cryptic and difficult to record. Therefore, it is necessary for more surveys to be carried out on the distribution in the continental region, like Serra do Mar in Ribeira Valley.

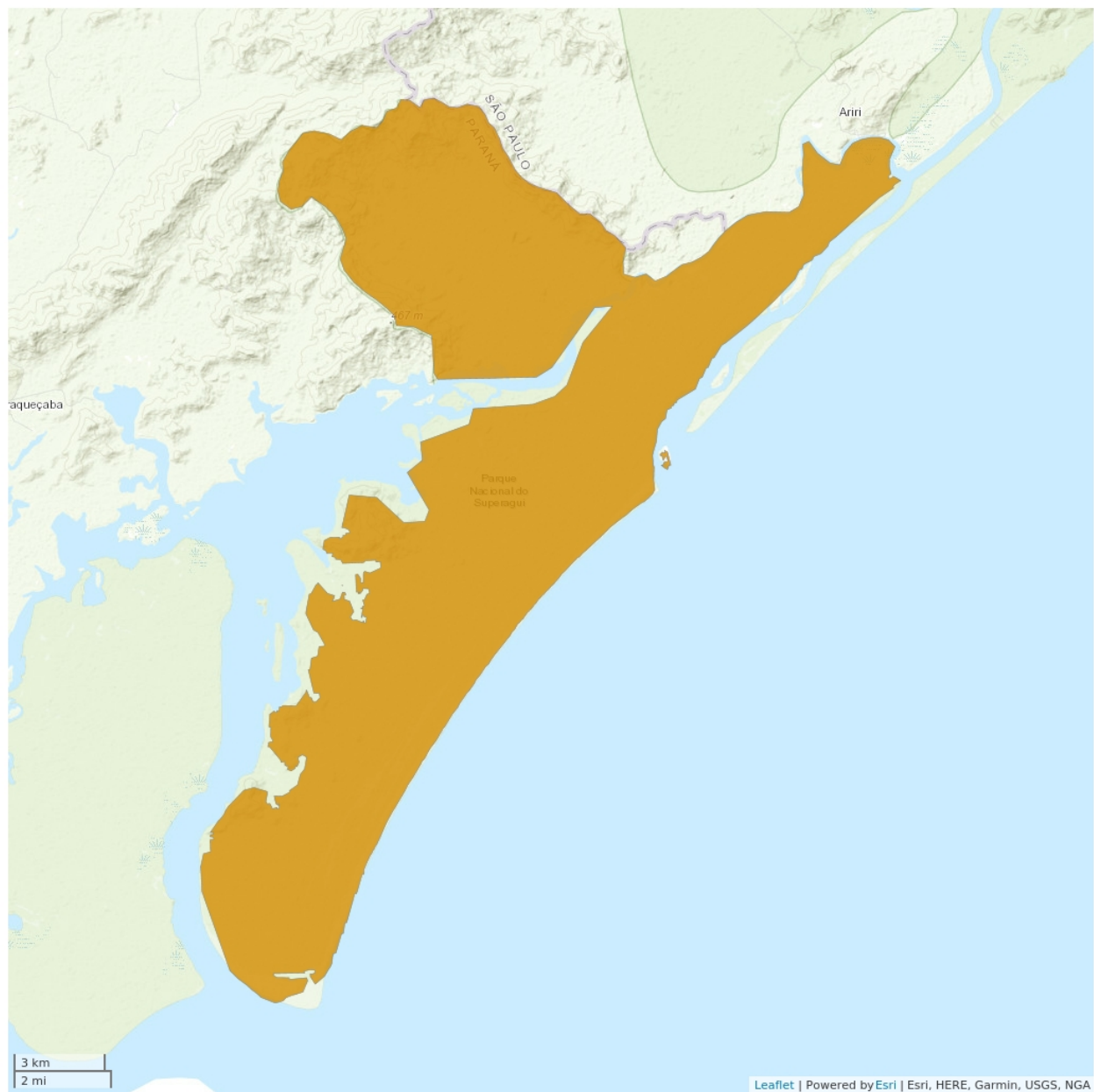
There is no indication that the current distribution is reduced compared to that in the past.

The extent of occurrence (estimated from the available records, adjusted to the biogeographic limits of its distribution [e.g., rivers, coastline], and/or as suggested by experts), is 358 km² (CPB/ICMBio, in prep.); the known area of occupancy (AOO) is 244 km² (Schmidlin 2004).

Country Occurrence:

Native, Extant (resident): Brazil (Paraná, São Paulo)

Distribution Map

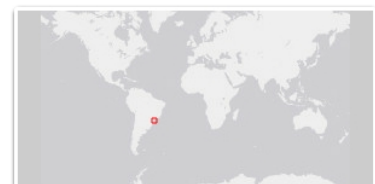


Legend

■ 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

Methodological differences certainly account for the inconsistencies in population estimates. While Lorini and Persson (1994) estimated a total population not exceeding 260 animals, Nascimento *et al.* (2011a) reported 392 individuals. If one considers 400 as the total population, there would be about 160 mature individuals, with groups encompassing one or two adult males (A.T.A. Nascimento, personal communication). Group size averages 4.85 ($n = 7$ and ranges from two to nine individuals (Nascimento *et al.* 2014; Martins *et al.* 2015). Even considering the highest population estimates, it is likely that there are no more than 250 mature individuals. Population densities are in the order of eight individuals/km² and seven individuals/km² in Superagui Island (by different methods) (Ludwig 2011) and 1.79 individuals/km² (95% CI 0.69–4.69) (Nascimento *et al.* 2011a). Population trend: In decline. Studies carried out by Lorini and Persson (1994) and Nascimento *et al.* (2011a) have similar estimates, with estimated values in 1994 within the confidence interval presented in 2011. Signals of population loss as well as a decrease in genetic diversity on the island and mainland were recorded by using microsatellite genotyping (Martins *et al.* 2011). An update of population estimates is needed, because data presented by Nascimento *et al.* (2011a) were collected between 2000 and 2001. More studies of population density should focus on the mainland and regard the habitat heterogeneity between the island and continent (A.T.A. Nascimento, personal communication; Nascimento and Schmidlin 2011).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Envisaging future conservation management actions, habitat selection by *L. caissara* was investigated by comparing mainland and island groups (Nascimento and Schmidlin 2011). Island: Lowland Forest nonhydromorphic; inundated forest (várzeas/caxetais/brejos); sub-xeromorphic restinga (sandy soil forest) (Nascimento 2008, Nascimento and Schmidlin 2011, Ludwig 2011); Mainland: inundated forest (várzeas/caxetais/brejos); intermediate secondary vegetation; Lowland Forest; anthropic area; altered vegetation; submontane Forest; Lowland Forest hydromorphic; submontane Forest (up to 40 m) (Nascimento 2008, Nascimento and Schmidlin 2011). The species avoid submontane areas, and prefer lowland areas close to the sea level (Nascimento and Schmidlin 2011). The species has no tolerance for changes/disturbances in the environment because it uses predominantly mature forests and late successional stages with little altitudinal gap (Nascimento and Schmidlin 2011). The home range size of island groups ranges from 70 – 321 ha (Prado, 1999; Schmidlin, 2004, Ludwig 2011). Home range of mainland groups range from 130 up to 300 ha (Nascimento *et al.* 2011b; Nascimento *et al.* 2014; Nascimento 2014). Groups in the continent use a higher number and a wider variety of sleeping sites than insular groups (Nascimento *et al.* 2011b; Nascimento 2014), which rely exclusively on tree holes as shelters (Prado 1999, Ludwig 2011). The support capacity of a population is about 700 individuals, and when considering potential areas for conservationist management, this limit can reach approximately 1,500 (Nascimento and Schmidlin 2011). These numbers of population sizes are apparently unable to maintain a viable population. They also emphasize the importance of conservation management actions and studies addressing genetics, as well as ecological / evolutionary issues in *L. caissara* (Nascimento and Schmidlin 2011). The Black-faced Lion Tamarin is a frugivorous-faunivorous species. Although animals feed mainly on plant (fruits, exudates, flowers and nectar), and animal food items (frogs, snails, lizards, spiders and insects), they also eat fungi (Prado 1999, Kierulff *et al.* 2002, Prado and Valladares-Padua 2004, Ludwig 2011, Oliveira *et al.* 2015).

Systems: Terrestrial

Threats (see Appendix for additional information)

This species is threatened mainly by disconnection of its habitat, habitat reduction, loss and degradation of the habitat, urban expansion, reduced protection in its distributional area, disarticulation between environmental agencies and unplanned ecotourism (Moro-Rios *et al.* 2009). Despite the fact that most of the known distribution is protected in Integral Protection Conservation Units, these areas have low inspection and the species have a restricted distribution and low population density. Therefore, effective conservation programs are essential to protect the species.

Conservation Actions (see Appendix for additional information)

National Red List Category from the Previous Assessment: CR - C2a(i); E. State Red list from SP - (CR) - C2a(ii); D (Bressan *et al.* 2009); PR - (CR)- B1a+2abc; C2a (Mikich and Bérnils 2004). It is listed on CITES Appendix I. There is no captive breeding program for the species (Ballou *et al.* 2002). There are no individuals in captivity. This species occurs in the following protected areas: Lagamar Mosaic, that includes 43 conservation units (UCs) in the states of São Paulo and Paraná (MMA, 2006 - Portaria Federal nº 150, May 8, 2006).

Paraná: Guaraqueçaba Environmental Protection Area (282,444.0200 ha) and Superagui National Park (33,860.3600 ha) (Rylands *et al.* 1993, Lorini and Persson 1994, Vivekananda 1994).

São Paulo: Cananeia-Iguape-Peruíbe Environmental Protection Area (160,000 ha) (Lorini and Persson 1994), Lagamar de Cananeia State Park (PELC) (40,758 ha), Tumba Island Extractive Reserve (1,595 ha), Itapanhapima Sustainable Development Reserve (1,242 ha) and Taquari Extractive Reserve (1,622 ha). Considerable efforts are being devoted to research on the species and implement environmental education programs. In the last 10 years, the endeavours of IPÊ in Ariri region, Cananeia, SP (2005-2014) contributed, to the decrease of 20-30% of direct threats identified in 2005 (Nascimento 2014, Nascimento *et al.*, in prep.). The main recommendations to conservation programs of the species were first presented in PHVA 2005 (Holst *et al.* 2006), which resulted in the creation of the state conservation plan from São Paulo and Paraná. Endeavours concerning *L. caissara* conservation have been regarded in a Brazilian government action plan, named Plano de Ação Nacional para a Conservação dos Mamíferos da Mata Atlântica Central (ICMBio 2010).

Credits

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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	-
1. Forest -> 1.8. Forest - Subtropical/Tropical Swamp	-	Suitable	-

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	-	-	Low impact: 3
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	-	-	Low impact: 3
	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	-	-	Low impact: 3
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
5. Biological resource use -> 5.2. Gathering terrestrial plants -> 5.2.4. Motivation Unknown/Unrecorded	Ongoing	-	-	Low impact: 3
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.5. Motivation Unknown/Unrecorded	Ongoing	-	-	Low impact: 3
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	-	-	Low impact: 3
	Stresses:	2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

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

Conservation Action in Place
In-place land/water protection

Conservation Action in Place
Occurs in at least one protected area: Yes
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
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
4. Education & awareness -> 4.2. Training
4. Education & awareness -> 4.3. Awareness & communications
6. Livelihood, economic & other incentives -> 6.1. Linked enterprises & livelihood alternatives

Research Needed

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

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km ²): 244
Continuing decline in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km ²): 358

Distribution
Continuing decline in extent of occurrence (EOO): No
Lower elevation limit (m): 0
Upper elevation limit (m): 40
Population
Number of mature individuals: 250
Continuing decline of mature individuals: Yes
Population severely fragmented: Yes
No. of subpopulations: 2-4
Continuing decline in subpopulations: Yes
All individuals in one subpopulation: No
No. of individuals in largest subpopulation: 50
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 7

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