Primates in Peril

The World's 25 Most Endangered Primates 2023–2025

Edited by

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Cover photo: Myanmar Snub-nosed Monkey, *Rhinopithecus strykeri*. Photograph by Wan Bing.

is Endangered on the IUCN Red List of Threatened Species (Ravetta *et al.* 2021) due to a suspected population decline upwards of 50% over the last 45 years (three generations), related to habitat loss and illegal pouching (Ravetta *et al.* 2021). Late maturation (4–5 years of age) and long inter-birth intervals (up to 30 months) hinder population recovery. Its range is crossed by major highways – the Transamazônica and Cuiabá-Santarém – and a new railway (Ferrogrão) is projected for the region. This infrastructure tends to increase deforestation by the consequential expansion of commodity plantations (soy, corn and ccotton) and the cattle industry, and the increase of human populations living in Amazonian cities. The Tapajós Hydroelectric Complex might lead to forest fragmentation and isolation of primate populations inhabiting riparian forests (Buss *et al.* 2017). Recently, the degazettement of the Parque Estadual do Cristalino II, one of the few protected areas in the southern distribution of the species, is being discussed by the Government of Mato Grosso, public defenders and environmentalist organizations. An updated second version of the *National Action Plan for the Conservation of the Amazonian Primates* is under elaboration, after a prolific first round (Brazil, ICMBio 2017). The climate crisis is already impacting populations in the south, with long droughts and forest fires.

Brazil, ICMBio. (2017). Aprova o Plano de Ação Nacional para a Conservação dos Primatas Amazônicos. Portaria n° 792, de 1° de dezembro de 2017 – Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio). *Diário Oficial da União* Seção 1, número 232: 24.

Buss, G., Ravetta, A.L., Fialho, M.S., Rossato, R.S., Sampaio, R., Printes, R.C., Pinto, L.P. and Jerusalinsky, L. (2017). Primatas do Parque Nacional do Jamanxim/PA: riqueza, distribuição e ameaças. *Biodiv. Brasil.* 7(2): 34–46.

Lazari, P.R., *et al.* (2020). Parâmetros demográficos de populações de duas espécies ameaçadas de macacos-aranha, *Ateles chamek* e *Ateles marginatus*, no ecótono Cerrado-Amazônia. *Neotrop. Primates* 26: 97–103.

Lima-Silva, L.G., de Mendonça, R.F.B., da Silva Dutra, L. and Rossi, R.V. (2022). New records and geographic distribution extension of two primate species in the Amazonia-Cerrado transition area, Brazil. *Mammalia* 86(4): 333-337.

Ravetta, A.L., Buss, G. and Mittermeier, R.A. (2021). *Ateles marginatus* (amended version of 2019 assessment). The IUCN Red List of Threatened Species 2021: e.T2282A191689524.

NEOTROPICS – MANTLED HOWLER MONKEY
Alouatta palliata mexicana (Merriam, 1902)

Guatemala, Mexico

Not previously included on the list of 25 most endangered primates.

Pedro A.D. Dias, Gilberto Pozo Montuy, Ariadna Rangel Negrín, Juan Carlos Serio Silva, Brenda Sólorzano García and Bertha Valenzuela Córdova

The Mexican Mantled Howler Monkey (*Alouatta palliata mexicana*) is categorized as Endangered on the IUCN Red List of Threatened Species, primarily due to severe habitat loss and fragmentation (Cuarón *et al.* 2020). These threats are largely driven by deforestation for agriculture and urban development. The constrained distribution of the Mexican Mantled Howler Monkey in forest remnants in southeastern Mexico and Guatemala further aggravates its vulnerability. Isolation into small forest patches disrupts population dynamics and social structure and increases susceptibility to diseases and hunting (Arroyo-Rodríguez and Dias 2010; Galán *et al.* 2021). Isolation reduces gene flow, increasing the risk of inbreeding and decreasing genetic diversity, compromising population fitness and long-term survival (Solórzano-García *et al.* 2021). Emerging threats for this taxon include climate change, wildfires, mining, and pollutants (heavy metals, pesticides, and microplastics; Dias and Rangel-Negrín 2022; Alvarez-Velazquez *et al.* 2024). In 2024, the synergistic effects of habitat degradation and extreme hot weather caused the death of many hundreds of individuals in Mexico, exacerbating conservation concerns for this taxon. Conservation efforts should prioritize this subspecies because of its critical ecological role in forest regeneration and its evolutionary significance. The loss of these primates could lead to significant ecological consequences, including reduced biodiversity and altered forest composition. Key conservation actions should include: 1) protecting existing forests and restoring degraded areas to expand habitat, which implies working under a coexistence framework that incorporates environmental education, agroecological systems and regenerative agriculture, and reinforcement of environmental policies; 2) creating free-range sanctuaries with

reforestation and regeneration components to ensure sustainable habitat; 3) establishing corridors to connect isolated patches and protect individuals from linear infrastructure, facilitating gene flow and reducing fragmentation impacts; 4) creating protocols and infrastructure that allow for the safe capture, rehabilitation, translocation, and reintroduction of individuals; and 5) developing research to monitor population health, genetic diversity, and the impacts of conservation strategies.

Alvarez-Velazquez, M.F., González-Jáuregui, M., Miranda, S.A., Rosano-Ortega, G., Chapman, C.A. and Serio-Silva, J.C. (2024). Lead exposure and its relationship with fecal cortisol levels in black howler monkeys (*Alouatta pigra*). *Am. J. Primatol.* 86: e23600.

Arroyo-Rodríguez, V. and Dias, P.A.D. (2010). Effects of habitat fragmentation and disturbance on howler monkeys: a review. *Am. J. Primatol.* 72: 1–16.

Cuarón, A.D., Shedden, A., Rodríguez-Luna, E., de Grammont, P.C., and Link, A. (2020). *Alouatta palliata* ssp. *mexicana*. The IUCN Red List of Threatened Species 2020: e.T925A17978896.

Dias, P.A.D. and Rangel-Negrín, A. (2022). One step forward, two steps backward: the frailty of howler monkey conservation in Los Tuxtlas, Mexico. *Am. J. Primatol.* 84: e23437.

Galán, C., Arroyo-Rodríguez, V., Andressen, E., and Dias, P.A.D. (2021). Regional context mediates the response of Mexican primates to landscape structure in fragmented rainforests. *Biol. Conserv.* 255: 109006.

Solórzano-García, B., Zubillaga, D., Piñero, D., and Vázquez-Domínguez, E. (2021). Conservation implications of living in forest remnants: inbreeding and genetic structure of the northernmost mantled howler monkeys. *Biotropica* 53: 1163–1177.

NEOTROPICS – KA'APOR CAPUCHIN

Cebus kaapori Queiroz, 1992

Brazil (Maranhão, Pará)

Brazil (western Maranhão, eastern Pará)

Previously included on the list of 25 most endangered primates in 2012, 2014, 2016 and 2022.

Tatiane S. Cardoso, Gerson Buss, Eloísa N. Mendonça, Renata B. Azevedo and Leandro Jerusalinsky

The Ka'apor Capuchin (*Cebus kaapori*) is endemic to the eastern edge of the Brazilian Amazon, occurring in northeastern Pará and northwestern Maranhão (Queiroz 1992). Preliminary data collected at the Gurupi Biological Reserve (REBIO Gurupi) indicate that the species lives in small groups ($\leq$12 individuals), which occupy large home ranges (~300 ha, Cardoso 2021). The low abundance recorded for *C. kaapori* (Lopes 1993; Buss *et al*. 2017), indicates its probable natural rarity. The species inhabits the so-called Arc of Deforestation, the region in the Brazilian Amazon with the highest level of deforestation and habitat degradation, and also the most densely populated by people (Carvalho *et al*. 1999). From 1985 to 2020, habitat loss in the species range (206,081 km^2) was estimated at 32.8% (Butti *et al*. 2022). According to a species distribution model, *C. kaapori* could lose 100% of its habitat as result of climate change and deforestation in the next 30 years, considering the loss of climatic suitability added to the loss of vegetation cover in a business-as-usual scenario (da Silva *et al*. 2022). Due to severe habitat loss, fragmentation and degradation, in addition to hunting, *C. kaapori* suffered a drastic population reduction in the last decades. Consequently, the species is categorized as Critically Endangered, being among the most threatened Amazonian mammals and already listed as one of the 25 most Endangered primates. The species occurs in only two protected areas, the Lago de Tucuruí Environmental Protection Area (5,687 km^2) and REBIO Gurupi (2,712 km^2). Conservation strategies for the species have been defined within the Brazilian *National Action Plan for the Conservation of the Amazonian Primates*. Creating more protected areas, to compose a mosaic including the REBIO Gurupi and four indigenous territories close to it (Alto Turiaçu, Awá, Caru, and Arariboia), is of utmost priority to protect some of the species' largest remaining habitats.

Buss, G., Fialho, M.S., Jerusalinsky, L., Azevedo, R.B., Alves, S.L., Vidal, M.D. and Mendonça, E.N. (2017). Abundância e Densidade de Primatas na Reserva Biológica do Gurupi, Maranhão, Brasil. *Biodiversidade Brasileira* 7(2): 47 -57.

Butti, M., Pacca, L., Santos, P., Alonso, A.C., Buss, G., Ludwig, G., Jerusalinsky, L. and Martins, A.B. (2022). Habitat loss estimation for assessing terrestrial mammalian species extinction risk: an open data framework. *PeerJ* 10:e14289.

Cardoso, T.S. (2021). Ecologia Comportamental de *Cebus kaapori* na Reserva Biológica do Gurupi, Maranhão. Relatório Técnico. Programa de Capacitação Institucional (PCI/CNPq). Museu Paraense Emílio Goeldi. Belém, PA.