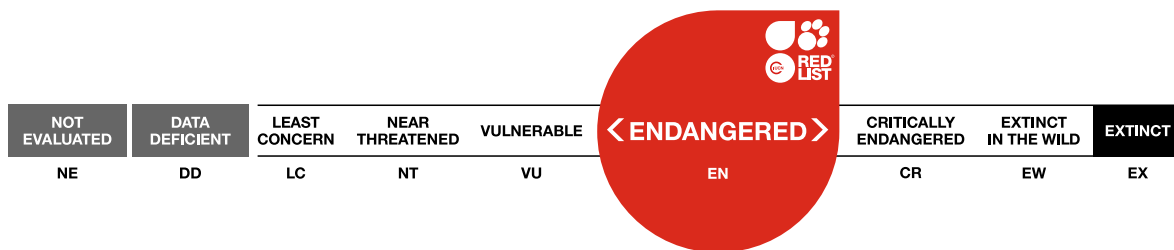


Piliocolobus lulindicus, Ulindi River Red Colobus

Assessment by: Hart, J.A., Maisels, F. & Ting, N.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Cercopithecidae

Scientific Name: *Piliocolobus lulindicus* Matschie, 1914

Synonym(s):

- *Piliocolobus rufomitratu*s ssp. *lulindicus* Matschie, 1914
- *Procolobus badius* ssp. *lulindicus* Matschie, 1914
- *Procolobus rufomitratu*s ssp. *lulindicus* Matschie, 1914

Common Name(s):

- English: Ulindi River Red Colobus, Kahuzi Red Colobus, Ulindi Red Colobus

Taxonomic Notes:

Modern taxonomic arrangements of the colobus monkeys either distinguish the red colobus monkeys and the Olive Colobus as separate genera, *Piliocolobus* and *Procolobus*, respectively (e.g., Groves 2001, 2005, 2007; Roos *et al.* 2011; Kingdon 2015), or consider them to belong to one genus *Procolobus*, with two subgenera (*Procolobus* for the Olive Colobus and *Piliocolobus* for the red colobus) (Oates *et al.* 1994, Grubb *et al.* 2003, 2013; Oates 2011). Ting (2008) placed all the red colobus as subspecies of *Procolobus (Piliocolobus) badius*. The 2008 IUCN Red List assessments followed the taxonomy of Grubb *et al.* (2003).

The arrangement of two genera in Groves (2001, 2005, 2007) is followed here: a monotypic *Procolobus* de Rochebrune, 1887 (Olive Colobus) and polytypic *Piliocolobus* de Rochebrune, 1887 (red colobus).

The form *lulindicus*, recognised by Colyn and Verhayen (1987), Colyn (1987, 1991), Grubb *et al.* (2003), and Struhsaker and Grubb (2013) (the last as a subspecies of *Procolobus rufomitratu*s) was considered by Groves (2001, 2007) to be a junior synonym of *Piliocolobus foai*. Gautier-Hion *et al.* (1999) placed all the Central African red colobus as subspecies of *Procolobus pennanti* [sic], including *lulindicus*. Kingdon (1997, 2015) treated the Central African red colobus, including *lulindicus*, as subspecies of *oustaletii*. The consensus at a workshop held in Rome in 2016 to update the African primate Red List assessments was that it would be expedient (precautionary) to continue to recognise this species, considering the threatened status of all the red colobus monkeys.

Assessment Information

Red List Category & Criteria: Endangered A2cd [ver 3.1](#)

Year Published: 2020

Date Assessed: January 22, 2020

Justification:

Piliocolobus lulindicus is a forest-dependent species targeted for bushmeat because of its large size. Over the past 30 years, there has been an approximately 15% loss in forest cover across its range. In the

forest that remains, the species has been highly reduced in abundance or extirpated from over 70% of forest blocks surveyed in the western half of the range, and is likely extirpated from parts of the eastern half of its range, including Kahuzi-Biega National Park, which was a stronghold for this taxon in the 1990s.

Total forest loss across the entire *P. lulindicus* range was about 8,920 km² (9.3% of the area) over 17 years (2001–2018; GFW 2019), which is 1.7 generations for this monkey (generation time for this genus is estimated at 10 years; Pacifici *et al.* 2013). The rate of forest cover loss in the Democratic Republic of Congo (DRC) is increasing over time: since 2014, it has been ~1% per year. Prior to that, the annual rate of loss was 0.25–0.4% (GFW 2019). Eastern DRC has been badly hit, and unfortunately the range of this monkey features as a new “hotspot” of forest loss (Harris *et al.* 2017). Projecting backwards three generations (to 1990) goes beyond the last 17 years for which forest loss data are available; however, we know that forest loss was already occurring before 2001. If forest loss in the 1990s was consistent with 0.25–0.4% per year, then we would expect approximately 15% of the overall range to have been lost between 1990 and 2020. In addition, the once intact blocks of forest in the region are increasingly fragmented; in DRC, 4.2% of forests classified as intact were lost between 2000–2013 (Potapov *et al.* 2017). Given the recent increase in rate of forest loss, even more of its range is expected to be lost and/or fragmented in the future.

Just as concerning as habitat loss, if not more so, are population declines due to hunting. Because red colobus taxa are large-bodied and bring a higher profit per cartridge than smaller species, they are preferentially selected by hunters and tend to be eliminated or at least greatly reduced in abundance before other, smaller monkeys. They live in relatively large groups (Struhsaker 2010, Struhsaker and Grubb 2013), and their behaviour faced with a hunter tends to be to observe rather than flee – which affords very easy, multiple targets for the hunter. Hunting pressure was common across all areas surveyed in the recent past, and is exacerbated with the expansion of artisanal mining and during periods of civil unrest.

Monkeys are eaten in villages and traded commercially for consumption in towns and cities, and the bushmeat trade is a serious threat to red colobus across Africa (Struhsaker 2010). In DRC, there were approximately three times more people in 2019 than in 1990 (mean human population growth 1990–2018 was approximately 3% annually). The ability to pay much higher prices for bushmeat by the ever-increasing proportion of urban dwellers has created a highly lucrative market for commercial hunters, which drives increasing extraction of bushmeat from the regions’ forests. At present, 44% of the human population in DRC lives in towns and cities (World Bank 2019) compared to 27% in 1980, and this upward trend has been the case since 1960 (when it was 22%).

Thus, there is a combination of 15% total habitat loss (1990–2020), plus 4.2% loss of intact forest, plus increasing demand for bushmeat (three times more people in DRC), increased access for hunters, and an increased incentive for hunters to supply bushmeat to towns and cities. *Piliocolobus lulindicus* is, therefore, suspected to have undergone a population decline exceeding 50% during the past three generations, and is listed as Endangered under criterion A2cd.

Given the increase in the human population, in access to previously intact forest, uncontrolled hunting and the species’ vulnerability to hunting, the decline will likely continue at a similar, if not faster, rate.

Previously Published Red List Assessments

2008 – Not Evaluated (NE)

2000 – Data Deficient (DD)

1996 – Data Deficient (DD)

Geographic Range

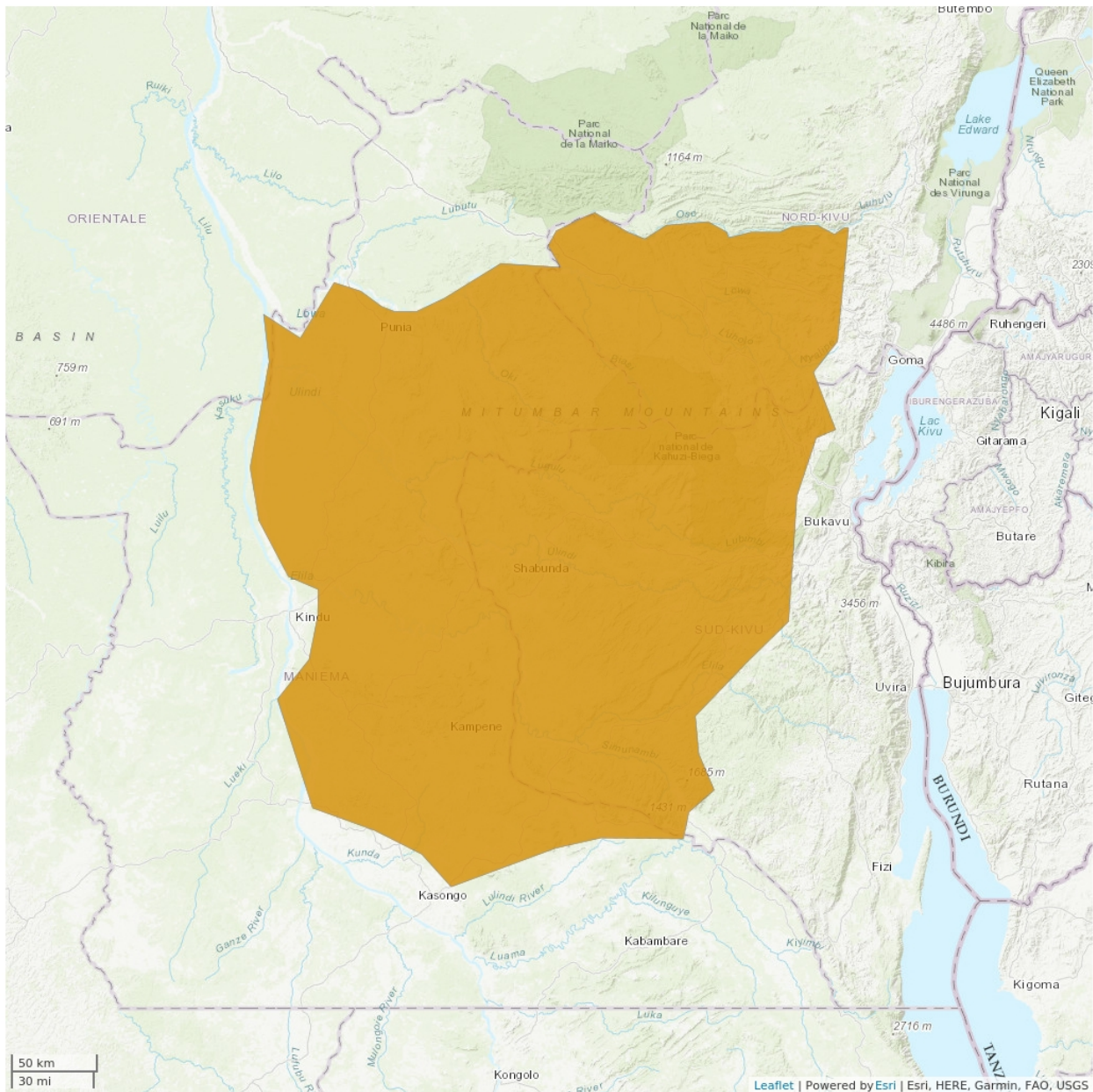
Range Description:

Endemic to the Democratic Republic of Congo (DRC), *Piliocolobus lulindicus* ranges from the Congo (Lualaba) River in the west, east to the lowland-montane transition (1,200–1,500 m asl) at approximately 28.5° E, where it intergrades with *P. foai* (Rahm 1965, Colyn 1991). The southern limit of the range is mapped as the Lukuga River at approximately 4.7° S (Colyn 1991), where the species apparently occurs in several large forest islands south of the contiguous forest zone. The northern limit is given as the Lowa River based on the location of an examined specimen (Colyn 1991).

Country Occurrence:

Native, Extant (resident): Congo, The Democratic Republic of the

Distribution Map

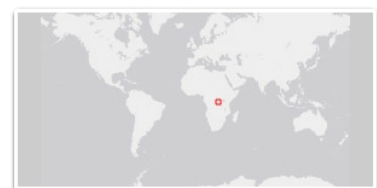


Legend

EXTANT (RESIDENT)

Compiled by:

Red Colobus (*Piliocolobus*) Conservation Action Plan, 2020–2025 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

The population has declined due to uncontrolled hunting, and habitat loss and degradation. Conflict was a major correlate of *P. lulindicus* decline in the lowland sector of Kahuzi-Biega National Park (KBNP). Kahuzi-Biega National Park is the only protected area where the species has been reported (Hall *et al.* 2002). In 1994–1995, red colobus were reported as widespread, and common in three of five zones surveyed (Hall *et al.* 2002). In the subsequent eight years, the region was a theatre of intense conflict, during which the park was targeted by hunters and artisanal miners; some areas were burned (Hart *et al.* 1998). Surveys resumed in 2004 and were conducted periodically through 2017 (Hart *et al.* 2007, Spira *et al.* 2018). Red colobus have been not recorded during any post-conflict surveys, including the areas where they were classified as abundant in the 1990s.

Hunting was also a primary factor linked to declines in western populations of this taxon. A rapid assessment survey in 2018 (Hart unpubl. data 2018) found that red colobus were confirmed or highly likely to have been extirpated in 76% of 102 habitat blocks in a zone covering about 45% of the western part of the species' range, from the Lualaba River to approximately 27° E. The majority of disappearances were reported to have occurred during the period 1998–2006, coinciding with civil unrest and political instability. Uncontrolled hunting was cited in most cases where causality was identified, although habitat loss through the expansion of shifting agriculture affected about 20% of blocks assessed. Habitat loss was very high around important mining centres, such as Kalima, Pang'i, Punia and Lubutu, where human population growth was also high.

Populations in the east of the range face higher pressure from the expansion of artisanal mining than populations in the west. Large mining centres are associated with the largest declines of red colobus (Hart unpubl. data 2018). At present, the remaining populations of *P. lulindicus* occur in isolated subpopulations, separated by areas of degraded or converted habitat, or by areas of suitable forest where the species has been extirpated.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Little is known of this species, but all observations have been in forest habitats – terra firma, lowland moist forests, and along rivers. The animals live in groups. It is assumed, that like other red colobus, they are primarily folivores.

Systems: Terrestrial

Use and Trade (see Appendix for additional information)

This species is illegally hunted for local consumption and sale to bushmeat markets. Level of offtake is probably declining as remaining populations are reduced and those remaining are mostly remote and depleted (and hence more costly to hunt). Colyn (1991) reports collecting numerous specimens in Kalima, Punia, Pang'i bushmeat markets in the 1980s. A 2018 search of these markets found no red colobus for sale (Hart unpubl. data 2018).

Threats (see Appendix for additional information)

Piliocolobus lulindicus is directly threatened by habitat loss and hunting, and indirectly by the creation of easy access routes into huge areas of previously remote forests and increasing human populations.

The species is subject to habitat modification, as intact forest is converted to farmland and “farm bush,” which can be seen clearly in Tyukavina *et al.* (2016) and Harris *et al.* (2017). In DRC, over 90% of forest loss is due to shifting agriculture (Tyukavina *et al.* 2018). The ongoing trend is gradually increasing annual forest loss since 2001, especially since 2013-2014 (GFW 2020).

Hunting for bushmeat is increasing throughout the range of this taxon. The meat is eaten by rural populations, traded to miners (Spira *et al.* 2017), or traded markets in urban locations. Road access into once-remote forests – even close to protected areas – has hugely increased during the two decades (Kleinschroth *et al.* 2019), facilitating increased hunting and transport of bushmeat for commercial trade in both local markets and distant urban centres (Abernethy *et al.* 2013, 2016; Ziegler *et al.* 2016).

Human populations in the range of this species are growing at roughly 2.7% annually, and this rate will not slow down in the near future (United Nations 2019, World Bank 2019).

Conservation Actions (see Appendix for additional information)

This genus is listed on Appendix II of CITES and on Class B of the African Convention on the Conservation of Nature and Natural Resources. In DRC, the species (as *Procolobus badius*) is on the totally protected list (hunting is prohibited) (Enerunga 2006).

It is no longer found in any protected areas. It was reported formerly from Kahuzi-Biega National Park (KBNP) but the species is not known to occur there at present. Red colobus were reported in the three of four survey zones of KBNP lowland sector in 1994–1995, and common to abundant in two of them (Hall *et al.* 2002). Red colobus were not recorded on surveys in these same zones 20 years later (Hart *et al.* 2007) or in 2015-2017 (Spira *et al.* 2015, 2017). Two additional protected areas occur in the range of *P. lulindicus*: the South Masisi and Luwama-Kivu reserves, but it is not reported occurring in either.

Efforts to control the killing of red colobus and trade in bushmeat would have a positive impact on remaining populations, especially in areas where mining and settlement do not occur.

The first conservation action plan for red colobus monkeys will be published in 2020. The plan identifies priority areas for conservation and recommends range-wide and taxon-based actions to prevent red colobus extinctions. Range-wide conservation priorities include actions that aim to improve government investment in wildlife conservation, expand and improve protected areas, determine taxon-specific distribution and abundance, engage with local human populations and integrate them into conservation activities, remove barriers that prevent local access to human healthcare and family planning, and raise awareness of the plight of red colobus.

Credits

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Reviewer(s): Williamson, E.A.

Contributor(s): Rylands, A.B.

Authority/Authorities: IUCN SSC Primate Specialist Group

Bibliography

Abernethy, K.A., Coad, L., Taylor, G., Lee, M.E. and Maisels, F. 2013. Extent and ecological consequences of hunting in Central African rainforests in the twenty-first century. *Philosophical Transactions of the Royal Society of London B: Biological Sciences* 268: 20120303.

Abernethy, K.A., Maisels, F. and White, L.J.T. 2016. Environmental Issues in Central Africa. *Annual Review of Environment and Resources* 41: 1-33.

Butynski, T.M., Kingdon, J. and Kalina, J. 2013. *Mammals of Africa. Volume 2. Primates*. Bloomsbury, London.

Colyn, M. 1991. L'importance zoogéographique du Bassin du Fleuve Zaïre pour la spéciation: le cas des Primates simiens. *Annales sciences Zoologiques Musée Royal de l'Afrique Centrale, Tervuren, Belgique* 264: 1-250.

Colyn, M.M. 1987. Les primates des forêts ombrophiles de la cuvette du Zaïre: interprétations zoogéographiques de modèles de distribution. *Revue de Zoologie Africaine* 101: 183-196.

Colyn, M. M. 1991. L'importance zoogéographique du Bassin du Fleuve Zaïre pour la spéciation: le cas des Primates simiens. *Koninklijk Museum voor Midden-Afrika* 264: 1-250.

Colyn, M.M. and Verheyen, W.N. 1987. *Colobus rufomitratu parmentieri*, une nouvelle sous-espèce du Zaïre (Primates, Cercopithecidae). *Revue de Zoologie Africaine* 101: 125–132.

Colyn, M.M. and Verheyen, W.N. 1987. *Colobus rufomitratu parmentieri*, une nouvelle sous-espèce du Zaïre (Primates, Cercopithecidae). *Revue de Zoologie Africaine* 101: 125–132.

Enerunga, A. 2006. Arrêté ministériel n°020/CAB/MIN/ECN-EF/2006 du 20 mai 2006 portant agrément de la liste des espèces animales protégées en République Démocratique du Congo. Le Ministre de l'environnement, conservation de la nature, eaux et forêts, Kinshasa, DRC.

Gautier-Hion, A., Colyn, M. and Gautier, J.-P. 1999. *Histoire Naturelle des Primates d'Afrique Centrale*. Ecofac, Gabon.

GFW. 2019. Country profile page: Tree cover loss by country 2001-2019. Global Forest Watch/World Resources Institute. Available at: <https://www.globalforestwatch.org/dashboards/country/>.

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

Groves, C.P. 2005. Order Primates. In: D.E. Wilson and D.M. Reeder (eds), *Mammal Species of the World*, pp. 111-184. The Johns Hopkins University Press, Baltimore, Maryland, USA.

Groves, C.P. 2007. The taxonomic diversity of the Colobinae of Africa. *Journal of Anthropological Sciences* 85: 7-34.

Grubb, P., Butynski, T.M., Oates, J.F., Bearder, S.K., Disotell, T.R., Groves, C.P. and Struhsaker, T.T. 2003. Assessment of the diversity of African primates. *International Journal of Primatology* 24(6): 1301-1357.

Hall, J. S., White, L. J. T, Williamson, E. A., Inogwabini, B.-I. and Omari, I. 2006. Distribution, abundance, and biomass estimates for primates within Kahuzi-Biega lowlands and adjacent forest in eastern DRC. *African Primates* 6(1-2): 35-42.

Harris, N.L., Goldman, E., Gabris, C. Nordling, J., Minnemeyer, S., Ansari, S., Lippmann, M., Bennett, L., Raad, M., Hansen, M. and Potapov, P. 2017. Using spatial statistics to identify emerging hot spots of forest loss. *Environmental Research Letters* 12: 024012.

Hart, J., Carbo, M., Amsini, F., Grossmann, F. and Kibambe, C. Parc National de Kahuzi-Biega Secteur de Basse Altitude : Inventaire préliminaire de la grande faune avec une évaluation de l'impact des activités humaines et la situation sécuritaire 2004 - 2007. WCS / RDC, IMU Technical Report No 8.

Hart, T.B., Hart, J.A. and Hall, J.S. 1998. Conservation in the declining nation state: a view from eastern Zaire. *Conservation Biology* 10: 685-686.

IUCN. 2020. The IUCN Red List of Threatened Species. Version 2020-1. Available at: www.iucnredlist.org. (Accessed: 19 March 2020).

Kingdon, J. 2015. *The Kingdon Field Guide to African Mammals*. Bloomsbury, London.

Kleinschroth, F., Laporte, N., Laurance, W.F., Goetz, S.J. and Ghazoul, J. 2019. Road expansion and persistence in forests of the Congo Basin. *Nature Sustainability* 2: 628–634.

Kujirakwinja, D., Kirkby, A., Spira, C., Mitamba, G. M., Dumbo, P., Tokunda, R., Plumptre, A.J. & Nishuli, R. 2015. Inventaire de la Biodiversité dans le Parc National de Kahuzi Biega, République Démocratique du Congo. Secteur de Nzovu-Ouest (basse altitude). Institut Congolais pour la Conservation de la Nature/ Wildlife Conservation Society, Kinshasa, DRC.

Oates, J.F. 2011. *Primates of West Africa: A Field Guide and Natural History*. Conservation International, Arlington, VA.

Oates, J.F., Davies, A.G. and Delson, E. 1994. The diversity of living colobines. In: Davies, A.G. and Oates, J.F. (eds), *Colobine Monkey: Their Ecology, Behavior and Evolution*, pp. 45–73. Cambridge University Press, Cambridge.

Pacifici, M., Santini, L., Di Marco, M., Baisero, D., Francucci, L., Grottole Marasini, G., Visconti, P. and Rondinini, C. 2013. Generation length for mammals. *Nature Conservation* 5: 87–94.

Potapov, P., Hansen, M.C., Laestadius, L., Turubanova, S., Yaroshenko, A., Thies, C., Smith, W., Zhuravleva, I., Komarova, A., Minnemeyer, S. and Esipova, E. 2017. The last frontiers of wilderness: Tracking loss of intact forest landscapes from 2000 to 2013. *Science Advances* 3(1): e1600821.

Rahm, U. 1965. Distribution et écologie de quelques mammifères de l'est du Congo. *Zoologica Africana* 1: 149-164.

Roos, C. Zinner, D., Kubatko, L.S., Schwarz, C., Yang, M., Meyer, D., Nash, S.D., Xing, J., Batzer, M.A, Brameier, M., Leendertz, F.H., Ziegler, T., Perwitasari-Farajallah, D., Nadler, T., Walther, L. and Osterholz, M. 2011. Nuclear versus mitochondrial DNA: evidence for hybridization in colobine monkeys. *BMC Evol. Biol* 11: 77.

Spira, C., Kujirakwinja, D., Kirkby, A., Mitamba, G.M., Dumbo, P., Tokunda, R., Plumptre, A. & Nishuli, R. 2015. Inventaire de la Biodiversité dans le Parc National de Kahuzi Biega, République Démocratique du Congo. Secteur de Kasese (basse altitude). Institut Congolais pour la Conservation de la Nature/ Wildlife Conservation Society, Kinshasa, DRC.

Spira, C., Mitamba, G., Kirkby, A., Katembo, J., Kiyani Kambale, C., Musikami, P., Dumbo, P., Byaombe, D., Plumptre, A. and Maisels, F. 2018. Inventaire de la biodiversité dans le Parc National de Kahuzi-Biega, République Démocratique du Congo. WCS, ICCN and CRSNL, Kinshasa, DRC.

Spira, C., Mitamba, G.M., Kirkby, A., Kivono, J., Kiyani, C., Bisuro, S., Musikami, P., Dumbo, B., Plumptre, A.J. & Lokomu, L. 2017. Inventaire de la Biodiversité dans le Parc National de Kahuzi-Biega, République Démocratique du Congo, Secteur d'Itebero (basse altitude). Institut Congolais pour la Conservation de la Nature/ Wildlife Conservation Society, Kinshasa, DRC.

Spira, C., Mitamba, G.M., Kirkby, A., Tokunda, R., Dumbo, B., Plumptre, A.J., Kujirakwinja, D. & Nishuli, R.

2015. Inventaire de la Biodiversité dans le Parc National de Kahuzi Biega, République Démocratique du Congo. Secteurs de Nzovu-Est (basse altitude) et de Tshivanga (haute altitude). Institut Congolais pour la Conservation de la Nature/ Wildlife Conservation Society.

Struhsaker, T.T. 2010. *The Red Colobus Monkeys: Variation in Demography, Behavior, and Ecology of Endangered Species*. Oxford University Press, New York.

Struhsaker, T.T. and Grubb, P. 2013. *Procolobus rufomitratu*s Eastern Red Colobus. In: T.M. Butynski, J. Kingdon and J. Kalina (eds), *The Mammals of Africa. Volume II: Primates*, pp. 142-147. Bloomsbury Publishing, London.

Ting, N. 2008. Mitochondrial relationships and divergence dates of the African colobines: evidence of Miocene origins for the living colobus monkeys. *Journal of Human Evolution* 55: 312-325.

Tyukavina, A., Hansen, M.C., Potapov, P.V., Krylov, A.M. and Goetz, S.J. 2016. Pan-tropical hinterland forests: mapping minimally disturbed forests. *Global Ecology and Biogeography* 25: 151–163.

Tyukavina, A., Hansen, M., Potapov, P., Parker, D., Okpa, C., Stehman, S., Kommareddy, I. and Turubanova, S. 2018. Congo Basin forest loss dominated by increasing smallholder clearing. *Science Advances* 4(11).

United Nations. 2019. World Population Prospects 2019: Highlights. United Nations Department of Economic and Social Affairs.

World Bank. 2019. Africa Development Indicators. Available at:

<http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=Africa-Development-Indicators>.

Ziegler, S., Fa, J.E., Wohlfart, C., Streit, B., Jacob, S. and Wegmann, M. 2016. Mapping bushmeat hunting pressure in Central Africa. *Biotropica* 48: 405-412.

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External Resources

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Appendix

Habitats

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

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Resident	Suitable	Yes

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	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		
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	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	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
6. Human intrusions & disturbance -> 6.2. War, civil unrest & military exercises	Past, likely to return	Majority (50-90%)	Slow, significant declines	Past impact
	Stresses:	2. Species Stresses -> 2.1. Species mortality 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 research and monitoring

Conservation Action in Place
Action Recovery Plan: Yes
In-place land/water protection
Conservation sites identified: Yes, over entire range
Percentage of population protected by PAs: 0
Occurs in at least one protected area: No
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
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level

Research Needed

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

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km ²): 104800
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No

Distribution
Lower elevation limit (m): 450
Upper elevation limit (m): 1,800
Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 10
Movement patterns: Not a Migrant

The IUCN Red List Partnership



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