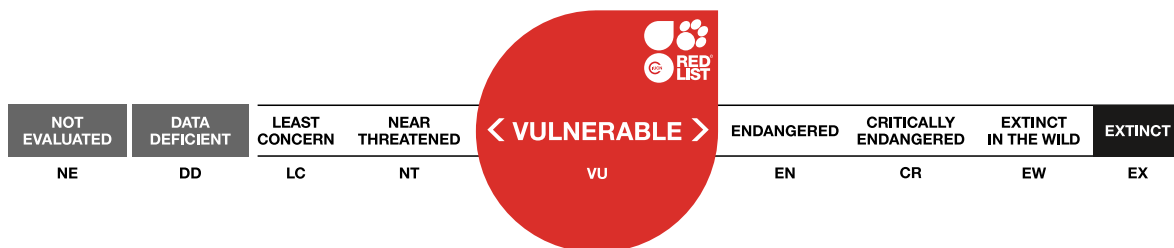


Colobus angolensis ssp. palliatus, Peter's Angolan Colobus

Assessment by: Cunneyworth, P., de Jong, Y.A., Butynski, T.M. & Perkin, A.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Cercopithecidae

Scientific Name: *Colobus angolensis ssp. palliatus* Peters, 1868

Parent Species: See *Colobus angolensis*

Common Name(s):

- English: Peter's Angolan Colobus, Peters's Angolan Colobus, Tanzanian Black-and-white Colobus

Taxonomic Source(s):

Mittermeier, R.A., Rylands, A.B. and Wilson D.E. 2013. *Handbook of the Mammals of the World: Volume 3 Primates*. Lynx Edicions, Barcelona.

Taxonomic Notes:

Opposed to Groves (2001), Grubb *et al.* (2003), and Bocian and Anderson (2013), *Colobus angolensis palliatus* is treated here as a subspecies separate from *Colobus angolensis sharpei*. The subspecies split is based on skull morphology (Hull 1979), pelage colouration and pattern (e.g., Schwarz 1929, Rahm 1970, Kingdon 1971), and on a recent genetic study (McDonald and Hamilton 2010).

Assessment Information

Red List Category & Criteria: Vulnerable A2cd+3cd+4cd [ver 3.1](#)

Year Published: 2020

Date Assessed: July 27, 2017

Justification:

Colobus angolensis palliatus is listed as Vulnerable due to a suspected population reduction throughout its range and a suspected future population reduction primarily due to deforestation as a result of land conversion to agriculture. Hunting is also a threat. These threats have not ceased. The forest habitat across the range is severely fragmented, limiting gene flow among populations. Recent extirpations of *C. a. palliatus* have been documented and additional extirpations inferred. It is likely that the rate of decline in the population will remain at 30% over the next three generations.

Previously Published Red List Assessments

2008 – Least Concern (LC)

<https://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T5148A11117812.en>

2000 – Data Deficient (DD)

1996 – Data Deficient (DD)

Geographic Range

Range Description:

In Kenya, *Colobus angolensis palliatus* occupies coastal forests of Kwale County in the southeast, including Shimba Hills National Reserve and the town of Diani.

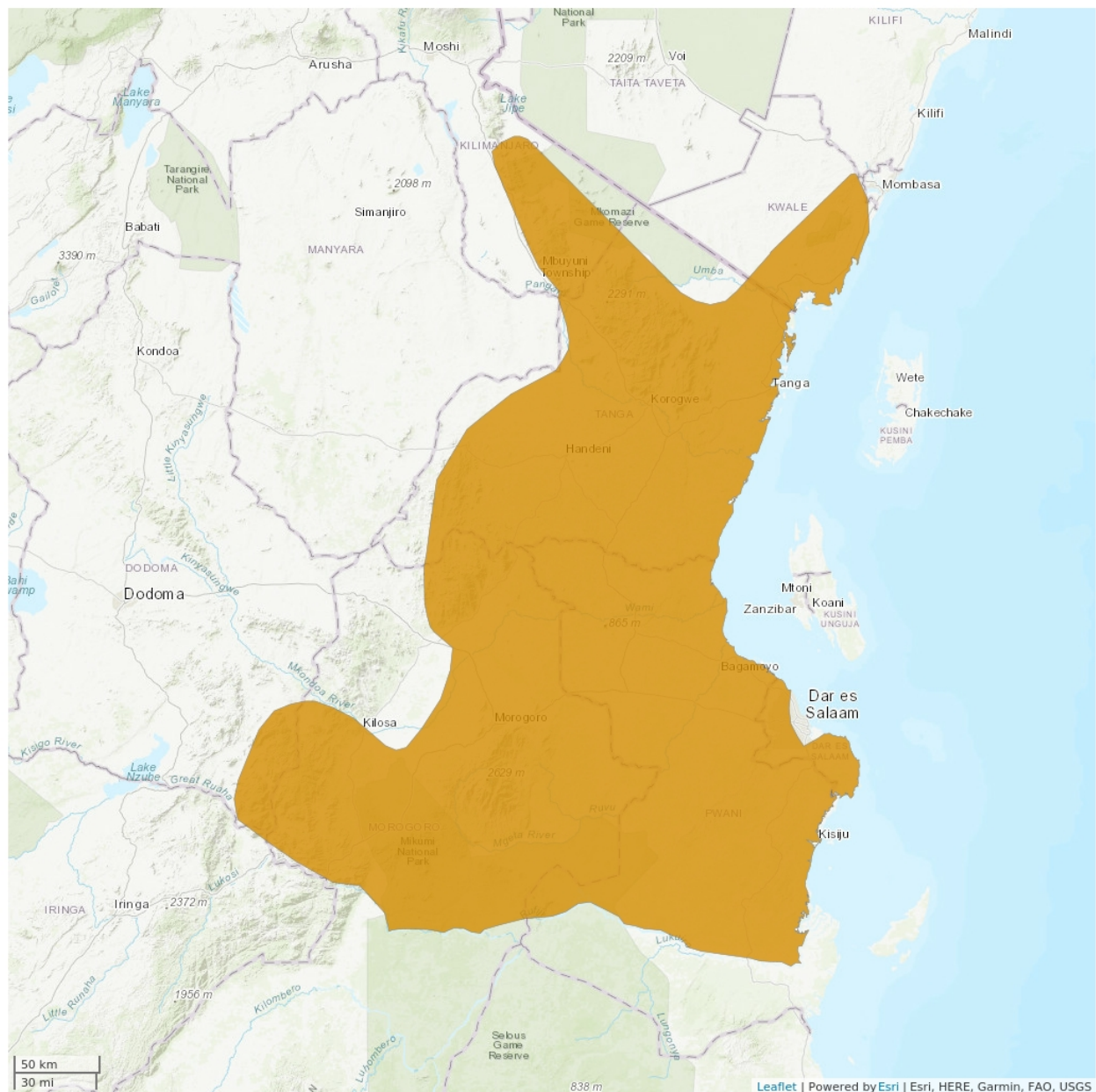
In Tanzania, *C. a. palliatus* occurs in the coastal forests of Amboni Caves, North and South Genda Genda, Kilulu, Mkwaja, Muchungu, Tongwe, and Zaraninge-Kiono. These records, however, are based primarily on surveys carried out in the 1990s and 2000s and their continued presence is unknown. *Colobus a. palliatus* is associated with riverine forest of the coastal area north of and including the bank of the Rufiji River (McDonald *et al.* 2019, Bocian and Anderson 2013).

In Tanzania, *C. a. palliatus* also occurs in the Eastern Arc Mountains (East and West Usambaras, South Pare, Nguu, Nguru, Uluguru, Malundwe, Rubeho). Surveys indicate that they are either very rare or absent from North Pare, Mahenge, Ukaguru, and Uvidunda. Extent of occurrence (EOO) is *ca.* 131,107 km² based on colobus presence data and analysis of suitable habitat. It is suspected that although there are riparian forest between colobus populations in most areas, these forests are under severe ongoing threat from conversion to agriculture, timber extraction, fuelwood removal, and changes to the river water flow. Consequently, there is limited contiguous forest between the populations and gene flow is thought to be severely restricted between most populations.

Country Occurrence:

Native, Extant (resident): Kenya; Tanzania, United Republic of

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

The density of *Colobus angolensis palliatus* varies considerably with forest size. The highest density reported is in Zaraninge-Kiono Forest, Tanzania, with 74 individuals/km² (Kiwia 2006), followed by Diani with 50 individuals/km² (Colobus Conservation unpubl. data). In the former case, this may be due to a condensed population before a collapse while the latter is an anthropogenic environment. *Colobus a. palliatus* are abundant in Shimba Hills National Reserve with 15.33 ± 2.88 individuals/km² (Anderson 2005). As the reserve contains an extensive forest with limited hunting, this density is likely to be near-typical for the subspecies.

In Kwale County, south of Mombasa, *C. a. palliatus* occurred in 55 of 124 forests surveyed in 2001. The population at that time was estimated at 3,100-5,000 individuals. Population persistence in Kwale County is dependent upon the five largest forest areas: Shimba Hills National Reserve, Diani, Shimoni (west), Marenji, and Mrima (Anderson 2005). Seventeen percent of this forested area remains unprotected (Anderson *et al.* 2007). The presumed historic range in Kenya is from the southern border with Tanzania, north to at least Arabuko Sokoke National Park (Anderson *et al.* 2007) along the coastal forest strip. North of Mombasa, the last colobus was sighted in 1979 (Anderson *et al.* 2007). This represents at least a 100 km contraction of the subspecies' range along the coastal forest strip.

In Tanzania, recent extirpations in the coastal forests are documented for *C. a. palliatus* in Pande Game Reserve (Doggart 2003), Pugu and Kazimzumbwe Forest Reserves (Burgess and Clarke 2000), and Mkomazi National Park (Rodgers 1981). Other extirpations are suspected to have occurred since the original surveys.

In the Eastern Arc Mountains, deforestation (Forestry and Beekeeping Division 2006) and hunting continues (Cunneynworth 1996; Frontier-Tanzania 2002, 2005; Preston 2011). It is possible that they have been extirpated from the Eastern Arc Mountain blocks of Ukaguru, Mahenge, and Uvidunda, and more recently from the North Pare Mountains (Doggart *et al.* 2008). A number of large forest reserves remain which are important for the subspecies, especially in the Uluguru and Rubeho Mountains.

We calculated the population size in forests of recorded and suspected colobus presence across the range by using 0.75% of the population density for Shimba Hills National Reserve, given the ongoing habitat loss and hunting threats. For the forest of Saadani National Park, we used the same population density as Shimba Hills given the national level protected status in both forests. On this basis, we estimate that the world population for *C. a. palliatus* is roughly 35,000 individuals. Given historic and recent deforestation documented across the range, the population is severely fragmented. Gene flow among most of the populations is extremely limited. This indicates that each population is important for the conservation of the subspecies.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Colobus angolensis palliatus is a large bodied (adult females: average 8.3 kg, range 7-14 kg., N=79; adult males: average 9.7 kg, range 8-13 kg., N=101: Colobus Conservation unpubl. data) arboreal primate, spending <1% of their time on the ground (Dunham and McGraw 2014). As a typical colobine, they are highly folivorous. *Colobus a. palliatus* live in small groups with a mean group size of six individuals (range

2–13) consisting of one to three adult males, adult females and immatures (Anderson 2005). *Colobus a. palliatus* occurs in the Zanzibar-Inhambane undifferentiated forest (White 1976) of the coastal strip in Kenya south of Mombasa and Tanzania to the Rufiji River and in the lowland and submontane forest of the Eastern Arc Mountains. Found in primary, semi-degraded, degraded forest, scrubland, croplands, mangrove and suburban areas (Anderson 2005). This species can persist in very small forest patches (e.g. 1 ha, Jego North, Kenya: Anderson 2005).

Systems: Terrestrial

Use and Trade

Hunting of *Colobus a. palliatus* occurs on a subsistence and commercial basis in the Mkangala, Uluguru South, Ngambaula, and Mangala forests of the Uluguru Mountains (Frontier-Tanzania 2005), for subsistence in the Kwamarimba/Longuza and Bombo East I forests of the East Usambara Mountains (Cunneyworth 1996, Frontier Tanzania 2002), in the West Usambara Mountains (Preston 2011), and likely many other places. There is also documented trade in colobus pelts in the Uluguru Mountains (Doggart *et al.* 2004).

Threats (see Appendix for additional information)

Colobus angolensis palliatus is threatened throughout its range by habitat loss, habitat degradation and habitat fragmentation mainly caused by the collection of timber and fuelwood, and conversion of forest to agricultural and grazing land. This is due to the rapid expansion of the number and size of human settlements. Major threats for *C. a. palliatus* in the residential areas of south coast Kenya are from vehicles and electrical infrastructure, which, together, exceed the annual ecological sustainable mortality rate of the population (Slade 2016, Cunneyworth and Duke 2020).

Though many of the forests throughout the range have some level of protection, law enforcement is ineffective against deforestation, hunting colobus for meat and skins, and harassment of colobus wrongly perceived as crop-raiders. As there is on-going exploitation of forest resources even in the protected areas, populations may only persist in those areas with national level protection: Shimba Hills National Reserve, Kenya, and the forests of Mikumi National Park and Saadani National Park, Tanzania. At least two populations are under immediate threat from large scale projects. In Kenya, Mrima Hill from mining, and in Tanzania, the Selous Game Reserve from a large-scale hydroelectric dam.

Conservation Actions (see Appendix for additional information)

Colobus a. palliatus is protected in Shimba Hills National Reserve, Kenya, and Mikumi and Saadani National Parks, Tanzania.

Colobus Conservation, based in Diani, Kenya, is the only conservation organization dedicated to a black and white colobus species. It promotes the conservation, preservation, and protection of *C. a. palliatus* (and sympatric primate species) and its coastal forest habitats. The organization has been involved in conservation projects for colobus in Kenya since 1997.

Credits

Assessor(s): Cunneyworth, P., de Jong, Y.A., Butynski, T.M. & Perkin, A.

Reviewer(s): Reuter, K.E.

Contributor(s): Kingdon, J., Struhsaker, T.T., Oates, J.F., Hart, J.A. & Groves, C.P.

Authority/Authorities: IUCN SSC Primate Specialist Group

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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 -> 1.7. Forest - Subtropical/Tropical Mangrove Vegetation Above High Tide Level	Resident	Suitable	No
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	Resident	Suitable	Yes
14. Artificial/Terrestrial -> 14.5. Artificial/Terrestrial - Urban Areas	Resident	Suitable	-

Use and Trade

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

End Use	Local	National	International
Food - human	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	Minority (50%)	Slow, significant declines	Low impact: 5
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Ongoing	-	-	Low impact: 3
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	-	-	Low impact: 3
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5

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
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	-	-	Low impact: 3
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.10. Large dams	Ongoing	-	-	Low impact: 3

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
Occurs in at least one protected area: Yes
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
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.2. Species recovery
3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction
4. Education & awareness -> 4.2. Training
4. Education & awareness -> 4.3. Awareness & communications
6. Livelihood, economic & other incentives -> 6.1. Linked enterprises & livelihood alternatives
6. Livelihood, economic & other incentives -> 6.3. Market forces
6. Livelihood, economic & other incentives -> 6.5. Non-monetary values

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
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km ²): 36655
Continuing decline in area of occupancy (AOO): Yes
Estimated extent of occurrence (EOO) (km ²): 131107
Continuing decline in extent of occurrence (EOO): Yes
Lower elevation limit (m): 0
Upper elevation limit (m): 2,600
Population
Number of mature individuals: 17,500
Extreme fluctuations: Unknown
Population severely fragmented: Yes
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 12

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