

Piliocolobus semlikiensis, Semliki Red Colobus

Assessment by: Maisels, F. & Ting, N.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Cercopithecidae

Scientific Name: *Piliocolobus semlikiensis* (Colyn, 1991)

Synonym(s):

- *Colobus ellioti* Dollman, 1909
- *Colobus variabilis* Lorenz von Liburnau, 1914
- *Colobus badius* ssp. *semlikiensis* Colyn, 1991
- *Colobus multicolor* Lorenz von Liburnau, 1914
- *Piliocolobus anzeliusi* Matschie, 1914
- *Piliocolobus ellioti* ssp. *melanochir* Matschie, 1914
- *Procolobus badius* ssp. *semlikiensis* Colyn, 1991

Common Name(s):

- English: Semliki Red Colobus
- French: Colobe de la Semliki
- Spanish; Castilian: Colobo Rojo del Semliki

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:

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., Kingdon 1997, 2015; Groves 2001, 2005, 2007; Roos *et al.* 2011), 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).

Piliocolobus semlikiensis is a little-known red colobus with an undecided and confusing taxonomic history. It has been treated as a synonym of *ellioti* Dollman, 1909, a subspecies of *badius*, of *pennantii*, of *oustaleti* (by implication), of *rufomitratu*s (also by implication), and of *foai*, and, besides, a species in its own right. It was first described by Colyn (1991) as *Colobus badius semlikiensis* from the northern sector of Virunga National Park, east of the Semliki River. It was placed as a subspecies of *Procolobus pennanti* [sic] by Gautier-Hion *et al.* (1999). Groves (2001, 2005) considered it to be a subspecies of *foai* but, in his 2007 review of colobus taxonomy, he treated it as a full species. Grubb *et al.* (2003) treated *semlikiensis* as a synonym of a doubtfully valid subspecies *ellioti*, but did not ascribe *ellioti* to a species. Struhsaker and Grubb (2013) treated *ellioti* (referring to it as the Semliki Red Colobus) as a subspecies of

*rufomitrat*us, but, citing Colyn (1993), noted that *elliotti* is a “highly variable subspecies and probably represents a large hybrid swarm involving *langi* and *semlikiensis*” (p.143). Kingdon (1997) considered both *elliotti* (from the Lubero Mts west of Lake George, and possibly a hybrid) and *semlikiensis* (a localised isolate in the Semliki Valley) to be subspecies of *oustaleti*, but in the second edition of his field guide (2015), he made no mention of *semlikiensis* but listed *Piliocolobus oustaleti elliotti* as the form from the Semliki River valley, implying as such that *semlikiensis* is a synonym. Groves (2007) believed that *elliotti* was described from a hybrid swarm that involved *semlikiensis* (in the east), *langi* (in the west) and *oustaleti* (in the north), and therefore not a valid taxon (a synonym of all three) and, contrary to Kingdon (2015), considered *langi*, *oustaleti* and *semlikiensis* to be the valid taxa (species) in the region. We follow Groves (2007) in treating *P. semlikiensis* as a valid species; however, we include in this taxon the populations that reside between Colyn’s (1991) *semlikiensis (sensu stricto)* and *langi*, all of which would have formerly been attributed to *elliotti* and may be part of a hybrid swarm. Further research needs to be done to resolve this taxonomy.

Assessment Information

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

Year Published: 2020

Date Assessed: January 20, 2020

Justification:

Piliocolobus semlikiensis has an extent of occurrence of ~78,500 km² and an area of occupation of ~54,400 km², but forest loss is ongoing across its range. Total forest loss is estimated at 4,430 km² (8.1% of the range) over 17 years (2001–2018; GFW 2019), which is 1.7 generations for this monkey (generation time for the genus is estimated at 10 years; Pacifici *et al.* 2013). This species occurs in eastern DRC, where the rate of forest cover loss is increasing: since 2014, it has been ~1% per year. Prior to that, annually rate of loss was 0.25–0.4% (GFW 2019).

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 occurring before 2001. Extrapolating 0.25–0.4% annual loss to the decade 1990–2000 gives an additional 2.5–4% lost. Therefore, we estimate an overall range loss of 12–14% between 1990 and 2020.

Added to forest loss is increasing hunting for bushmeat. Monkey meat is eaten in rural locations and traded commercially for consumption in towns and cities, and the bushmeat trade is a serious threat to red colobus monkeys across Central Africa (Struhsaker 2010). Red colobus are targeted for because of their large size, which affords a good return to a hunter for the cost of a shotgun cartridge. Red colobus live in relatively large groups (Struhsaker and Grubb 2013), and their behaviour when faced with a hunter tends to be to observe rather than flee – which affords very easy, multiple targets for the hunter. Hunting pressure was high throughout the areas surveyed in the last few years: Maiko National Park (Amsini *et al.* 2006a,b), Usala (S. Nixon pers. comm. 2019) and Okapi Wildlife Reserve (Vosper *et al.* 2012, Madidi *et al.* 2019).

In 2019, there were roughly three times more people in DRC than in 1990 (mean human population growth 1990–2018 was ~3% annually). In addition, once intact blocks of forest are increasingly

fragmented and made far more accessible to hunters: in DRC, 4.2% of forests classified as intact were lost between 2000–2013 (Potapov *et al.* 2017). Finally, the ability of the ever-increasing proportion of urban dwellers to pay much higher prices for bushmeat has created a highly lucrative market for commercial hunters, driving ever more rapid 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 with 27% in 1980, and this upward trend has been the case since 1960 (when it was 22%).

Because red colobus monkeys are large-bodied and bring a higher profit per cartridge than smaller species, it is preferentially selected by hunters and tends to be eliminated or at least greatly reduced in abundance before other, smaller monkeys. Red colobus now appear to be very rare, even in protected areas.

Thus, there is a combination of 12–14% of total habitat loss, plus 4.2% loss of intact forest, plus the increased demand for bushmeat, plus increased access too remote areas and an increased incentive for hunters to supply bushmeat to towns and cities. *Piliocolobus semlikiensis* is therefore suspected to have undergone a population decline exceeding 30% during the past three generations (1990–2019). The taxon is listed as Vulnerable under criterion A2cd, as the decline has been ongoing for some time and will continue into the future; causes have not ceased (indeed, the intensity of the causes is increasing), nor will they in the foreseeable future.

Geographic Range

Range Description:

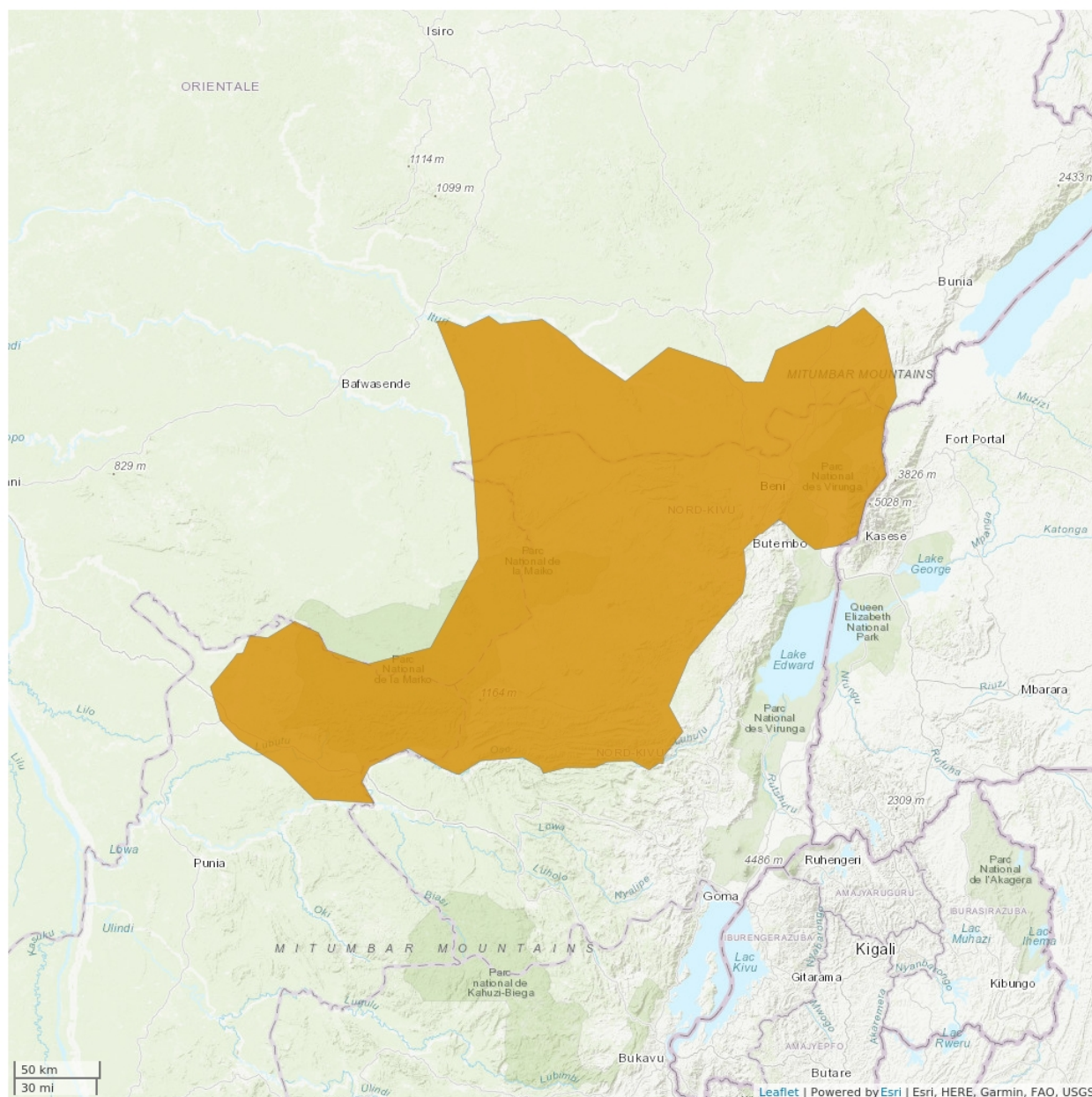
The geographic range (area of occurrence) of *Piliocolobus semlikiensis* covers approximately 54,400 km². This is a forest-dwelling, Central African taxon and the vast majority of its range is in the Democratic Republic of Congo (DRC) although, given the known distribution, it is possible that they could (rarely) occur in the contiguous forests of Semuliki and Rwenzori national parks, western Uganda. However, they were not recorded in Semuliki during a recent survey (Nixon *et al.* 2019) and there are no records in Rwenzori to date.

The southern limit of *P. semlikiensis* is roughly 1° S, comprising the Lowa River (to the southwest) and further east, its tributary, the Oso River. The northern limit is roughly 1.2° N, comprising the Nduye River (at the northeastern edge of the range of this taxon), which then runs west and joins the Ituri River that in turn becomes the Aruwimi River, which completes the northern limit. The eastern limit is the Albertine Rift, especially the northern sector of Virunga National Park, with a possible extension into Uganda, as noted above. The western limit is unclear but can be described as a very rough north-south line veering west towards the south at about 27.9° E. The reason for this vague boundary is that this taxon, as defined here, incorporates what has been described as a “hybrid swarm”, flanked to the west by *P. langi* and to the south by *P. lulindicus* and *P. foai*, with possible contribution from *P. oustaleti* in the north.

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 Semliki Red Colobus is targeted by hunters due to its large size. In recent years, they have rarely been seen, despite intensive survey efforts. They were recorded eight times in Maiko National Park in 2005 (both in the north and the south of the park: 380 and 300 km of effort, respectively; Amsini *et al.* 2006a,b). In 2007, red colobus vocalisations were heard on three separate transects close to the Ituri River (which forms the limit between *P. semlikiensis* and *P. oustaleti*), but which side of the river the vocalisations emanated from was unclear (WCS unpubl. data 2005–2007). Also in 2007, they were seen only once in the Usala area (which lies between Maiko National Park and Tayna Natural Reserve), although teams walked over 200 km of recces (Nixon *et al.* 2007). In the past, two groups were observed in Virunga National Park (Struhsaker 2010), but they were not recorded during surveys of the Semliki forest, Virunga National Park in 2008 (S. Nixon pers. comm. 2019) – the site of the taxon's type locality. Finally, they were not found in Mt. Hoyo Reserve by Plumptre *et al.* (2015), but were apparently recorded in that area in 2018 (D. Kujirakwinja pers. comm. 2019).

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, swamp 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)

The species is illegally hunted for local consumption and sale to bushmeat markets. The 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).

Threats (see Appendix for additional information)

The Semliki Red Colobus 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). Since 2001, there has been a trend towards gradually increasing annual forest loss, especially since 2013–2014 (GFW 2019).

Hunting for bushmeat is increasing throughout the range. The meat is eaten by rural populations, traded to miners (Spira *et al.* 2019), or sold in urban markets. Road access into once-remote forests – even around protected areas – has hugely increased during the last 20–30 years (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 the taxon 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 taxon 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 taxon (as *Procolobus badius*) is on the totally protected list (may not be hunted) (Enerunga 2006).

It occurs in Maiko and Virunga national parks. It should also occur in Tayna Natural Reserve and Kisimba Ikobo Primate Reserve, and was found in Okapi Wildlife Reserve in the past.

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 increasing 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

Assessor(s): Maisels, F. & Ting, N.

Reviewer(s): Williamson, E.A.

Contributor(s): Hart, J.A., Kujirakwinja, D., Nixon, S. & Rylands, A.B.

Authority/Authorities: IUCN SSC Primate Specialist Group

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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
1. Forest -> 1.8. Forest - Subtropical/Tropical Swamp	Resident	Suitable	Yes
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	Resident	Suitable	No

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	Majority (50-90%)	Slow, significant 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	Whole (>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
Action Recovery Plan: Yes
Systematic monitoring scheme: Yes
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
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

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No
Lower elevation limit (m): 550
Upper elevation limit (m): 2,400

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

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