*Table 9.1: Taxonomic information for red colobus.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Region** | **Mittermeier *et al.* (2013)** | **Struhsaker (2010)**1 | **Grubb *et al*. (2003)** | **English name** | **Main study sites** | **IUCN2** |
|  | **17 spp in genus *Piliocolobus*** | **18 taxa in 7 groups** | **18 taxa, subgenus *Piliocolobus*** |  |  |  |
| Sierra Leone, Ivory Coast, Liberia, Guinea | *P. badius* | *badius* (1) | *P. badius badius* | Western red or bay colobus | Taï, Tiwai | EN |
| Gambia, Senegal, Guinea, Guinea Bissau, and possibly Sierra Leone | *P. temminckii* | *temminckii* (1) | *P. b. temminckii* | Temminck's red colobus | Abuko, Fathalla | EN |
| Ivory coast & Ghana | *P. waldronae* | *waldroni* (1) | *P. b. waldroni* | Miss Waldron's red colobus |  | CR3 |
| Bioko Island | *P. pennantii* | *pennantii* (3) | *P. pennantii pennantii* | Pennant's or Bioko red colobus | Bioko Island | CR |
| Niger Delta | *P. epieni* | *epieni* (5) | *P. p. epieni* | Niger Delta red colobus |  | CR |
| Congo | *P. bouvieri* | *bouvieri* (4) | *P. p. bouvieri* | Bouvier's red colobus |  | EN |
| SE Nigeria to SW Cameroon | *P. preussii* | *preussi* (2) | *P. preussi* | Preuss's red colobus | Korup NP | CR |
| Tana River, Kenya | *P. rufomitratus* | *rufomitratus* (6) | *P. rufomitratus rufomitratus* | Tana river red colobus | Tana River area | CR |
| DR Congo | *P. tholloni* | *tholloni* (5) | *P. r. tholloni* | Tshuapa red colobus |  | VU |
| CAR, DR Congo, South Sudan | *P. oustaleti* | *oustaleti* (5) | *P. r. oustaleti* | Oustalet’s red colobus |  | VU |
| DR Congo | *P. parmentieri* | *parmentieri* (5) | *P. r. parmentieri* | Lomami red colobus |  | EN |
| Congo basin | *P. tephrosceles* | *tephrosceles* (5) | *P. r. tephrosceles* | Eastern or Ash red colobus | Kibale (Kanyawara, Ngogo), Gombe | EN |
| Congo basin | *P. foai* | *foai* (5) | *P. r. foai* | Foa’s red colobus |  | EN |
| Congo basin | *P. semlikiensis* | *ellioti* | *P. r. ellioti* | Semliki red colobus |  | VU |
| DR Congo | *lulindicus'* | *lulindicus* (5) | *P. r. lulindicus* | Ulindi River red colobus |  | VU |
| DR Congo | *P. langi* | *langi* (5) | *P. r. langi* | Lang’s red colobus |  | EN |
| Zanzibar Archipelago | *P. kirkii* | *kirkii* (7) | *P. kirkii* | Zanzibar or Kirk's red colobus | Jozani-Chwaka Bay NP & nearby agricultural mosaics; Kiwengwa FR, Uzi Island mangroves | EN |
| Udzungwa, Tanzania | *P. gordonorum* | gordonorum (7) | *P. gordonorum* | Udzungwa red colobus | Udzungwa | VU |

1 The numbers are arbitrary indicators of taxonomic group membership as suggested by Struhsaker (2010) (species with the same number group together). NP = National Park, FR = Forest Reserve; 2 IUCN 2020 *The IUCN Red List of Threatened Species. Version 2020-2*. https://www.iucnredlist.org. Downloaded on 09 July 2020; 3 Possibly extinct.

Table 9.2: Weight and swelling size information for species that have such information

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Body mass adult females** | | | **Body mass adult males** | | | **Sex Dimorphism (F/M)** |  |
|  | **Mean** | **Min-Max** | **Sample size** | **Mean** | **Min-Max** | **Sample size** | **Swelling Size** |
| *P. badius* | 7.8 | 5.0 to 10.0 | 37 | 8.4 | 6.4 to 9.6 | 17 | 1.08 | Large |
| *P. temminckii* |  |  |  |  |  |  |  | Large |
| *P. waldroni* | 5.8 | 5.5 to 6.0 | 2 | 6.4 | 6.3 to 6.5 | 2 | 1.10 |  |
| *P. pennantii* | 10 |  | 1 | 11 |  | 1 | 1.10 | Large |
| *P. epieni* |  |  |  |  |  |  |  | Medium (donut size)1 |
| *P. preussii* | 7.3 |  | 1 |  |  | 0 |  | Very Large |
| *P. rufomitratus* | 7.2 | 6.0 to 8.0 | 7 | 9.7 | 9.0 to 10.0 | 3 | 1.35 | Small |
| *P. tholloni* | estimated small range 7-10 kg | | | | | |  | Medium? |
| *P. oustaleti* | estimated mid range 8-11 kg | | | | | |  | Large |
| *P. parmentieri* |  |  |  |  |  |  |  | Large |
| *P. tephrosceles* | 5.8 |  | 1 | 10.5 |  | 1 | 1.81 | Small |
| *P. kirkii* | 6.8 | 5.5 to 8.4 | 25 | 7 | 5.5 to 9.4 | 26 | 1.03 | Small |
| *P. gordonorum* |  |  |  |  |  |  |  | Medium/ Large |

Weight is mostly taken from Delson et al. (2000) but all sources are summarised in the relevant profiles in Butynski *et al.* (2013) Mammals of Africa: Volume II Primates; whilst information on swelling size is based on AHK personal observations and Struhsaker (2010). Species profiles: *P. badius*, *P. temminckii*, *P. waldroni* in Butynski *et al.* (2013a); *P. pennantii* in Butynski et al. (2013b); *P. preussi* in Butynski & Kingdon (2013); *P. rufomitratus,* *P. epieni, P. tholloni, P. oustaleti, P. parmentieri, P. tephrosceles* in Struhsaker & Grubb (2013); *P. kirkii* in Siex & Struhsaker (2013); *P. gordonorum* in Struhsaker et al. (2013). Notes: 1 Werre (2000).

Table 9.3: Diet of red colobus species across their range based on studies of at least 8 months

| **Location** | **Species** | **TL** | **YL** | **ML** | **FR** | **(SD)** | **FRTTot** | **FL** | **OT** | **Ref** | **study period** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Taï NP | *badius* | 49.6 | 46 | 3.5 | 28.8 |  | 28.8 | 19.5 | 2.1 | A | 1990s |
| Tiwai | *badius* | 51.9 | 31.7 | 20.2 | 5.9 | 25.3 | 31.2 | 16.1 | 0.8 | B | 1980s |
| Salongo | *tholloni* | 60.7 | 54.3 | 6.4 | 37.9 |  | 37.9 | 1.4 | 0 | C | 1990s |
| Tana River Mchelelo 70s | *ruformitratus* | 66.2 | 52.4 | 11.5 | 24.1 | 0.9 | 25 | 6.2 | 2.6 | D | 1970s |
| Tana River Mchelelo 80s | *ruformitratus* | 63.4 | 61.2 | 2.2 | 21.7 |  | 21.7 | 13.3 | 1.6 | E | 1980s |
| Tana River Baomo South 80s | *ruformitratus* | 47.2 | 45.9 | 1.3 | 25.6 |  | 25.6 | 26.7 | 0.5 | E | 1980s |
| Zanzibar, Jozani Forest | *kirkii* | 64.5 | 50.6 | 13.9 | 31.5 | 0 | 31.5 | 8 | -4 | F | 1980s |
| Zanzibar, Jozani shambas | *kirkii* | 70 | 64.2 | 5.8 | 23.5 | 0 | 23.5 | 8.1 | -1.6 | F | 1980s |
| Zanzibar, Jozani Forest | *kirkii* | 68.1 | 50.7 | 1 | 23.7 | 1.8 | 25.5 | 4.8 | 1.6 | G | 1999 |
| Zanzibar, Jozani shambas | *kirkii* | 81.7 | 54.9 | 0.8 | 5.1 | 0.1 | 5.2 | 5.5 | 7.6 | G | 1999 |
| Zanzibar Kiwengwa | *kirkii* | 60.3 | 48.2 | 7.4 | 22.9 | 4.7 | 27.7 | 11.8 | 0.2 | G | 2003-2006 |
| Zanzibar Uzi | *kirkii* | 66.9 | 61.4 | 0 | 23.2 | 1.3 | 24.5 | 7.4 | 1.2 | G | 2003-2006 |
| Gombe | *tephrosceles* | 78.5 | 37.3 | 44.1 | 11.4 | 0 | 11.4 | 9.7 | 0.4 | I | Jan69-Jun70 |
| Gombe | *tephrosceles* | 72.2 |  |  | 24.6 |  | 24.6 |  | 3.2 | J | 1990s |
| Kibale Kanyawara K30 | *tephrosceles* | 68.2 | 45.6 | 22.6 | 6.3 | 6 | 12.3 | 9.9 | 9.6 | L | 1970s |
| K30, Kanyawara, camp | *tephrosceles* | 86.9 | 55.8 | 13.3 | 5.7 |  | 5.7 | 2.4 |  | L | Aug94-Jul95 |
| K30, Kanyawara, camp | *tephrosceles* | 86.0 | 58.8 | 10.2 | 7.6 |  | 7.6 | 1.5 |  | L | Aug95-Jul96 |
| K30, Kanyawara, camp | *tephrosceles* | 81.5 | 71.9 | 2.4 | 7.9 |  | 7.9 | 1.4 |  | L | Aug96-Jul97 |
| K30, Kanyawara, camp | *tephrosceles* | 89.2 | 75.8 | 5.6 | 6.6 |  | 6.6 | 3.5 | 2.2 | L | Aug98-Jul99 |
| Sebatoli, Kibale, Uganda | *tephrosceles* | 86.9 | 79.5 | 7.4 | 6.4 |  | 6.4 | 3.3 | 3.4 | M | Jul96-Jun97 |
| K30,Kanyawara, Kibale | *tephrosceles* | 81.7 | 71.8 | 9.9 | 6.7 |  | 6.7 | 2 | 9.6 | M | Jul96-Jun97 |
| Dura, Kibale | *tephrosceles* | 78.4 | 73.8 | 4.6 | 13.9 |  | 13.9 | 6.2 | 1.5 | M | Jul96-Jun97 |
| Mainaro, Kibale | *tephrosceles* | 75.5 | 59.3 | 16.2 | 10.8 |  | 10.8 | 7.2 | 6.5 | M | Jul96-Jun97 |
| K30, Kanyawara, Big | *tephrosceles* | 89.1 | 83.5 | 5.6 | 6.6 |  | 6.6 | 3.5 | 0.8 | N1 | Jul98-Jun99 |
| K30, Kanyawara, small | *tephrosceles* | 83.8 | 70.5 | 13.3 | 8.9 |  | 8.9 | 0.8 | 6.5 | N2 | Jul98-Jun99 |
| Mikana is part of K14 | *tephrosceles* | 93.6 | 91.6 | 2 | 3 |  | 3 | 2.2 | 1.2 | N | Jul99-May00 |
| Nkuruba, fragments | *tephrosceles* | 88.8 | 70.4 | 18.4 | 1.9 |  | 1.9 | 2.3 | 7 | N | Aug99-Apr00 |
| K15 Kanyawara, Kibale | *tephrosceles* | 72.4 | 69.8 | 2.6 | 17.2 |  | 17.2 | 2.3 | 8.1 | O | Jul94-Jul97 |
| Kahunga Kibale NP | *tephrosceles* | 69.8 | 48.8 | 21 | 3.1 |  | 3.1 | 22.7 | 4.4 | O | Jul95-Jun96 |
| Abuko NR | *temminckii* | 46.9 | 34.9 | 11.4 | 38.8 | 2.9 | 41.7 | 8.6 | 2.8 | P | 1978-83 |
| Fathala | *temminckii* | 48 | 42.6 | 5.4 | 17.4 | 18.5 | 35.9 | 8.7 | 7.4 | Q | 1970s |
| Fathala | *temminckii* | 76.4 | 70.1 | 6.3 |  |  | 18.8 |  | 4.8 | R | 1994-1996 |
| Magombera, Mwanihana (Udz) | *gordonorum* | 70.8 | 48.2 | 15.5 | 5.3 | 13.5 | 18.8 | 4.4 | 6 | S | 2009-2010 |
| Gbanraum, Niger Delta | *epieni* | 73.7 | 56.8 | 4.7 | 4.0 | 10.2 | 14.1 | 9.6 | 2.6 | T | Sep96-Aug97 |
| Korup NP | *preussi* | 88.91 | 88.91 | 0 | 0.87 |  | 0.87 | 10.2 |  | U | 1991-1993 |

TL= total leaf matter including various non-vegetative plant parts (incl. petioles, stems, herbs, pith if those were provided) and YL and ML; YL= young leaf, including leaf buds, young petioles and undetermined buds; ML= mature leaf is restricted to recorded mature leaf; FR = fruit pulp (if different from Fruit total) or situations in which fruit is consumed whole; (SD) = seeds if these were identified separately from consumed fruit, typically, this was the case when only the seed is consumed and there is no fruit pulp or it is discarded; FL= flowers including flowerbuds; OT = other; Ref = References: A. Korstjens & Dunbar (2007); B. Davies *et al.* (1999), Oates (1994); C. Maisels et al (1994); Marsh (1981); E. Decker (1994); F. Mturi (1991) cited in Struhsaker (2010) average of 2 groups; F. Siex (2003); H. Nowak (2007) p335; I. Clutton-Brock (1975); J. Stanford (1998) p111 (read off graph); K. Struhsaker (2010) average of two study groups; L. Chapman *et al.* (2002b); M. Chapman & Chapman, (2000a); N. Rode *et al.* (2003), N1=large group (n=48), N2=small group (n=24); O. Chapman & Chapman (1999); P. Starin (1991) and Oates (1994); Q. Gatinot (1977, 1978); R. Diouck (1999); S. Steel (2012), Udz=Udzungwa; T. Werre (2000); U. Usongo & Amubode (2001).

*Table 9.4. Activity budgets of red colobus studies >8 months with size (Grpsz), number of adult females (AF) and males (AM) of the study groups included, feeding and foraging (feed), climbing and travelling (move), resting and inactive or autogrooming (rest) and grooming or social activities (social, for most studies this is equivalent to grooming time as they did not mention other social activities).*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Site** | **Species** | **Grpsz** | **AF** | **AM** | **Feed** | **Move** | **Rest** | **Social Groom** | **Reference** |
| Taï NP | *badius* | 52.0 | 18.5 | 10.5 | 44.9 | 18.9 | 29.9 | 6.3 | Korstjens & Dunbar (2007) |
| Tiwai | *badius* | 33.0 | 13.0 | 7.0 | 37.0 | 5.0 | 55.0 | 3.0 | Davies *et al.* (1999) |
| Tana River Mchelelo 70s | *ruformitratus* | 21.5 | 16.0 | 1.0 | 31.5 | 6.4 | 57.3 | 2.9 | Marsh (1981) |
| Tana River Mchelelo 80s | *ruformitratus* | 9.7 | 4.0 | 1.0 | 28.6 | 21.5 | 48.0 | 0.2 | Decker (1994) |
| Tana River Baomo S 80s | *ruformitratus* | 23.5 | 11.3 | 1.0 | 23.3 | 24.4 | 50.0 | 0.2 | Decker (1994) |
| Abuko | *temminckii* | 26.2 | 10.8 | 2.0 | 21.3 | 12.5 | 52.1 | 12.6 | Starin (1991) |
| Magombera, Mwanihana (Udz) | *gordonorum* | 38.3 | 19.0 | 3.5 | 25.3 | 12.3 | 58.0 | 3.3 | Steel (2012) |
| Gombe | *tephrosceles* | 23.0 | 11.2 | 6.0 | 29.1 | 13.1 | 48.2 | 10.1 | Stanford (1998) |
| Kibale Kanyawara K30 70s | *tephrosceles* | 23.9 | 9.2 | 2.7 | 44.8 | 9.1 | 34.6 | 4.5 | Struhsaker (2010) p220 |
| Kibale Ngogo | *tephrosceles* | 31.8 | 11.3 | 6.25 | 32.0 | 8.7 | 35.6 | 7.3 | Struhsaker (2010) p220 |
| Gombe | *tephrosceles* | 82 | 24 | 11 | 25.0 | 8.0 | 54.0 | 5.5 | Clutton-Brock (1974) |
| Kibale Kanyawara K14,K30 | *tephrosceles* | 67.2 |  |  | 30.875 | 9.4 | 52.575 | 5.6 | Isbell (2012)1 |
| Kibale NP logged 1 | *tephrosceles* | 57 to 98 |  |  | 45.8 | 7.9 | 37.7 | 6.4 | Gogarten *et al.* (2014) |
| Zanzibar, Jozani Forest | *kirkii* | 30 | 10.1 | 2.47 | 28.7 | 12.1 | 47.3 | 5.3 | Siex (2003) |
| Zanzibar, Jozani shambas | *kirkii* | 37.5 | 14.9 | 4.7 | 28.6 | 6.0 | 43.8 | 8.3 | Siex (2003) |
| Kibale NP logged | *tephrosceles* | 44 | 18 | 6 | 46.0 | 14.0 | 36.0 | 4.0 | Milich *et al.* (2014b)2 |
| Kibale NP oldgrowth | *tephrosceles* | 53.5 | 18.5 | 10 | 35.0 | 18.0 | 41.0 | 6.0 | Milich *et al.* (2014b)2 |
| Gbanraum, Niger Delta | *epieni* | 59.5 | 26 | 6.5 | 30.1 | 31.7 | 32.5 | 5.7 | Werre (2000) p168 |
| Korup NP | *preussi* | variable |  |  | 16.3 | 13.1 | 25.7 | 1.6 | Fonkwo *et al.* (2015)3 |

Notes: social time is mostly made up of grooming or entirely made up of social grooming if the study provided this information; 1Isbell (2012): average of AM and AF activities in two forest areas; 2Milich *et al.* 2014: adult females only; 3Fonkwo *et al.* (2015) recorded behaviour using scan sampling of groups encountered along the trails so group size varies, the table shows the values obtained for adult individuals only.

*Table 9.5. Ranging data from studies of >8 months*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Site** | **Species** | **Decade** | **Group size** | **HR** | **DJL (m)** | **Reference** |
| Taï NP | *badius 1b* | 1990s | 64.0 | 65.7 | 822.0 | Korstjens (2001) |
| Taï NP | *badius 2a* | 1990s | 60.0 | 50.3 | 922.0 | Korstjens (2001) |
| Tiwai | *badius* | 1990s | 33.0 | 52.5 |  | Davies *et al.* (1999) |
| Abuko | *temminckii* | 1980s | 26.2 | 33.5 |  | Starin (1991) |
| Abuko | *temminckii* | 1970s | 24 | 4.5 |  | Gunderson (1977) group A average of wet and dry season |
| Abuko | *temminckii* | 1970s | 40 | 11.7 |  | Gunderson (1977) group B average of wet and dry season |
| Abuko | *temminckii* | 1970s | 38 | 6.1 |  | Gunderson (1977) group C average of wet and dry season |
| Fathala | *temminckii* | 1970s | 31.4 | 13.2 |  | Gatinot (1975) |
| Tana River Mchelelo 70s | *ruformitratus M* | 1970s | 21.5 | 10.3 | 603.0 | Marsh (1981a) |
| Tana River Mchelelo 70s | *ruformitratus O* | 1970s | 15.2 | 9.5 | 603.0 | Marsh (1981a) |
| Tana River Mchelelo 80s | *ruformitratus* | 1980s | 9.7 | 11.5 | 531.5 | Decker (1994) |
| Tana River Baomo South 80s | *ruformitratus* | 1980s | 23.5 | 13.0 | 460.5 | Decker (1994) |
| Kibale Kanyawara K30 70s | *tephrosceles* | 1970s | 24.0 | 98.0 |  | Struhsaker (2010) p222 |
| Kibale Kanyawara K14,K30 | *tephrosceles* | 1980s | 67.2 |  | 568.6 | Isbell (2012) - average of two forest areas used |
| Kibale Ngogo | *tephrosceles* |  | 31.8 | 92.8 |  | Struhsaker (2010) p222 |
| Gombe | *tephrosceles* | 1970s | 82.0 | 114.0 |  | Clutton-Brock (1975) |
| Gombe | *tephrosceles* | 1990s | 23.0 | 75.0 |  | Stanford (1998) |
| Zanzibar, Jozani Forest | *kirkii* | 1990s | 36.4 | 19.0 | 565.3 | Siex & Struhsaker (1999b); Siex 2003 |
| Zanzibar, Jozani shambas | *kirkii* | 1990s | 28.5 | 8.1 | 310.3 | Siex & Struhsaker (1999b); Siex 2003 p 156 (DJL) |
| Zanzibar Kiwengwa Coral rag forest | *kirkii* | 2000s | 12.6 | 19.6 | 591.0 | Nowak & Lee (2011); Nowak (2007) |
| Zanzibar Uzi Mangrove | *kirkii* | 2000s | 22.0 | 5.5 | 475.2 | Nowak & Lee (2011); Nowak (2007) |
| Magombera, Mwanihana (Udz) | *gordonorum* | 2000s | 38.3 | 10.6 | 1038.4 | Steel (2014) |
| Gbanraum, Niger Delta | *epieni* | 1990s | 59.5 | 72.8 | 1040.0 | Werre (2000) p168 |

Notes: HR = Home range size (ha), DJL = mean Day Journey Length. Please note that methods for estimating home range size differs widely among studies and the original sources should be consulted in any comparative studies.

*Table 9.6: Social organisation: group size and composition, please note that group size estimation for the large red colobus groups in dense forest is notoriously difficult and estimation of subadult sex in species without elaborate clitori is very difficult; In the table, individuals of unknown sex or unknown age-sex are not listed, please see the original publications for further information and possible constraints on the reliability of individual estimates; N=number of groups counted; Mn, Min & Max are mean, minimum and maximum group size respectively; AF & AM are number of adult females and males respectively; F range and M range gives the minimum and maximum number of adult females and males in the group; SA=subadults; Juv=juveniles; I=infants; AF/M is sex ratio; I/AF and I&J/AF give the ratio of infants or young immatures respectively per adult female.*

| **Ref** | **Species: *P.*** | **Site** | **Study period** | **N** | **Mn** | **Min** | **Max** | **AF** | **F range** | **AM** | **M range** | **SA** | **Juv** | **Inf** | **AF/M** | **I/AF** | **I&J/AF** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | ***temminckii*** | Senegal, Fathala | 1973-1975 | 12 | 32.1 | 9 | 62 | 13.3 | 5 -27 | 6.7 | 3-13 | 2.3 | 4.5 | 5.4 | 1.99 | 0.41 | 0.74 |
| 2 | ***temminckii*** | Senegal, Fathala | 1990-1994 | 14 | 25.0 | 9 | 38 |  |  |  |  |  |  |  |  |  |  |
| 2 | ***temminckii*** | Senegal, Fathala | 1996-2002 | 14 | 16.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | ***temminckii*** | Abuko, study groups | 1970s | 3 | 34.0 | 24 | 40 |  |  |  |  |  |  |  |  |  |  |
| 4 | ***temminckii*** | Abuko all groups | 1980s | 5 | 23.0 | 14 | 32 |  |  |  |  |  |  |  |  |  |  |
| 4 | ***temminckii*** | Abuko study groups | 1980s | 2 | 25.9 | 25 | 27 | 10.8 | 25-27 | 2.1 | 2- 3 | 3.8 | 5.0 | 3.8 | 5.12 | 0.35 | 0.82 |
| 5 | ***temminckii*** | Canthanaz NP, Guinea Bissou. Study group | 2008-2009 | 1 | 27.0 |  |  | 10.0 |  | 3.0 |  |  | 6.0 | 8.0 | 3.33 | 0.80 | 1.40 |
| 6 | ***temminckii*** | Abuko groups | 2013 | 3 | 34.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | ***temminckii*** | Pirang, Gambia | 1980s | 3 | 18.0 | 17 | 20 |  |  |  |  |  |  |  |  |  |  |
| 3 | ***temminckii*** | Kilimi, Sierra Leone | 1981-1982 | 5 | 7.5 |  | 20 |  |  |  |  |  |  |  |  |  |  |
| 8 | ***temminckii*** | Sambel Kunda Area | 2019 | 21 | 31.044 | 3 | 60 |  |  |  |  |  |  |  |  |  |  |
| 8 | ***temminckii*** | Kuntaur-Sapo | 2019 | 13 | 11.04 | 6 | 40 |  |  |  |  |  |  |  |  |  |  |
| 8 | ***temminckii*** | Georgetown-Bansang | 2019 | 18 | 13.54 | 2 | 47 |  |  |  |  |  |  |  |  |  |  |
| 8 | ***temminckii*** | Bansang-Karantaba | 2019 | 37 | 10.04 | 3 | 49 |  |  |  |  |  |  |  |  |  |  |
| 9 | ***badius*** | Taï Ivory Coast | 1996-1999 | 4 | 52.3 | 41 | 64 | 18.3 | 14-22 | 10.5 | 6-14 | 5.0 | 9.5 | 9.0 | 1.74 | 0.49 | 1.01 |
| 10 | ***badius*** | Tiwai, Study group | 1990s | 1 | 33.0 |  |  | 13.0 |  | 7.0 |  |  |  |  | 1.86 |  |  |
| 11 | ***badius*** | Taï Ivory Coast | 1970s | 17 | 36.8 | 8 | 70 | 13.0 |  | 3.0 |  |  | 8.0 | 4.0 | 4.33 | 0.31 | 0.92 |
| 12 | ***badius*** | Taï, study groups | 1990s | 2 | 73.0 | 70 | 75 | 28.0 |  | 17.0 |  |  |  |  | 1.65 |  |  |
| 3 | ***badius*** | Gola F.R. Sierra Leone | *ca.* 1980s |  |  | 20 | >60 |  |  |  |  |  |  |  |  |  |  |
| 3 | ***badius*** | Sierra Leone | 1950s |  |  |  | >100 |  |  |  |  |  |  |  |  |  |  |
| 13 | ***tephrosceles*** | Kanyawara, group CW | 1970-1988 | 1 | 23.9 |  |  | 9.2 |  | 2.7 |  | 0.5 | 8.9 | 2.6 | 3.37 | 0.28 | 1.24 |
| 13 | ***tephrosceles*** | Kanyawara study group | 1977 | 1 | 18.0 |  |  | 8.0 |  | 3.0 |  | 1.0 | 6.0 | 0.0 | 2.67 | 0.00 | 0.75 |
| 13 | ***tephrosceles*** | Kanyawara, Karambi Road | 1995 | 1 | 55.0 |  |  | 17.0 |  | 2.0 |  | 8.0 | 11.0 | 8.0 | 8.50 | 0.47 | 1.12 |
| 13 | ***tephrosceles*** | Kanyawara, Karambi Road | 2000 | 1 | 27.0 |  |  | 8.0 |  | 6.0 |  | 1.5 | 5.5 | 6.0 | 1.33 | 0.75 | 1.44 |
| 14 | ***tephrosceles*** | Kanyawara K30 study group | 2006 | 1 | 59.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | Kanyawara K30 study group | 2011 | 1 | 104.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | Kibale NP: Sebatoli, Dura, Mainaro, Kanyawara | 1996-1998 | 55 | 28.4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | 2010-2011 | 27 | 46.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | Kibale Kanyawara K30, K15, K14 census | 1996-1998 | 33 | 35.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | 2010-2011 | 16 | 47.5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | ***tephrosceles*** | Kanyawara, old growth forest | 2005-2006 | ? | 52.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | Kibale Kanyawara K30 | 1996-1998 | 14 | 37.2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | ***tephrosceles*** | 2010-2011 | 11 | 52.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | ***tephrosceles*** | Sebatoli Kibale NP | 1996-1997 | 5 | 14.2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | ***tephrosceles*** | K30 Kanyawara Kibale | 1996-1997 | 15 | 40.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | ***tephrosceles*** | Dura river Kibale NP | 1996-1997 | 14 | 34.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | ***tephrosceles*** | Mainaro Kibale NP | 1996-1997 | 5 | 30.5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 13a | ***tephrosceles*** | Ngogo RUL grp | 1978-1983 | 1 | 31.8 | 21 | 54 | 11.3 |  | 6.3 |  | 1.3 | 7.3 | 4.7 | 1.81 | 0.42 | 1.06 |
| 13b | ***tephrosceles*** | Ngogo BRE group | 1978 | 1 | 71-75 |  |  | 17.0 |  | 10.0 |  | 3.0 | 24.0 | 10.0 | 1.70 | 0.59 | 2.00 |
| 13c | ***tephrosceles*** | Ngogo | 2003 | 1 | 42-45 |  |  | 16.0 |  | 10.0 |  | 4.0 | 8.0 | 3.0 | 1.60 | 0.19 | 0.69 |
| 13d | ***tephrosceles*** | Ngogo HTL group | 1976-1980 | 1 | 9.1 |  |  | 2.1 |  | 3.4 |  | 1.7 | 1.2 | 0.7 | 0.62 | 0.31 | 0.89 |
| 17 | ***tephrosceles*** | Ngogo 4 study groups, 3 years | 2001-2003 | 4 | 39.5 |  |  | 11.2 |  | 6.8 |  | 2.9 | 3.8 | 3.7 | 1.65 | 0.33 | 0.66 |
| 18 | ***tephrosceles*** | Dura river bridge area | 1970 | 1 | 28.0 |  |  | 12.0 |  | 4.0 |  |  | 3.0 | 7.0 | 3.00 | 0.58 | 0.83 |
| 19 | ***tephrosceles*** | Gombe, Kahama study group | 1969/1970 | 1 | 82.0 |  |  | 24.0 |  | 11.0 |  | 23.0 | 13.0 | 8.0 | 2.18 | 0.33 | 0.88 |
| 19 | ***tephrosceles*** | Upper Mkenke troop | 1969/1970 | 1 | 38 |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | ***tephrosceles*** | Nyasanga troop | 1969/1970 | 1 | 55 |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | ***tephrosceles*** | Sleeping Valley troop | 1969/1970 | 1 | ~30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | ***tephrosceles*** | Upper Kahama troop | 1969/1970 | 1 | >70 |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | ***tephrosceles*** | Bigodi (Kibale) | 1969/1970 | 1 | 64 |  |  | 28 | 28-32 | 10 |  | 10 |  | 12 | 3.20 | 0.38 | 0.38 |
| 19 | ***tephrosceles*** | Kanyawara (Kibale) | 1969/1970 | 1 | 58 |  |  | 17 | 17-21 | 11 | 11-13 |  |  | 3 | 1.62 | 0.14 | 0.14 |
| 20 | ***tephrosceles*** | Gombe, Kasakela, Kakombe, Mikenka | 1991 | 5 | 23.0 |  |  | 11.2 | 5-16 | 6.0 | 4-8 | 0.6 | 1.6 | 1.8 | 1.87 | 0.16 | 0.30 |
| 13e | ***tephrosceles*** | Kabuga Valley Gombe | 1995 | 1 | 61.0 |  |  | 19.0 |  | 16.0 |  | 13.0 | 5.0 | 8.0 | 1.19 | 0.42 | 0.68 |
| 13f | ***tephrosceles*** | Businde Valley Gombe | 1994 | 1 | 48.0 |  |  | 22.0 |  | 8.0 |  | 6.0 | 4.0 | 8.0 | 2.75 | 0.36 | 0.55 |
| 21 | ***rufomitratus*** | Tana River, single counts | 1973-1975 | 13 | 18.1 | 12 | 30 | 9.7 | 5-18 | 1.5 | 1-2 | 0.5 | 3.9 | 2.3 | 6.64 | 0.24 | 0.64 |
| 22 | ***rufomitratus*** | Tana River Single counts | 1986-1988 | 17 | 11.6 | 4 | 37 | 5.9 | 2-18 | 1.1 | 1-2 | 0.1 | 1.6 | 3.0 | 5.27 | 0.50 | 0.76 |
| 23 | ***rufomitratus*** | 1. East of Tana River | 1999-2001 | 24 | 9.6 | 4 | 19 | 4.5 | 1-8 | 1.3 | 1-2 | 0.8 | 1.1 | 1.7 | 3.49 | 0.38 | 0.62 |
| 23 | ***rufomitratus*** | 2. West of Tana River | 1999-2001 | 31 | 11.2 | 4 | 31 | 5.2 | 1-15 | 1.9 | 1-7 | 1.2 | 1.2 | 1.3 | 2.72 | 0.25 | 0.49 |
| 23 | ***rufomitratus*** | 1. Inside Tana River PNR | 1999-2001 | 29 | 9.6 | 5 | 20 | 4.3 | 1-8 | 1.6 | 1-3 | 1.0 | 1.1 | 1.3 | 2.70 | 0.31 | 0.57 |
| 23 | ***rufomitratus*** | 2. Outside Tana River PNR | 1999-2001 | 26 | 11.5 | 5 | 31 | 5.5 | 1-15 | 1.7 | 1-7 | 1.2 | 1.2 | 1.7 | 3.27 | 0.30 | 0.51 |
| 24 | ***kirkii*** | Jozani Shamba groups | 1992-1993 | 7 | 29.0 | 8 | 47 | 10.9 | 2-19 | 1.7 | 1-3 | 1.7 | 6.9 | 6.2 | 6.59 | 0.57 | 1.20 |
| 24 | ***kirkii*** | Jozani Shamba groups | 1999 | 4 | 37.5 | 20 | 65 | 14.9 | 8-24 | 4.7 | 2-10 | 0.7 | 10.6 | 6.4 | 3.17 | 0.43 | 1.14 |
| 24 | ***kirkii*** | Jozani Forest groups | 1992-1993 | 4 | 30.0 | 24 | 43 | 10.1 | 6-16 | 2.5 | 2-3 | 1.3 | 7.6 | 3.0 | 4.08 | 0.30 | 1.05 |
| 24 | ***kirkii*** | Jozani Forest groups | 1999 | 3 | 31.1 | 23 | 36 | 12.0 | 10-13 | 3.9 | 2-6 | 2.9 | 7.7 | 2.9 | 3.10 | 0.24 | 0.88 |
| 25 | ***gordonorum*** | Magombera Forest | 1970s | 2 | 28.0 | 23 | 33 | 10.0 | 9-11 | 4.0 | 3-5 | 0.5 | 7.0 | 5.0 | 2.50 | 0.50 | 1.20 |
| 13g | ***gordonorum*** | Kalunga Forest, 7 visits | 1998-2004 | >5 | 15.4 | 8 | 28 | 6.8 | 3-13 | 2.7 | 1-8 | 1.1 | 2.5 | 2.0 | 2.51 | 0.29 | 0.66 |
| 13h | ***gordonorum*** | Magombera Forest | 1992 | 4 | 33.3 | 26 | 42 | 16.0 | 11-26 | 2.0 | 1-3 | 2.3 | 5.3 | 7.3 | 8.00 | 0.45 | 0.78 |
| 13i | ***gordonorum*** | Magombera Forest | 2004, 05, 06 | 10 | 31.2 | 24 | 47 | 15.2 | 8-24 | 2.6 | 1-5 | 1.8 | 4.8 | 5.6 | 5.85 | 0.37 | 0.68 |
| 26 | ***gordonorum*** | Mwanihana, Udzungwa | 1998-2000 | 12 | 36.1 | 7 | 62 | 15.8 | 4-29 | 4.0 | 1-6 | 1.8 | 5.8 | 6.8 | 3.90 | 0.43 | 0.80 |
| 27 | ***gordonorum*** | Luhombero forest, 1350-2100m asl | 1991-2000 | 46 | 18.0 | 1 | 50 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Ukami | 1991-2000 | ? | 17.0 | 9 | 25 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Udzungwa Scarp, 300-2050m | 1991-2000 | ? |  | 12 | 15 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Matundu | 1991-2000 | 8 | 12.0 | 5 | 20 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Mwanihana Forest <1000m asl | 1970/1980s | ? | 23.3 | 1 | 75 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Mwanihana Forest >1000m asl | 1970/1980s | ? | 25.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Magombera Forest | 1970/1980s | ? | 34.0 | 26 | 50 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Nyumbanitus 1400-1900m | 1991-2000 | 13 | 18.0 | 10 | 35 |  |  |  |  |  |  |  |  |  |  |
| 27 | ***gordonorum*** | Matundu forest – swamp | 1991-2000 | 8 | 12.0 | 5 | 20 |  |  |  |  |  |  |  |  |  |  |
| 28 | ***kirkii*** | Chwaka, Unguja Island | 2013-2015 | 3 | 10.7 |  |  | 4.7 |  | 2.0 |  |  | 2.0 | 2.0 | 2.33 | 0.43 | 0.86 |
| 28 | ***kirkii*** | Dunga FR plantation, Unguja I. | 2013-2015 | 1 | 5.0 |  |  | 2.0 |  | 2.0 |  |  | 1.0 | 0.0 | 1.00 | 0.00 | 0.50 |
| 28 | ***kirkii*** | Jambiani, Unguja I. | 2013-2015 | 11 | 12.0 |  |  | 6.1 |  | 2.1 |  |  | 1.6 | 2.2 | 2.91 | 0.36 | 0.63 |
| 28 | ***kirkii*** | Jozani-Chwaka Bay NP, Unguja I. | 2013-2015 | 141 | 20.6 |  |  | 11.2 |  | 3.1 |  |  | 2.9 | 3.4 | 3.60 | 0.31 | 0.57 |
| 28 | ***kirkii*** | Cheju, Unguja I. | 2013-2015 | 7 | 12.7 |  |  | 5.6 |  | 2.6 |  |  | 1.1 | 3.4 | 2.17 | 0.62 | 0.82 |
| 28 | ***kirkii*** | Kiwengwa FR, Unguja I. | 2013-2015 | 37 | 17.0 |  |  | 8.9 |  | 3.1 |  |  | 1.9 | 3.0 | 2.87 | 0.34 | 0.55 |
| 28 | ***kirkii*** | Kizimkazi, Unguja I. | 2013-2015 | 15 | 8.6 |  |  | 4.9 |  | 1.6 |  |  | 0.9 | 1.2 | 3.08 | 0.24 | 0.42 |
| 28 | ***kirkii*** | Maji Mekundu, Unguja I. | 2013-2015 | 1 | 13.0 |  |  | 7.0 |  | 1.0 |  |  | 3.0 | 2.0 | 7.00 | 0.29 | 0.71 |
| 28 | ***kirkii*** | Marumbi, Unguja I. | 2013-2015 | 4 | 7.5 |  |  | 2.8 |  | 2.0 |  |  | 1.3 | 1.5 | 1.38 | 0.55 | 1.00 |
| 28 | ***kirkii*** | Bungi Usalaama, Unguja I. | 2013-2015 | 2 | 32.5 |  |  | 20.5 |  | 3.0 |  |  | 4.5 | 4.5 | 6.83 | 0.22 | 0.44 |
| 28 | ***kirkii*** | Mchangamle, Unguja I. | 2013-2015 | 23 | 15.9 |  |  | 9.6 |  | 2.4 |  |  | 2.1 | 1.8 | 3.93 | 0.19 | 0.41 |
| 28 | ***kirkii*** | Kitogani, Unguja I. | 2013-2015 | 17 | 11.8 |  |  | 6.2 |  | 2.1 |  |  | 1.5 | 1.9 | 2.92 | 0.31 | 0.56 |
| 28 | ***kirkii*** | Uzi/Vundwe, Unguja I. | 2013-2015 | 16 | 14.6 |  |  | 7.8 |  | 2.4 |  |  | 2.0 | 2.4 | 3.21 | 0.30 | 0.56 |
| 28 | ***kirkii*** | Ukondoroni, Unguja I. | 2013-2015 | 24 | 14.3 |  |  | 8.0 |  | 2.2 |  |  | 2.2 | 2.0 | 3.62 | 0.24 | 0.52 |
| 28 | ***kirkii*** | Umbuji, Unguja I. | 2013-2015 | 2 | 18.5 |  |  | 8.5 |  | 4.0 |  |  | 3.0 | 3.0 | 2.13 | 0.35 | 0.71 |
| 28 | ***kirkii*** | Uroa, Unguja I. | 2013-2015 | 4 | 8.3 |  |  | 3.0 |  | 3.3 |  |  | 1.0 | 1.0 | 0.92 | 0.33 | 0.67 |
| 28 | ***kirkii*** | Masinginig FR, Unguja I. | 2013-2015 | 10 | 30.9 |  |  | 19.2 |  | 3.6 |  |  | 2.5 | 5.6 | 5.33 | 0.29 | 0.42 |
| 28 | ***kirkii*** | Michamvi, Unguja I. | 2013-2015 | 1 | 3.0 |  |  | 1.0 |  | 1.0 |  |  | 1.0 | 0.0 | 1.00 | 0.00 | 1.00 |
| 28 | ***kirkii*** | Jambiani-Muyuni, Unguja I. | 2013-2015 | 9 | 11.4 |  |  | 5.8 |  | 1.8 |  |  | 1.4 | 2.4 | 3.25 | 0.42 | 0.67 |
| 28 | ***kirkii*** | Shambas south of Jozani-Chwaka Bay NP, Unguja I. | 2013-2015 | 10 | 13.9 |  |  | 7.9 |  | 2.2 |  |  | 1.5 | 2.3 | 3.59 | 0.29 | 0.48 |
| 28 | ***kirkii*** | Unguja Ukuu, Unguja I. | 2013-2015 | 4 | 14.3 |  |  | 5.8 |  | 2.0 |  |  | 5.0 | 1.5 | 2.88 | 0.26 | 1.13 |
| 29 | ***kirkii*** | Kwiwenga Good habitat | 2004-2005 | 3 | 15.3 |  |  | 6.2 |  | 2.8 |  | 0.7 | 2.6 | 1.9 | 2.20 | 0.30 | 0.73 |
| 29 | ***kirkii*** | Kwiwenga, edge habitat | 2004-2005 | 3 | 8.3 |  |  | 3.6 |  | 1.5 |  | 0.3 | 1.8 | 1.0 | 2.46 | 0.28 | 0.77 |
| 29 | ***kirkii*** | Uzi good | 2004-2005 | 3 | 23.1 | 1 |  | 8.5 |  | 2.7 |  | 1.7 | 5.3 | 2.9 | 3.14 | 0.34 | 0.96 |
| 29 | ***kirkii*** | Uzi edge habitat | 2004-2005 | 3 | 21.8 | 3 |  | 8.5 |  | 2.3 |  | 1.2 | 4.1 | 2.0 | 3.65 | 0.23 | 0.71 |
| 30 | ***foai*** | Ituri Forest blocks | 1986 | 32 | 19.2 | 13 | 43 |  |  |  |  |  |  |  |  |  |  |
| 31 | ***foai*** | Kahuzi-Biega NP, lowland sector, DRC | 1994-1995 | 8 | 46.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 32a | ***preussi*** | Korup NP, Cameroon | 1970s | 7 | >47 | >24 | >80 |  |  |  |  |  |  |  |  |  |  |
| 32b | ***preussi*** | Korup NP, Cameroon | 2001-2003 | 23 | 35.0 | 10 | 130 |  |  |  |  |  |  |  |  |  |  |
| 33 | ***preussi*** | Korup NP, study group | 1991-1993 | 1 | 40.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 34 | ***pennantii*** | Bioko Island, Rio Epola | 1992 | 14 | ~14 | 5 | 30 |  |  |  | 1-3 |  |  |  |  |  |  |
| 34a | ***tholloni*** | Salonga, Zaire | 1990s | 1 | >60 |  |  |  |  |  |  |  |  |  |  |  |  |

Information on a few additional study groups is provided in Table 9.2. References: **1.** Gatinot (1975); **2**. Galat-Luong & Galat (2005); **3**. Butynski *et al.* (2013a); **4**. Starin (1991); **5**. Minhós *et al.* (2015); **6**. Hillyer unpubl. several counts per group; **7**. Galat-Luong (1988); **8**. Mayhew et al. (2020); **9**. Korstjens (2001); **10**. Oates (1994); **11**. Galat & Galat-Luong (1985); **12**. Höner *et al.* (1997); **13**. Struhsaker (2010) Appendix 3.1 & Chapter 3 (some are single counts and some are averages over multiple study years); **14**. Gogarten *et al.* (2015); **15**. Chapman *et al.* (2015); **16**. Chapman *et al.* (2002a); **13a**. Struhsaker, average of 16 counts page 54 & 290 in 13; **13b**. Struhsaker single count; **13c**. Struhsaker single count between trails E-G; p. 290; **13d**. 23 counts by Lysa Leland; 17. Teelen (2008), see also 13 p. 47 for sex ratio and the assumptions made to calculate those; 18. Struhsaker (1975) in 13; **19**. Clutton-Brock (1972) p15 (the range for AF and AM value consists of “AF - (AF+AF?)” and “AM-(AM+AM; **20**. Stanford (1998a); **13e**. S. M. Kamenya cited in 13; **13f**. Watts 1994 cited in 13; **21**. Marsh (1979a), Struhsaker (2000); **22**. Decker (1994b); **23**. Mbora (2003) 55 groups counted and divided in two different ways; **24**. Siex (2003); **25**. Struhsaker & Leland (1977) see also 13; **13g**. Struhsaker, Marshall, and Rovero unpublished, 7 visits over 6 years in 13; **13h**. Decker in 1992 cited in Struhsaker *et al.* (2004) in 13; **13i**. Mtalawanda and Ngulumiro trails by T.T. Struhsaker, A. M. Marshall and F. Rovero (unpubl.) in 13; **26**. Struhsaker *et al.* (2004) also in 13; **27.** Dinesen *et al.* (2001) for 1990-2000 survey, citing other sources for older surveys; **28**. Davenport *et al.* (2019); **29**. Nowak & Lee (2011); **30**. Thomas (1991); **31**. Hall *et al.* (2003); **32**. Butynski & Kingdon (2013) citing **32a**. Struhsaker 1975, 2000a; **32b**. citing Dunn & Okon 2003 unpubl. report; **33**. Usongo & Amubode (2001); **34**. Struhsaker (2000); **34a**. Maisels *et al.* (1994) cited in 34. 4Median group size provided in the reference.