

# Notes Concerning the Second Edition of the *Primates of East Africa Pocket Identification Guide*

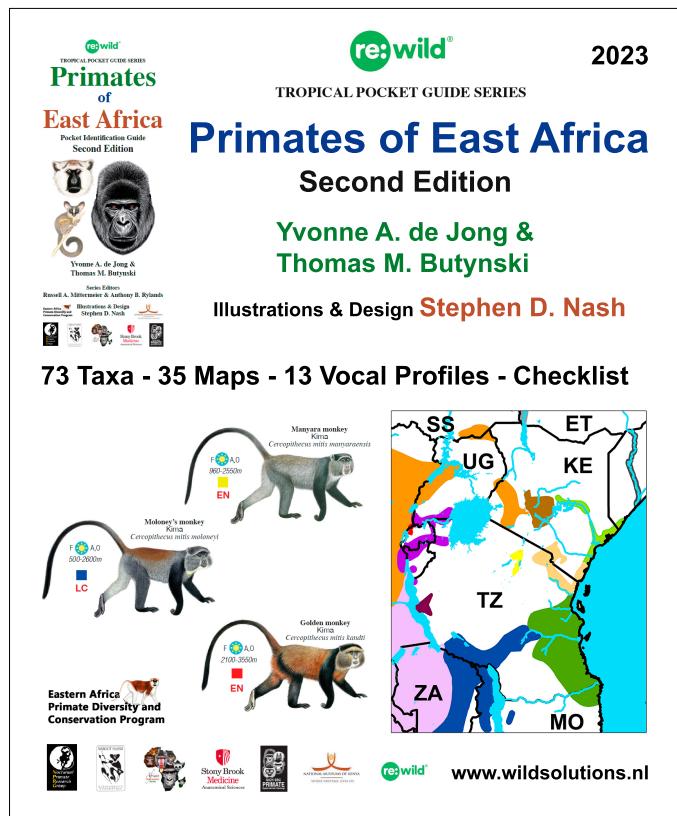
Yvonne A. de Jong and Thomas M. Butynski

*Eastern Africa Primate Diversity and Conservation Program*  
P.O. Box 149, Nanyuki 10400, Kenya

The second edition of the *Primates of East Africa Pocket Identification Guide* became available in May 2023, five years after the first edition (Fig. 1; De Jong and Butynski 2018, 2023). The second edition recognizes 73 taxa. As for the first edition, the second edition is part of Re:wild's Tropical Pocket Guide Series (series editors: Russell A. Mittermeier and Anthony B. Rylands) and is illustrated and designed by Stephen D. Nash. The second edition includes 13 QR codes to the vocal profiles of the galagos of East Africa. These were compiled by the Nocturnal Primate Research Group at Oxford Brookes University (Bearder *et al.* 2013; <<https://www.wildsolutions.nl/vocal-profiles>>). The second edition adopts the current degree of threat status of these primates as provided by the *IUCN Red List of Threatened Species* (IUCN 2023).

Several taxonomic changes were incorporated into the second edition besides adjustments to the drawings, altitudinal limits, and geographic distributions. The taxonomic changes are summarized here:

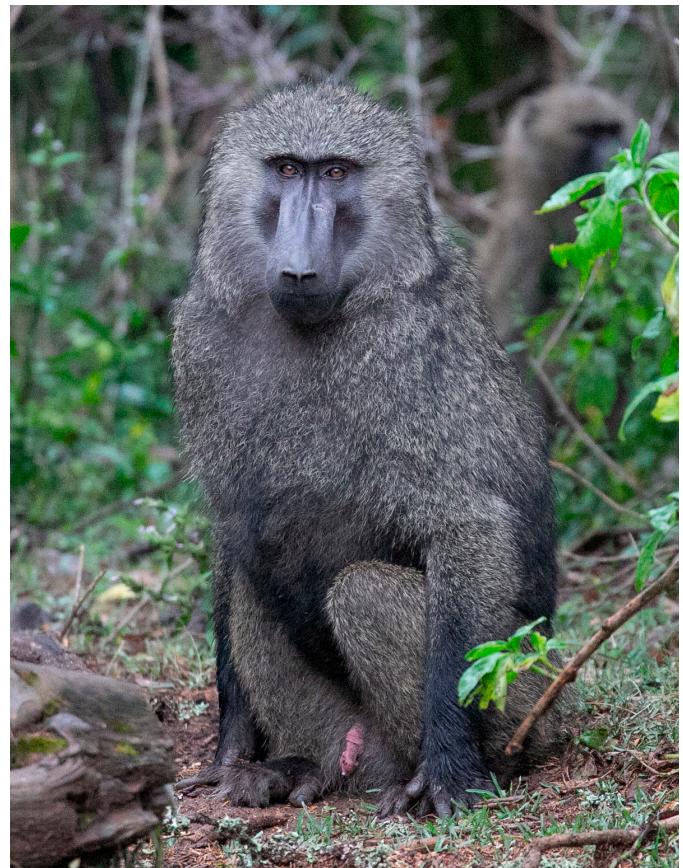
1. The correct Latin binomial for Demidoff's dwarf galago is now '*Galagooides demidoff*', not '*Galagooides demidovii*' (Jenkins *et al.* 2018; Svensson *et al.* 2019). Grubb *et al.* (2003) concluded that the correct Latin name for Demidoff's galago was *demidovii*, as referred to in Fischer (1808), written in Latin with, consequently, the Latinized name of Prince Demidoff. The epithet *demidovii* was used by Oates (2011), Ambrose and Butynski (2013), and Nekaris (2013), among many others, while Jenkins (1987), Kingdon (1997), Masters and Couette (2015), and Svensson *et al.* (2019) were among those who applied the epithet *demidoff*. Jenkins *et al.* (2018) argued that *demidoff*, as written by Fischer (1806), was in fact being used as a Latin binomial and, as such, was the correct name for this species. Jenkins *et al.* (2018), thereby, confirmed the validity of the name *demidoff* Fischer, 1806.
2. The recently described and 'Endangered' Manyara monkey *Cercopithecus mitis manyaraensis* Butynski and De Jong, 2020, is added as one of the 11 subspecies of gentle monkey in East Africa.
3. The biggest changes involve the taxonomy of the savanna monkeys *Chlorocebus*. These changes complement the taxonomy applied in the *Primates of Northeast Africa Pocket Identification Guide* (Butynski and De Jong 2022b). Based on an extensive review of the literature, viewing of hundreds of individuals in the field and in photographs, and close examination of all specimens of *Chlorocebus* at the Museum für Naturkunde, Berlin, we recognize four subspecies of vervet for East Africa: northeastern vervet *Chlorocebus pygerythrus arenaria* (Heller, 1913), eastern vervet *Ch. p. centralis* (Neumann, 1900), Pemba vervet *Ch. p. nesiotes* (Schwarz, 1926), and reddish-green vervet *Ch. p. rufoviridis* (I. Geoffroy Saint-Hilaire, 1843). Importantly, Hilgert's vervet *hilgerti* (Neumann, 1902) is not included in the second edition. This is because the *hilgerti* holotype and three paratypes, all from Ethiopia and present at the Museum für Naturkunde, Berlin, are grivets *Chlorocebus aethiops*, not vervets *Ch. pygerythrus* (as per Groves 2001, 2005; Grubb *et al.* 2003; Haus *et al.* 2013; Isbell and Enstam Jaffe 2013; Wallis 2013). Recognizing *hilgerti* as a grivet endemic to Ethiopia, and *Ch. p. arenaria* and *Ch. p. centralis* for East Africa, takes us back, in part, to the pre-2001 taxonomy for *Chlorocebus* (as per Pocock 1907; Elliot 1913; Schwarz 1926; Dandelo 1959, 1974; Hill 1966; Kingdon 1971; Napier 1981; Lernould 1988; Gippoliti 2018; Turner *et al.* 2019).
4. The 'Critically Endangered' southern patas monkey is acknowledged as a species *Erythrocebus baumstarki* Matschie, 1906, not as a subspecies of *Erythrocebus patas* (Schreber, 1775) (De Jong and Butynski 2020, 2021).



**Figure 1.** De Jong, Y. A. and T. M. Butynski. 2023. *Primates of East Africa* Pocket Identification Guide (second edition). Re:wild, Tropical Pocket Guide Series, Austin, TX.



**Figure 2.** Adult Somali lesser galago *Galago gallarum* south of Bute, northeast Kenya. Photograph by Yvonne de Jong and Thomas M. Butynski.



**Figure 3.** Adult male olive baboon *Papio anubis*, Karisia Forest, central Kenya. Photograph by Yvonne de Jong and Thomas M. Butynski.

The second edition presents several changes to the distribution maps, including the following:

1. Thomas's dwarf galago *Galagooides thomasi* is now known for the Mahale Mountains National Park, western Tanzania (Butynski and De Jong 2023).
2. Large areas of highly unsuitable (i.e. desert or waterless) habitat were removed from the distribution of the Somali lesser galago *Galago gallarum* (Fig. 2) and olive baboon *Papio anubis* (Fig. 3).
3. Specimens at the Museum für Naturkunde, Berlin, confirm that the moholi lesser galago *Galago moholi moholi* is present in southern Tanzania.
4. The map for the gentle monkey *Cercopithecus mitis* has many changes. Doggett's silver monkey *C. m. doggettii* is now known for northwestern Tanzania (Perkin and Bearder 2004). The distribution of the Mahale silver monkey *C. mitis* ssp.? is larger than previously mapped (Kano 1971; McLester *et al.* 2019). Stuhlmann's blue monkey *C. m. stuhlmanni* is in central southern Kenya (C. Wilkinson pers. comm. in Butynski and De Jong 2020). Pousargues's monkey *C. m. albotorquatus* is now shown to occur farther south, to Kilifi Creek, on the coast of Kenya (Butynski and De Jong 2022a).
5. To accommodate the taxonomic changes for *Chlorocebus*, the biggest change to the maps is for *Chlorocebus pygerythrus*, with both *Ch. p. centralis* and *Ch. p. arenaria* recognized, and *Ch. a. hilgerti* removed. Also, the northern limit of *Ch. p. rufoviridis* is now depicted as the Rufiji River, southern Tanzania, rather than southwestern Uganda.
6. The distribution of the ashy red colobus *Piliocolobus tephrosceles* is extended well east of Mahale Mountains National Park (Kano 1971; McLester *et al.* 2019).
7. Many adjustments were made on the map for the Angola colobus *Colobus angolensis*, particularly for the Rwenzori Angola colobus *C. a. ruwenzorii* as the southern limit of its distribution is Kibira Forest, northwestern Burundi, not Gombe Stream National Park, Tanzania (De Jong and Butynski pers. obs., K. Detwiler pers. comm.).

The softcopy (pdf) of the second edition of the *Primates of East Africa Pocket Identification Guide* is freely available at <[https://www.wildsolutions.nl/wp-content/uploads/DeJongButynski-2023-PG-EAP2\\_compressed.pdf](https://www.wildsolutions.nl/wp-content/uploads/DeJongButynski-2023-PG-EAP2_compressed.pdf)>. Hard-copies will be available before August 2023. Comments, errors or additions to this guide can be sent to: <[yvonne@wildsolutions.nl](mailto:yvonne@wildsolutions.nl)>.

## Literature Cited

- Ambrose, L. and T. M. Butynski. 2013. *Galagooides demidovii* Demidoff's dwarf galago. In: *Mammals of Africa*, Volume 2, *Primates*, T. M. Butynski, J. Kingdon and J. Kalina (eds.), pp.459–461. Bloomsbury, London.
- Bearder, S. K., T. M. Butynski and Y. A. de Jong. 2013. Vocal profiles for the galagos: a tool for identification. *Primate Conserv.* (27): 75.
- Butynski, T. M. and Y. A. de Jong. 2020. Taxonomy and biogeography of the gentle monkey *Cercopithecus mitis* Wolf, 1822 (Primates: Cercopithecidae) in Kenya and Tanzania, and designation of a new subspecies endemic to Tanzania. *Primate Conserv.* (34): 71–127.
- Butynski, T. M. and Y. A. de Jong. 2022a. *Cercopithecus mitis* ssp. *albotorquatus* (amended version of 2019 assessment). *The IUCN Red List of Threatened Species*, 2019. Gland, Switzerland. Website: <<http://www.iucnredlist.org>>.
- Butynski, T. M. and Y. A. de Jong. 2022b. *Primates of Northeast Africa Pocket Identification Guide*. Re:wild, Tropical Pocket Guide Series, Austin, TX. Website: <<http://www.wildsolutions.nl>>.
- Butynski, T. M. and Y. A. de Jong. 2023. Mahale Mountains National Park: Tourism Development and Training of Rangers and Guides in Research Methods. Unpublished report to Tanzania National Parks, Nomad Tanzania, and Re:wild. Eastern Africa Primate Diversity & Conservation Program, Nanyuki, Kenya.
- Dandelot, P. 1959. Note sur la classification des Cercopithèques du groupe *aethiops*. *Mammalia* 23: 357–368.
- Dandelot, P. 1974. Order Primates. Part III. In: *The Mammals of Africa: An Identification Manual*. J. Meester and H. W. Setzer (eds.), pp.1–45. Smithsonian Institution Press, Washington, DC.
- De Jong, Y. A. and T. M. Butynski. 2018. *Primates of East Africa Pocket Identification Guide*. Global Wildlife Conservation, Tropical Pocket Guide Series, Austin, TX. Website: <<http://www.wildsolutions.nl>>.
- De Jong, Y. A. and T. M. Butynski. 2020. *Erythrocebus baumstarki*. *The IUCN Red List of Threatened Species* 2020: e.T92252436A92252442.
- De Jong, Y. A. and T. M. Butynski. 2021. Is the southern patas monkey *Erythrocebus baumstarki* Africa's next primate extinction? Reassessing taxonomy, distribution, abundance, and conservation. *Am. J. Primatol.* 2021: e23316.
- De Jong, Y. A. and T. M. Butynski. 2023. *Primates of East Africa Pocket Identification Guide* (second edition). Re:wild, Tropical Pocket Guide Series, Austin, TX. Website: <<http://www.wildsolutions.nl>>.
- Elliot, D. G. 1913. *A Review of the Primates. Volume III: Anthropoidea* (Miopithecus to Pan). Monograph Series, American Museum of Natural History, New York, NY.
- Fischer, G. 1806. Nouvelles espèces d'animaux que se trouvent au Muséum Imperial d'Histoire Naturelle. *Mém. Soc. Nat. Moscou* 1: 23–26.
- Fischer, G. 1808. *Galago demidovii*, nova species quadrimanorum observatis anatomicis illustrata. *Comm. Soc. Phy. Med. Mosq.* 1: 57–59.

- Gippoliti, S. 2018. The name of the East African velvet monkey (genus *Chlorocebus* Gray, 1870) (Mammalia, Primates, Cercopithecidae). *Doriana* 404: 1–6.
- Groves, C. P. 2001. *Primate Taxonomy*. Smithsonian Institution Press, Washington, DC.
- Groves, C. P. 2005. Order Primates. In: *Mammal Species of the World: A Taxonomic and Geographic Reference*. D. E. Wilson and D. M. Reeder (eds.), pp.111–184. Johns Hopkins University Press, Baltimore, MD.
- Grubb, P., T. M. Butynski, J. F. Oates, S. K. Bearder, T. R. Disotell, C. P. Groves and T. T. Struhsaker. 2003. Assessment of the diversity of African primates. *Int. J. Primatol.* 24: 1301–1357.
- Haus, T., E. Akom, B. Agwanda, M. Hofreiter, C. Roos and D. Zinner. 2013. Mitochondrial diversity and distribution of African green monkeys (*Chlorocebus* Gray, 1870). *Am. J. Primatol.* 75: 350–360.
- Hill, W. C. O. 1966. *Primates. Comparative Anatomy and Taxonomy, Volume 6: Catarrhini, Cercopithecoidea, Cercopithecinae*. Edinburgh University Press, Edinburgh.
- Isbell, L. A. and K. L. Enstam Jaffe. 2013. *Chlorocebus pygerythrus* vervet monkey. In: *Mammals of Africa, Volume 2, Primates*, T. M. Butynski, J. Kingdon and J. Kalina (eds.), pp.277–283. Bloomsbury, London.
- IUCN. 2023. *The IUCN Red List of Threatened Species*. Gland, Switzerland.  
Website: <<http://www.iucnredlist.org>>.
- Jenkins, P. D. 1987. *Catalogue of Primates in the British Museum (Natural History) and Elsewhere in the British Isles. Part IV. Suborder Strepsirrhini, Including the Sub-fossil Madagascan Lemurs and Family Tarsiidae*. British Museum (Natural History), London.
- Jenkins, P. D., J. C. Masters, C. P. Groves and S. Couette. 2018. Case 3742 – *Galago demidoff* Fischer, 1806 (currently *Galago*; Mammalia, Primates, Galagidae): proposed conservation of the specific name and designation of a neotype. *Lemur minutus* Cuvier, 1797: proposed designation of a neotype. *Bull. Zoolog. Nomencl.* 75 (31 May 2018).
- Kano, T. 1971. Distribution of the primates on the eastern shore of Lake Tanganyika. *Primates* 12: 281–304.
- Kingdon, J. 1971. *East African Mammals: An Atlas of Evolution in Africa. Volume I: Primates*. Academic Press, London.
- Kingdon, J. 1997. *The Kingdon Field Guide to African Mammals*. Academic Press, London.
- Lernould, J.-M. 1988. Classification and geographical distribution of guenons: a review. In: *A Primate Radiation: Evolutionary Biology of the African Guenons*, A. Gautier-Hion, F. Bourlière, J.-P. Gautier and J. Kingdon (eds.), pp.54–78. Cambridge University Press, Cambridge, UK.
- Masters, J. C. and S. Couette. 2015. Characterizing cryptic species: a morphometric analysis of craniodental characters in the dwarf galago genus *Galagooides*. *Am. J. Phys. Anthropol.* 158: 288–299.
- McLester, E., L. Pintea, F. A. Stewart and A. K. Piel. 2019. Cercopithecine and colobine abundance across protected and unprotected land in the Greater Mahale Ecosystem, western Tanzania. *Int. J. Primatol.* 40: 687–705.
- Napier, P. H. 1981. *Catalogue of Primates in the British Museum (Natural History) and Elsewhere in the British Isles. Part II: Family Cercopithecidae, Subfamily Cercopithecinae*. British Museum (Natural History), London.
- Nekaris, K. A.-I. 2013. Family Galagidae (galagos). In: *Handbook of the Mammals of the World. Volume 3: Primates*, R. A. Mittermeier, A. B. Rylands and D. E. Wilson (eds.), pp.184–209. Lynx Edicions, Barcelona.
- Oates, J. F. 2011. *The Primates of West Africa: A Field Guide and Natural History*. Conservation International, Arlington, VA.
- Perkin, A. and S. K. Bearder. 2004. Minziro Forest reveals new galago and bat records for Tanzania. *The Arc J.* 16: 9–10.
- Pocock, R. I. 1907. A revision of monkeys of the genus *Cercopithecus*. *Proc. Zool. Soc. Lond.* 77: 447–1121.
- Schwarz, E. 1926. Die Meerkatzen der *Cercopithecus aethiops*-Gruppe. *Z. Säugetierk: im Auftrage der Deutschen Gesellschaft für Säugetierkunde e.V* 1: 28–47.
- Svensson, M., E. Bersacola and S. K. Bearder. 2019. *Galagooides demidoff*. *The IUCN Red List of Threatened Species, 2019*. Gland, Switzerland.  
Website: <<http://www.iucnredlist.org>>.
- Turner, T. R., C. A. Schmitt and J. D. Cramer. 2019. Savanna monkey taxonomy. In: *Savanna Monkeys: The Genus Chlorocebus*, T. R. Turner, C. A. Schmitt and J. D. Cramer (eds.), pp.31–54. Cambridge University Press, Cambridge, UK.
- Wallis, J. 2013. Vervet *Chlorocebus pygerythrus*. In: *Handbook of the Mammals of the World, Volume 3: Primates*, R. A. Mittermeier, A. B. Rylands and D. E. Wilson (eds.), pp.673–674. Lynx Edicions, Barcelona.

*Authors' address:*

**Yvonne A. de Jong** and **Thomas M. Butynski**, Eastern Africa Primate Diversity and Conservation Program, P. O. Box 149, Nanyuki 10400, Kenya.

\*Corresponding author: Yvonne A. de Jong  
E-mail: <[yvonne@wildsolutions.nl](mailto:yvonne@wildsolutions.nl)>  
Website: <<http://www.wildsolutions.nl>>

Received for publication: 22 May 2023

Revised: 7 June 2023