# A PHOTO-IDENTIFICATION GUIDE TO DUIKERS AND OTHER AFRICAN FOREST ANTELOPES





Antelope Specialist Group





# A Photo-Identification Guide to Duikers and Other African Forest Antelopes



Compiled by: Sophie Whitemore and David Mallon

Recommended citation: ASG (2025). *A Photo-Identification Guide to Duikers and Other African Forest Antelopes*. IUCN SSC Antelope Specialist Group. <u>www.antelopesg.org</u>

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# **Acknowledgements**

We extend our sincere gratitude to the IUCN Species Survival Commission (SSC) for supporting the project through a grant from the George Rabb Internship Fund and to Mayerlin Ramos in the SSC Chair's office for her invaluable assistance in administering the funding. We also thank the Mohammed bin Zayed Species Conservation Fund for an earlier small grant (#11052277) supporting the collation of data on duikers of the Upper Guinea Forest. We are especially grateful to those who have generously provided photographs and contributed to valuable discussions on duiker identification over the years:

Thierry Aebischer, Andrew Bowkett, Nadia Balduccio, Julian Bayliss, Bradley Cain, Philippe Chardonnet, Jean-Louis Doucet, Andrew Dunn, Adeline Fagolle, Charles Foley, Davy Fonteyn, Stephanie Foote, Daniela Hedwig, Mathias D'haen, Brent Huffman, Gola Rainforest Project LG, Simon Lhoest, Marc Languy, Alison Mollon, Jennifer Moore, Tommy Sandri, Stuart Nixon, Francesco Rovero, Étotépé Sogbohossou, Sarah Tossens, Pedro vaz Pinto, Bernhard Vogt, Tina Vogt, Tim Wacher.

A special thanks to Andrew Bowkett and Tim Wacher for formally reviewing the guide.

Finally we also thank the many observers who have generously made their photographs available through the iNaturalist and GBIF platforms.

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#### Introduction

With a few exceptions, duikers and other forest-living antelopes are shy and elusive, often active at night, and they occupy habitats with limited visibility. Field sightings are usually rare and too fleeting to confirm identification of the species. Recent developments in camera trap technology have made it much easier to detect and identify forest species of all kinds, greatly increasing the number of confirmed records, and producing information on habitat and activity patterns. Field projects routinely deploy multiple arrays of cameras set to take photos 24 hours a day for months at a time, generating tens or hundreds of thousands of images and video clips. In addition, many projects targeting charismatic mammals such as gorillas, chimpanzees, elephants, and pygmy hippos obtain incidental images of other species which can provide a valuable source of data bycatch. Over the last 15 years, the IUCN SSC Antelope Specialist Group (ASG) has received numerous requests for assistance in identifying duikers. This comprehensive guide has been developed to further assist project teams, researchers and individuals to correctly identify duikers and other forest antelopes on camera trap images. It is also hoped that use of the guide will lead to an increase in the number of site-specific records of these species that can be included in the ASG database for use in IUCN Red List assessments and conservation planning.

\*Please submit any new records and photos, or enquiries on identification of forest antelopes to: <a href="mailto:asappo@marwell.org.uk">asappo@marwell.org.uk</a>

#### Scope

The guide covers 27 forest antelope species occurring in Africa south of the Sahara (Table 1): 20 duikers (tribe Cephalophini); three small antelopes in the tribe Neotragini; three large species in the Tragelaphini, and the water chevrotain (family Tragulidae) which is not an antelope but is included because of its external similarity to some duikers and wide distribution in the rainforests of West and Central Africa.

#### **Taxonomy**

For consistency and ease of cross-reference, taxonomy and nomenclature follow the IUCN Red List of Threatened Species<sup>TM</sup> (hereafter 'Red List') which is itself closely aligned with the arrangement used in *Mammals of Africa* (Kingdon and Hoffmann 2013). Phylogenetic analyses of the Cephalophini identify three genera of duikers (*Cephalophus*, *Philantomba*, *Sylvicapra*) but also indicate that *Cephalophus* is not monophyletic and that either *Sylvicapra* should be included in *Cephalophus* or the genus should be split (Hassanin 2012, Johnson van Vuuren & Robinson 2001, Ntie et al. 2010, Johnson & Antony 2012). *Cephalophus* was split into four genera by Bärmann et al. (2022): *C. dorsalis*, *C. jentinki*, *C. silvicultor* and *C. spadix* were retained in *Cephalophus*; *C adersi* placed in its own genus, *Leucocephalophus*; *C. zebra* in *Cephalophula*, and the remaining species in *Cephalophulus*. These changes are not yet reflected in the Red List.

The current arrangement of species is tentative, and several points remain unresolved. (i) *Cephalophus callipygus, C. weynsi* and *C. ogilbyi* appear to form a monophyletic group and may be indistinguishable genetically (Johnson van Vuuren & Robinson 2001, Ntie et al. 2010, Johnson & Antony 2012); (ii) *C. natalensis* nests within *C. harveyi* (Ntie et al. 2010) and they are regarded as a single species by several authors; (iii) Brooke's duiker *C. ogilbyi brookei* is recognised by some as a full species; (iv) Ruwenzori duiker, currently assessed on the Red List as a subspecies of black-fronted duiker *C. nigrifrons rubidus*, may also be a full species; (v)

another form of black-fronted duiker *C. n. kivuensis* was provisionally recognised as a species by Bärmann et al. (2022); (vi) possible hybridisation has been reported between white-legged *C. ogilbyi crusalbum* and Peter's *C. callipygus* duikers in Gabon and between Harvey's *C. harveyi* and Weyns's *C. weynsi* duikers in Mau Forest, Kenya (Kingdon 2015). A comprehensive phylogenomic analysis based on extensive sampling is needed to resolve species boundaries and the taxonomic relationships among the duikers.

Table 1. Species included in the ID guide

Species		RL <sup>1</sup>	Region <sup>2</sup>					
			WA	CA	FSM	EAM	EAC	SEA
C. jentinki	Jentink's duiker	EN						
C. silvicultor	Yellow-backed duiker	NT						
C. spadix	Abbott's duiker	EN						
C. dorsalis	Bay duiker	NT						
C. niger	Black duiker	LC						
C. ogilbyi ogilbyi	Ogilby's duiker	NT						
C. o. brookei	Brooke's duiker	VU						
C. o. crusalbum	White legged duiker	NT						
C. callipygus	Peters's duiker	LC						
C. weynsi	Weyns's duiker	LC						
C. leucogaster	White-bellied duiker	NT						
C. nigrifrons	Black-fronted duiker	LC						
C. n. rubidus	Ruwenzori duiker	EN						
C. rufilatus	Red-flanked duiker	LC						
C. harveyi	Harvey's duiker	LC						
C. natalensis	Natal duiker	LC						
C. adersi	Aders's duiker	VU						
C. zebra	Zebra duiker	VU						
P. maxwelli	Maxwell's duiker	LC						
P. walteri	Walter's duiker	DD						
P. monticola	Blue duiker	LC						
S. grimmia	Bush duiker	LC						
N. batesi	Bates's antelope	LC						
N. pygmaeus	Royal antelope	LC						
N. moschatus	Suni	LC						
Tragelaphus eurycerus	Bongo	NT						
Tragelaphus scriptus	Bushbuck	LC						
Tragelaphus spekii	Sitatunga	LC						
Hyemoschus aquaticus	Water chevrotain	LC						

<sup>1.</sup> EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern, DD = Data Deficient (www.iucnredlist.org)

#### Identification

While a small number of species are widely distributed, most have a more limited range, and the 27 species covered here do not occur together anywhere. The maximum number of species present in any one region is 14 but most individual sites harbour fewer. When attempting an identification it is therefore not necessary to consider every species and the exercise should focus on the set of species occurring in a particular region. This guide uses the following broad regional assemblages: West Africa (Gambia and southern Senegal to SW Nigeria); Central Africa (SE Nigeria and the Congo Basin east to South Sudan, the Democratic Republic of Congo, and south to Angola); Northern forest-savannah mosaic (the transition

<sup>2</sup> WA = West Africa, CA = Central Africa, FSM= Northern forest-savannah mosaic; EAM = East African mountains, EAC = East African coastal forest, SEA = South-east Africa

zone between the northern edge of the Guinean forests and the southern edge of the West and Central African savannah); East African Rift Valley and mountains; East African coastal forest (Tanzania to SW Somalia); Southeast Africa (southern Tanzania, Malawi, eastern South Africa). The regions also include any offshore islands where the species occur. Table 1 lists the regions in which each species is present.

Another important point to consider is that some very similar species-pairs are fully allopatric (that is, their ranges do not overlap) so it is not necessary to distinguish them from each other, e.g. *Philantomba maxwelli* and *Neotragus pygmaeus* in West Africa versus *P. monticola* and *N. batesi* in Central Africa.

A few species are distinctive and cannot easily be confused with others, but most need more careful separation. Sometimes a single diagnostic feature may allow a species to be identified with confidence, but usually a combination of features is needed, potentially covering body size and structure, external appearance, and habitat and activity patterns. Two important general points are: (i) many species show a wide range of natural variation and (ii) the type and quality of light influence the appearance of individual features and an animal can appear very different when viewed in good light or in dull or poor light.

#### Overall structure

The main species groups have a characteristic body plan, encompassing height, size, bulk, length of legs (in proportion to body height), pelage, and presence or absence of horns.

<u>Cephalophini</u> (duikers). Mostly have a compact shape, a rather heavy body, relatively short legs, a robust head that supports strong jaws capable of crushing fruit and seeds, short, pointed horns, and a short tail, with or without a terminal tuft.

*Cephalophus* (16 species). Three large species (50-80 kg), the others medium-sized (10-24 kg). Many members of the genus are red-brown in colour, the 'red' duikers, which need the most careful separation.

Philantomba (3 species). Small (7-10 kg). All have a very similar appearance. P. maxwelli and P. monticola are fully allopatric. It has not yet been confirmed whether P. maxwelli and P. walteri co-exist or not.

Sylvicapra (1 species). Has longer legs than the other duikers. It has a very widespread distribution, prefers lighter bush and drier habitats and avoids lowland tropical forest.

<u>Neotragini</u> (3 species). Very small (2.5-6 kg), rather delicate, long legged, with plain brown body, lacking any spots and stripes, and with tiny, slim horns in the males. All three species have completely separate ranges. They are most likely to be confused with one of the *Philantomba* duikers.

<u>Water chevrotain</u> (1 species). Has a distinctive, rounded body profile, hunched posture, and prominent pattern of white spots and stripes.

<u>Tragelaphini</u> (3 species). Large to very large, 24 to 400 kg. Compared to duikers they are longer legged, with a different body and head shape. Large horns are present in males of all three species and in female bongo, and they have more prominent ears. Most but not all populations show patterns of white spots and/or stripes.

There are significant differences in body mass (2.5-400 kg) among the 27 species, but size is not always easy to judge on photographs, especially those taken at night or where no other comparative measurement of scale is visible. Only the three *Tragelaphus* species show significant sexual dimorphism, particularly the sitatunga. Differences in size between males and females in other species are too small to be useful on photos.

#### External appearance

Key features to consider are the colour of the pelage, whether it is uniform or varies over the body, and any contrasting features. In the case of duikers, important points are the presence, length and shape of a black dorsal line, and presence of darker legs and/or face blaze. Less obvious features include the shape and colour of the tail, presence and colour of a tuft of hair on the crown (though the colour can vary within the same species).

Only the three *Tragelaphus* species and water chevrotain have white spots and stripes on the body. Horn size and shape is diagnostic in adult *Tragelaphus* but of limited use otherwise. Duiker horns are short, vary in thickness, and can be ringed or smooth, but these differences are only useful in distinguishing a few species and only on a close view. Most duikers have a tuft of hair on the crown, which is usually red-brown or black, but the colour can vary in the same species, possibly related to age, and the shape and prominence of the tuft in photos can also vary with posture and behaviour. Other features that develop or change with age are the yellow dorsal patch in *Cephalophus silvicultor* and grey coloration on the neck or foreparts in several species.

#### Habitat and ecology

<u>Habitat:</u> Some species have strict habitat preferences, others a wider ecological tolerance. For example, several duikers are mainly restricted to primary rainforest and rarely use secondary habitats, while others are adapted to a variety of habitat types including secondary forest, plantations, and farmbush. Other preferences may be for wet or marshy areas within the forest, coastal or montane forest, and relatively narrow elevational zones. Most species included here occur in tropical forest. Red flanked duiker *C. rufilatus* occurs across the West and Central African savannah woodland zone but can be sympatric with other species in the forest-savannah mosaic. Bush duiker *S. grimmia* inhabits drier forest types and avoids dense rainforest. Sitatunga occurs in marshes and papyrus swamps as well as wet forest and bushbuck is found in a wide range of habitats. As with activity patterns, habitat can provide useful and supplementary information but is not enough on its own to confirm an identification.

<u>Activity</u>: Species may be strictly nocturnal or diurnal, predominantly crepuscular, or active by day and night. Human disturbance also influences activity patterns and where levels are high, normally diurnal species may become active only by night. While the time a photo was taken is a helpful indicator, it is not usually conclusive. Almost all the forest species are solitary; some are occasionally found in pairs. Bongo *Tragelaphus eurycerus* and sitatunga can be seen in groups in open situations or clearings in the forest.

#### *Image type and light:*

Camera trap photos can be taken in natural light in colour or black & white, under white flash (which is no longer often used) or with infrared (IR) flash which only produces black & white images. The same applies to video clips which have the added advantage of showing the type

of movement and posture, and specific traits such as tail flicking, much more clearly than on still images.

IR can reduce contrasts that would be clear under visible light and even 'whiten-out' features such as spots and stripes. Similarly, bright sunlight reflecting from parts of an animal's body can make it seem white or very pale (see images on the following page). In all cases, the quality of the light (bright, dull, uneven or dappled, heavy shade or deep contrast) affects the image in different ways. The same individual can appear red or orange-brown in full sunlight but dull or dark brown in low light (see images on the following page), while specific pelage features can be highlighted or obscured.

#### Position and posture of the animal

The distance of the subject from the camera, angle of view, and posture of the animal (twisting, turning, bending) all affect the visibility of ID features. Animals photographed head-on, or directly from the rear, will reveal some ID features but conceal others. In forest environments, the subject is liable to be partly obscured by foliage or shadows.

<u>In conclusion</u> it should be emphasised that not every animal can be identified with 100% certainty. In principle it is better to record an animal as unidentified than risk an inaccurate record.

#### Further information

#### Camera trapping

WWF has produced a free guide with basic information and guidance: Wearn, O.R. & Glover-Kapfer, P. (2017). *Camera trapping for conservation: a guide to best-practices*. WWF Conservation Technology Series 1(1). WWF-UK, Woking, UK. https://www.wwf.org.uk/project/conservationtechnology/camera-trap

#### Photos and videos

<u>The Faune FAC project</u> has a toolbox of methods on forest surveys and inventories, plus factsheets and videos of 12 species taken in Gabon on the Gembloux Agro-Bio Tech (University of Liège) site: https://www.gembloux.ulg.ac.be/faunefac/

<u>Project Coméca</u> has videos of 10 antelope species taken in Cameroon:

https://sites.google.com/kyoto-u.ac.jp/comeca/videos

iNaturalist has images of all species on its website: www.inaturalist.org

#### Status and biology

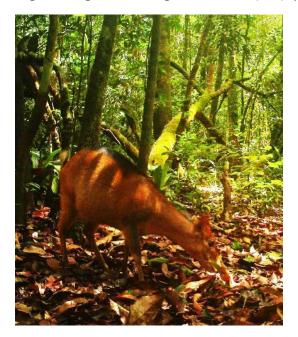
The <u>IUCN Red List of Threatened Species</u> website hosts status assessments of all species: <u>https://www.iucnredlist.org</u>

The <u>Ultimate Ungulate</u> website contains up-to-date summaries of all ungulates, including the species covered in this guide: <a href="https://www.ultimateungulate.com/">https://www.ultimateungulate.com/</a>





Bright sunlight reflecting off the coat (left); pelage features 'whited-out' by IR flash (right).





The same duiker photographed a few seconds apart in sunlight and shade.

### **Species Accounts**

Each species account contains a summary of current status, distribution and map; habitat and ecology, and a description supported by a set of photos. Background information was derived from the standard references: Viv Wilson's magisterial *Duikers of Africa: Masters of the African Forest Floor* (Wilson 2001), the species chapters in *The Mammals of Africa* (Kingdon and Hoffmann 2013) and *The Kingdon Field Guide to African Mammals* (Kingdon 2015), supplemented by published articles and reports. The IUCN Red List status and maps are sourced from the IUCN Red List of Threatened Species, version 2025.1 (<a href="www.iucnredlist.org">www.iucnredlist.org</a>; accessed on 31 March 2025). Species assessments and spatial data were compiled by ASG and further information is available in the individual assessments on the IUCN Red List website.

Species descriptions detail overall appearance and key identification features under natural and infrared (IR) light, and highlight points of difference from other species occurring in the same region. The descriptions also draw on the same key sources, above, but they are based primarily on examination of several thousand photographs so as to encompass the full range of variation and the appearance of the species in field conditions, whether on camera trap or visual observation. These images were obtained from multiple sources including public websites (iNaturalist, GBIF, Ultimate Ungulate) and photo-sets provided directly to ASG. Descriptions were supplemented by discussions with experts on specific points.

The photos illustrating each species account have been selected, wherever possible, to show a clear view of the species in good light, variations in pelage, prominent ID features, and appearance on infrared. The number of photos included per species depends on the extent of variation and the availability of suitable images. Numbers in square backets in the text refer to the relevant photo illustrating the feature mentioned.

Artificial Intelligence (AI) is frequently used to automate and accelerate species identification, particularly when applied to large datasets. However, reliable results can only be obtained if the AI model incorporates the full range of variation in a species and those similar to it, and this may not always be captured in textbook or field guide descriptions. Hopefully the descriptions here can contribute to refining current forest antelope AI models.

# Jentink's duiker Cephalophus jentinki

Distribution and status: Endemic to the Upper Guinea Forest of West Africa from Sierra Leone through Liberia and extreme south-east Guinea to the Niouniourou River in southwest Côte d'Ivoire. The original range has been greatly reduced due to conversion for agriculture or commercial plantations. The current distribution consists of two main blocks: Gola Forest-Wonegizi (Sierra Leone and western Liberia) and the Sapo-Tai landscape (eastern Liberiawestern Côte d'Ivoire), with smaller populations in Ziama N.P., Guinea, the Freetown peninsula, Sierra Leone, and possibly some other patches of undisturbed forest. IUCN Red List: Endangered.

**Habitat and ecology:** Mainly occurs in primary rainforest but also forages in adjoining secondary forest, forest edge, and commercial plantations. Predominantly nocturnal and rarely active during the day. It occurs at low densities and is shy and secretive.



Yellow-backed duiker C. silvicultor © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** A large duiker, 75-85 cm at the shoulder and weighing 55-70 kg. The head, neck, and shoulders are dark grey to black; a narrow white band runs around the body from the shoulder to the chest, the mid- and hindquarters are grey, and the legs are grey, pale brown, or whitish. Jentink's duiker is very rarely photographed during the day, but the black-white-grey pattern shows clearly on IR images [2,3,4,5]. The end of the muzzle and lips are white. Young animals are all brown.

Similar species: The coat pattern is unlike any other species of forest antelope and is diagnostic. Yellow-backed duiker is sympatric, and similar in size, but has a uniform dark pelage with a triangular pale patch on the lower back. Young Jentink's and yellow-backed duikers are both brown in colour and could potentially be confused, though they are very unlikely to be seen at this age unaccompanied by an adult. Bongo, sitatunga, and bushbuck all have a different overall body shape, lack the black-white-grey contrasts and some combination of white spots and/or stripes is usually visible.



1. Jentink's duiker Cephalophus jentinki, captive © Brent Huffman / UltimateUngulate



 $2\&3. \ Jentink's \ duiker \ \textit{Cephalophus jentinki,} \ Freetown \ Peninsula, \ Sierra \ Leone \ \textcircled{o} \ Tacugama \ Chimpanzee \ Sanctuary$ 



4. Jentink's duiker *Cephalophus jentinki*, Sapo N.P., Liberia © Fauna & Flora



5. Jentink's duiker *Cephalophus jentinki,* Gola Forest, Sierra Leone @ Gola Rainforest Conservation LG

# Yellow-backed duiker Cephalophus silvicultor

**Distribution and status:** West and Central Africa from Senegal to SW South Sudan, the Congo Basin, northern Angola, most of Zambia, and some small outlying populations to the east of the Rift Valley in Uganda and Kenya. **IUCN Red List**: Near Threatened. Declining due to hunting and forest loss.

**Habitat and ecology:** Occupies primary and secondary forest, gallery forest, forest-savanna mosaics, farmbush, plantations. It is active by day and night with peaks around dawn and dusk.



Yellow-backed duiker *C. silvicultor* © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** The largest species of duiker, adults can weigh >70kg. The body and legs are uniformly dark, with a pale triangular patch on the lower back. The head is long and tapering. Body colour can be dark grey, dark brown, or black [1,2,3]. The dorsal patch varies in size and colour from pale cream to bright yellow or golden-brown [1,2] but in certain positions it may not be visible [4]. Animals in the southern parts of the range show a small pale patch across the rump [5] which is poorly developed or absent in northern populations. The lower half of the face and chin are paler grey to white [1,3,4]. The crown tuft is chestnut or red-brown [3], appearing very pale on IR [6]. Young animals are brown or chestnut brown, and the yellow dorsal patch develops by the end of the first year. On IR images it appears uniformly grey or black [4-6] with a paler lower face [4,6], pale dorsal patch, and sometimes a pale crown tuft [6].

Similar species: Yellow-backed duiker is quite distinctive. The pale or yellow dorsal patch is diagnostic. Even when not visible, the uniformly dark colour, long tapering head and pale lower muzzle are useful ID features. In West Africa, Jentink's duiker is similar in size but has a very different, and distinctive black-white-grey pelage. Black duiker also has a uniformly dark coat and a reddish coronal tuft but is much smaller, lacks the yellow dorsal patch, has grey forequarters, and often shows some reddish brown on the head. In East Africa, Abbott's duiker is similar in size with a dark coat but lacks the pale dorsal patch. The ranges of the two species are not known to overlap, although they may come close. In all parts of the range the red duiker species are smaller, with red-brown coats and variable contrasts with black dorsal stripe, black legs, and facial blaze. Bongo, sitatunga, and bushbuck all have a different body shape, longer legs, white stripes and/or spots, and the males of all three species and female bongo have prominent horns.



1. Yellow-backed duiker *C. silvicultor*, Gabon © Parc de la Lekedi (CC BY-NC)



2. Yellow-backed duiker *C.* silvicultor, Gabon © bureaubenjamin (CC BY-NC)



3. Yellow-backed duiker *C.* silvicultor, Kanyama, D.R.C. © Fauna & Flora



4. Yellow-backed duiker C. silvicultor, D.R.C. © Nadia Balduccio LuiKotale Bonobo Project (LKBP)



5. Yellow-backed duiker *C. silvicultor*, D.R.C. © Nadia Balduccio LuiKotale Bonobo Project (LKBP)



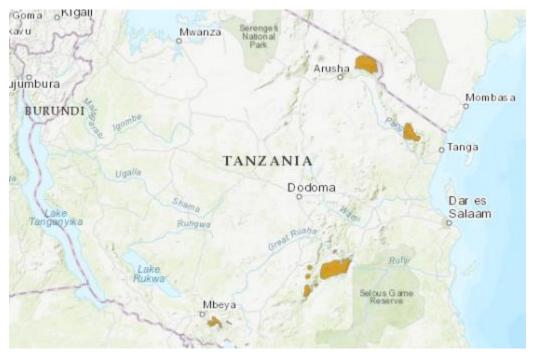
6. Yellow-backed duiker *C. silvicultor*, Rafai, C.A.R. © Thierry Aebischer

# Abbott's duiker Cephalophus spadix

**Distribution and status:** Only occurs in the forested mountains of Tanzania including the Usumbara, Udzungwa, Southern Highlands, Rubeho mountains and Mt Kilimanjaro (but not known on the Kenyan side).

IUCN Red List: Endangered. Populations are small and fragmented.

**Habitat and ecology:** Deciduous and evergreen, submontane and montane forests, the bamboo zone and occasionally seen in montane grasslands. Occurs up to 3850m on Kilimanjaro. Mainly nocturnal and crepuscular but sometimes seen during the day.



Abbott's duiker Cephalophus spadix © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** A large duiker weighing up to 50-60 kg. The body and legs are uniform dark brown, appearing black in low light, with a prominent orange-red crown tuft [1-4]. The lips are pale or white, sometimes extending onto the cheeks or chin [1,2,3]. Under white flash the colour can appear more red-brown [3,4]. IR images show a uniform dark grey coat with some slightly lighter areas, partly due to reflection from the flash (5-6). Populations on Mt Kilimanjaro have a thicker coat than those in the Udzungwas.

Similar species: Yellow-backed duiker is similar sized and also has a dark coat, some paler grey on the muzzle and head, and a red crown tuft, but has a yellow triangle on the lower back. The ranges of these two species do not overlap, although they may come close. Harvey's duiker has a red-brown coat, dark legs, and black facial blaze, and although variable, these features show a clear contrasting pattern on IR. Bush duiker is smaller and slimmer, has a grey-brown body and legs, and a narrow black line down the face. Bushbuck is more lightly built, has longer legs with white markings, often shows white stripes and spots on the body, and the males have distinctive horns.



1. Abbott's duiker *C. spadix*, Mt Kilimanjaro © Charles Foley



2. Abbott's duiker *C. spadix*, captive, Arusha, Tanzania © Lorenzo Vinciguerra (CC BY-NC)



3. Abbott's duiker *C. spadix*, Mount Kilimanjaro, Tanzania © Andrew Bowkett





5. Abbott's duiker *C. spadix*, Udzungwa, Tanzania © Udzungwa Ecological Monitoring Centre



6. Abbott's duiker *C. spadix*, Udzungwa, Tanzania © Udzungwa Ecological Monitoring Centre

# Bay duiker Cephalophus dorsalis

**Distribution and status:** Occurs in two disjunct forest blocks: in West Africa from Guinea Bissau to Togo, and then from SE Nigeria through the Congo basin forests east to the Albertine Rift and south to northern Angola. These are sometimes treated as two subspecies (*C. d. dorsalis* in the west and *C. d. castaneus* in the east). **IUCN Red List:** Near Threatened and declining.

**Habitat and ecology:** Prefers lowland primary rainforest but also occurs occasionally in secondary forest and farmbush. Predominantly nocturnal but very occasionally photographed in the early morning.



Bay duiker Cephalophus dorsalis distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Medium-sized red duiker weighing 18-22 kg. It is heavily built with a distinctive broad, and unusually angular head shape [1]. The pelage is rich or dark chestnut brown with black or dark legs and a black dorsal stripe [1-3]. The dorsal stripe runs from the nape, broadens on the lower back and narrows abruptly to a point on the rump and tail [4]. There is a prominent black facial blaze. The dorsal stripe and facial blaze can vary in width. The tail is black on top with white edges, white underneath, sometimes rather tufted [2,4]. On IR, bay duiker appears grey with black legs, facial blaze and characteristic dorsal stripe [4-7].

Similar species: Bay duiker is predominantly nocturnal. In West Africa the only other 'red' duiker is Brookes' duiker which has a paler, orange-brown coat, a more tapering head, the dorsal stripe narrowing to a point above the tail, and legs the same colour as the body, or paler. Black duiker and yellow-backed duiker are uniformly dark (or grey on IR) and lack contrasting dark legs, dorsal stripe and a face blaze. In Central Africa, Ogilby's (white-legged) duiker is paler brown, with a more tapering head, the dorsal stripe narrowing to a point, and white or pale legs. Peters' and Weyns's duikers have a lighter body colour and more elongated head shape. Weyns's duiker does not have a black facial blaze or black dorsal stripe, while on Peters's duiker the dorsal band extends broadly over the rump. White-bellied duiker is paler in colour overall, becoming paler on the mid- and lower flanks and white on the undersides. The dorsal stripe narrows at the rump and continues in a thin line down the tail, which ends in an obvious round tuft. Black-fronted duiker also has a dark chestnut coat, prominent black facial blaze, and dark or black legs, but lacks a black dorsal stripe.



1. Bay duiker *C. dorsalis* © Brent Huffman / UltimateUngulate



2. Bay duiker *C. dorsalis*, Sierra Leone © Gola Rainforest Conservation LG



3. Bay duiker *C. dorsalis*, D.R.C. © Fauna & Flora



4. Bay duiker *C. dorsalis* Maiombe N.P., Angola © Pedro vaz Pinto



5. Bay duiker *C. dorsalis*, Chinko, C.A.R. © Thierry Aebischer



6. Bay duiker *C. dorsalis,* Maiombe N.P., Angola © Pedro Vaz Pinto



7. Bay duiker *C. dorsalis,* Sapo N.P., Liberia © Fauna & Flora

# Ogilby's duiker Cephalophus (Cephalophorus) ogilbyi

**Distribution and status:** Three subspecies are recognised, each with a separate distribution. Brooke's duiker is regarded as a species by several authorities. White-legged duiker may hybridise with Peters's duiker *C. callipygus* in parts of their range.

*C. o. brookei* Brooke's duiker: Upper Guinea Forest from Sierra Leone through southeast Guinea, Liberia and Cote d'Ivoire to the Volta River in Ghana.

*C. o. ogilbyi*: Southeast Nigeria and southwest Cameroon, between the Niger and Sanaga Rivers, and Bioko Island (Equatorial Guinea).

C. o. crusalbum White-legged duiker: Gabon south of the Ogooué River and northwest Republic of Congo. *IUCN Red List*: The species assessed as Least Concern but declining. C. o. brookei: Vulnerable; C. o. ogilbyi: Vulnerable; C. o. crusalbum: Near Threatened.

*Habitat and ecology*: Occurs in undisturbed primary forest, logged forest, and forest-savanna mosaics. On Bioko Island it inhabits montane forests up to at least 2260m. Diurnal.



Ogilby's duiker Cephalophus ogilbyi distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** A medium sized species weighing 14-20 kg. The body colour is light brown or orange-brown [1-7]. The legs may be the same colour, grey-brown or paler; *C. o. crusalbum* has hindlegs legs that are white from the knee to the hoof, and sometimes also the forelegs [10-11]. Some individuals show grey-brown on the neck [1,3]. The black dorsal stripe runs from the shoulders or occasionally the nape, to the base of the tail [4]. The dorsal stripe is narrow in *C. o. ogilbyi*, broader in *C. a. crusalbum*. In *C. o. brookei* the black band broadens in the middle of the back and narrows to a point above the tail. Note that in some individuals of *C. o. crusalbum* the dorsal stripe continues onto the tail and upper part of the rump and these animals may be hybrids with *C. callipygus* or intermediates (see below). The tail is orange-brown with a black medial line and a prominent terminal tuft. The lower part of the face may be dark grey or black. IR images of *C. o. brookei* show a uniformly pale head, body and legs, a black dorsal line, and a pale or dark crown tuft [8-9].

**Similar species:** Bay duiker (whole range) has a glossy chestnut coat, black legs, prominent facial blaze, black dorsal stripe broadening above the rump, and a solid, less elongated head shape. Black-fronted duiker (Nigeria-Gabon-Republic of Congo) has a glossy chestnut coat, black legs, a prominent facial blaze, and lacks a black dorsal stripe.

<u>White-bellied duiker</u> (*Cameroon, Gabon, Republic of Congo*) has a duller coat, paler flanks, and the dorsal stripe continues onto the tail where it ends in a fine point. <u>Peter's duiker</u> (*Cameroon, Gabon, Republic of Congo*) has the black dorsal line extending broadly over the rump. On Bioko island the only other species present is blue duiker *Philantomba monticola* which is very different in size, head shape and colour.







3. Ogilby's duiker C. o. ogilbyi, San Carlos de Luba, Bioko island © Araks Ohanyan (CC BY-NC)



4. Ogilby's duiker C. o. ogilbyi, San Carlos de Luba, Bioko island © Chris Quinn (CC BY)



5 & 6. Brooke's duiker *C. o. brookei*, Sierra Leone © Gola Rainforest Conservation LG



7. Brooke's duiker *C. o.* brookei, Sapo NP, Liberia. © Fauna & Flora



8. Brooke's duiker *C. o. brookei*, Sapo N.P., Liberia © Fauna & Flora

07-19-2011 18:28:17



9. Brooke's duiker *C. o. brookei*, Sierra Leone © Gola Rainforest Conservation LG



10. White-legged duiker C. o. crusalbum, Lope, Gabon © Xavier Rufray (CC BY-NC)



11. White-legged duiker C. o. crusalbum, Lekoko, Gabon © Bureaubenjamin (CC BY-NC)

# Peters's duiker Cephalophus (Cephalophorus) callipygus

**Distribution and status:** Cameroon south of the Sanaga River, southwest CAR, Equatorial Guinea (mainland only, not Bioko Island), Gabon, and Republic of Congo east to the Congo and Ubangui Rivers. **IUCN Red List:** Least Concern but declining.

Habitat and ecology: Occur in primary, old secondary, and logged forests. Diurnal.



Peter's duiker *C. callipygus* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Medium sized duiker, 17-25 kg. Body and legs are reddish brown or dull brown. The neck and shoulders can show varying amounts of grey. A black dorsal line runs from the middle of the back extends onto the rump, and may cover it extensively [1,2,3,6]. The legs are usually similar in colour to the body but may be darker brown, grey or black on the lower part [3,5,6]. The face is usually black below the eyes, but on some animals the black extends over most of the face [6]. Where present, the crown tuft is small and red-brown [4,5]. This is a diurnal species and no IR photographs were located. On IR it is expected to appear uniform grey with a black dorsal stripe and black rump.

**Similar species:** This is the only species showing extensive black on the rump, visible on even a partial rear view [6].

<u>Bay duiker</u> has a glossy chestnut coat, black legs, prominent facial blaze, broad black dorsal stripe broadening above the rump, and a solid, more rectangular head. <u>Black-fronted duiker</u> (*Nigeria-Gabon-Republic of Congo*) has a glossy chestnut coat, black legs, and a prominent facial blaze but lacks a black dorsal stripe. <u>White-bellied duiker</u> has a duller coat, paler flanks, and the dorsal stripe continues onto the tail where it ends in a fine point. <u>Ogilby's duiker</u> is generally similar, but the dorsal stripe ends above the tail and in *C. ogilbyi crusalbum* the lower hindlegs legs are white.



1. Peters's duiker *C. callipygus*, Dja forest, Cameroon © Manchester Metropolitan University



2. Peters's duiker C. callipygus, Lope, Gabon © Xavier Rufray (CC BY-NC)



3. Peters's duiker *C. callipygus*, Odzala, Republic of Congo © Mathias D'haen



4. Peters's duiker *C. callipygus*, Odzala, Republic of Congo © Mathias D'haen



5. Peters's duiker *C. callipygus*, Imbalanga, Odzala, Republic of Congo © Mathias D'haen



6. Peters's duiker *C. callipygus*, Imbalanga, Odzala, Republic of Congo © Mathias D'haen

## White-legged - Peters's duiker hybrids

Kingdon (2015) reported that these two species may hybridise. Some duikers photographed in Batéké Plateau N.P., Gabon, show features of both *C. o. crusalbum* and *C. callipygus* and appear to be hybrids or intermediates (Hedwig et al. 2018). These include an animal with extensive black on the rump (typical of *C. callipygus*) and white hind legs (*C. o. crusalbum*) [1] and one with a black dorsal line tapering onto the rump (*C. o. crusalbum*) but dark legs [2]. Somewhat similar animals have also been photographed at Lekoko in Gabon.



1. Batéké Plateau NP, Gabon © Daniela Hedwig



2. Batéké Plateau NP, Gabon © Daniela Hedwig

# Weyns's duiker Cephalophus (Cephalophorus) weynsi

**Distribution and status:** Southeast CAR and DRC east of the Congo and Ubangui Rivers to the Rift Valley and south to Rwanda. There are isolated populations in the Imatong Mountains of South Sudan, western Kenya, Tanzania, and Uganda. **IUCN Red List:** Least Concern but declining.

**Habitat and ecology:** Primary and older secondary forest in the Congo Basin. Submontane and montane forests up to 3000 m along the Albertine Rift and in East Africa.



Weyns's duiker *C. weynsi* distribution © IUCN Red List of Threatened Species. Version 2025-1.

Description: Medium sized duiker, 15-20 kg. Weyns's duiker is quite variable. Over most of the range in Central Africa, the body is light brown to reddish-brown. The nape and neck can be pale or dark grey, sometimes extending onto the shoulders and upper back [1,2,3]. There is no black dorsal stripe. The legs vary from grey to black. The head is rather long and narrow with a small rufous crown tuft. The lower part of the face is grey or dark grey sometimes extending to the eyes or above. The horns are stout and clearly ringed [6,7]. IR images show a uniform grey body with darker legs and no contrasting dorsal stripe [7-9]. Montane populations in East Africa are darker overall, with a chestnut brown coat, dark grey or black legs, and a dark grey or black face the face [10,11]. Lestrade's duiker C. w. lestradei, the form occurring in western Uganda, Rwanda and possibly Burundi, is dull or dark brown, with dark grey or black extending over the back, sometimes forming a diffuse dorsal line, and the whole face irregularly dark grey or black, not a sharply defined blaze (12-14]. Similar species: Across the lowland part of the range: Black-fronted duiker also lacks a black dorsal stripe but is a darker, rich chestnut colour with strongly contrasting black legs and a prominent, sharply defined black blaze across the whole face. Bay duiker is darker chestnut in colour, with a prominent black dorsal line and black face blaze. White-bellied duiker has a black dorsal stripe tapering to a point on the rump, a duller coat, and paler flanks. Peters's duiker has extensive black on the rump and is allopatric on the western side of the Congo River. In the forest-savanna mosaic on the northern edge of the range: Red-flanked duiker has red-brown flanks, a broad grey band on the back and dark legs (this pattern is also visible on IR). Along the Albertine rift and the mountains of East Africa: Black-fronted and Harvey's duikers are quite similar in overall appearance. Key points are: Weyns's duiker has a more elongated head; the dark grey or black colour of the face is diffuse (not sharply delineated); the horns are stout and more prominent, and the crown tuft is red, not black.



1. Weyns's duiker *C. weynsi*, Chinko, C.A.R. © Thierry Aebischer



2. Weyns's duiker *C. weynsi*, Chinko, C.A.R. © Thierry Aebischer



3. Weyns's duiker *C. weynsi*, Bangassou, C.A.R. © Thierry Aebischer



4. Weyns's duiker *C. weynsi*, Rafai, C.A.R. © Thierry Aebischer



5. Weyns's duiker *C. weynsi*, Rafai, C.A.R. © Thierry Aebischer



6. Weyns's duiker *C. weynsi*, Rafai, C.A.R. © Thierry Aebischer



7. Weyns's duiker *C. weynsi*, Chinko, C.A.R. © Thierry Aebischer



8. Weyns's duiker *C. weynsi*,
Bakouma, C.A.R.
© Thierry
Aebischer



9. Weyns's duiker *C. weynsi*,
Bakouma, C.A.R.
© Thierry
Aebischer



10 . Weyns's duiker *C.*weynsi, Endebess, Kenya ©

Jan Ebr & Ivana Ebrová (CC

BY-NC)



11. Weyns's duiker *C.* weynsi, Lorian, Kenya © bnchapple (CC BY-NC)



12. Weyns's duiker *C weynsi*, Kamwengwe, Uganda © Sebastian Thorup Hansen (CC BY-NC)



13. Lestrade's duiker *C. weynsi lestradei*, Nyungwe N.P., Rwanda © Jennifer Mitchell / TEAM Network



14. Lestrade's duiker *C. weynsi lestradei*, Nyungwe N.P., Rwanda © Jennifer Mitchell / TEAM Network



15. Lestrade's duiker *C. weynsi lestradei*, Bwindi Impenetrable Forest N.P., Uganda © Jennifer Mitchell / TEAM Network

### White-bellied duiker Cephalophus (Cephalophorus) leucogaster

**Distribution and status:** Occurs in two separate blocks, western and eastern. Western: Cameroon south of the Sanaga River, the Dzanga-Sangha area of southwest CAR, mainland Equatorial Guinea, Gabon, and the Republic of Congo. Eastern: DRC north and east of the Congo and Lomami Rivers, the Ituri Forest and North Kivu. The western and eastern populations are sometimes regarded as, *C. l. leucogaster* and *C. l. arrhenii*, respectively. **IUCN Red List:** Near Threatened and declining.

*Habitat and ecology*: Tropical moist forest, older secondary forest. Shows some preference for monodominant *Gilbertiodendron dewevrei* forest. Diurnal.



White-bellied duiker *C. leucogaster* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Medium sized duiker. The body is light brown, becoming paler on the flanks and undersides, with varying amounts of grey on the nape or neck, occasionally extending onto the forequarters [1.2.4.5.6]. However, it does not appear strongly white-bellied in most images, especially IR. The buttocks are very pale or whitish [2,3]. The black dorsal stripe varies in width but continues onto the tail where it tapers to a sharp point [2,3]. The forelegs are black to the knee and the hindlegs have a black patch on the hock [1-5]. There is a dark line on the lower half of the face, below the eyes. The tail is black and white ending in a round tuft [1,3,8]. The tail is whirled constantly in a circular motion, clearly visible on video footage. On IR the body appears uniformly grey, with darker legs and a dark stripe on the lower part of the face [7,8].

**Similar species:** While the extent and intensity of rich brown, pale brown and grey varies among individuals, the overall pattern of brown haunches, paler flanks and undersides and grey on the neck and foreparts produces a dull, rather pale overall appearance which is different from the other 'red' duikers which are brighter, darker, or more intensely coloured. The *black dorsal band ending in a point on the tail* is diagnostic. When visible, the pom-pom like tail tuft whirled in a circular manner is also characteristic.

<u>Bay duiker</u> is nocturnal, rich chestnut-brown in colour, with a broad black dorsal stripe, black legs and a full black facial blaze. <u>Black-fronted duiker</u> is darker, rich chestnut brown with black legs, a prominent black blaze along the whole of the face and lacks a black dorsal band. <u>Weyns's duiker</u> lacks a black dorsal band, has a richer brown body with grey neck and shoulders, and dark legs. <u>Peters's duiker</u> has a broader black dorsal band extending over the rump, and uniform brown body and legs. <u>White-legged duiker</u> has white hindlegs and the dorsal band ends above the tail. In the forest-savanna mosaic on the northern edge of the range, <u>red-flanked duiker</u> has red-brown flanks, a broad grey band on the back, and dark legs (the pattern remaining visible in IR).



1. White-bellied duiker *C. leucogaster*, Odzala-Kokoua, Republic of Congo © Gwili Gibbon (CC BY-NC)



2. White-bellied duiker *C. leucogaster*, Chinko, C.A.R. © Thierry Aebischer



3. White-bellied duiker *C. leucogaster*, Lope, Gabon © Xavier Rufray (CC BY-NC)



4. White-bellied duiker *C. leucogaster*, Chinko, C.A.R. © Thierry Aebischer



5. White-bellied duiker *C. leucogaster,* Chinko, C.A.R. © Thierry Aebischer



6. White-bellied duiker *C. leucogaster,* Mbomou, C.A.R. © Thierry Aebischer



7. White-bellied duiker *C. leucogaster,* Chinko, C.A.R. © Thierry Aebischer



8. White-bellied duiker *C. leucogaster*, Chinko, C.A.R. © Thierry Aebischer

# Black-fronted duiker Cephalophus (Cephalophorus) nigrifrons

**Distribution and status:** In the Niger delta then through the Congo Basin forests, south to northern Angola and east to the Albertine Rift. There are small, outlying populations on Mount Elgon (Uganda-Kenya border) and the Aberdare mountains (Kenya). Some isolated mountain populations along the eastern edge of the range have been named as subspecies. **IUCN Red List:** Least Concern but declining.

**Habitat and ecology:** Tropical forest, primary and secondary. In lowland areas it occurs more often in swampy areas and along rivers and streams. It also inhabits various submontane and montane forest types and the bamboo zone up to 4000 m. Mainly diurnal.



Black-fronted duiker *C. nigrifrons* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** A medium-sized red duiker. Over most of the range the body varies from rich red brown through mid-brown to dull brown, with a prominent black facial blaze and black or dark grey legs [1-5]. There is *no dorsal stripe* though the nape and shoulders can show a varying amount of grey [1-2], but see *C. n. rubidus*, below. The legs are longer than other red duikers [4]. The hooves are also long, aiding movement in marshy habitats but these rarely show clearly on photos [4,6]. The crown tuft may be absent, red-brown [1,2] or black [3,4]. On IR, black-fronted duiker appears pale or mid-grey, darker on the shoulders, with a black face blaze and dark legs [9-11]. Populations in the Aberdares and Mt Kenya (*C. n. hooki*) and other East African mountains are darker brown in colour [6-8] with a clear white lower part of the tail [6-8]. The Itombwe Mountains population (DRC) is paler red-brown, with grey, not black legs. The population living at high elevations in the Ruwenzori mountains on the DRC-Uganda border is treated by some as a separate species *C. rubidus*. It has a dark chestnut coat, a black *dorsal band*, legs and facial blaze.

**Similar species:** The strong contrast between chestnut body and black (or dark coloured) legs, face blaze, and lack of a dorsal stripe distinguish this from most other red duikers. Its preference for wet areas in lowland parts of its range may also help to indicate this species. Bay duiker has a similar deep chestnut coat, black legs and face blaze but also has a clear black dorsal stripe and is mainly nocturnal. White-bellied, Ogilby's and Peters's duikers all have a black dorsal stripe and lack the strongly contrasting face blaze and dark legs. Weyns's duiker populations in the lowlands are paler brown and lack the clear dark face blaze and black legs. Weyns's duiker in East Africa is best distinguished by its more elongated head, stout horns and red crown tuft (where visible) and diffusely dark face, not a clear-cut black blaze. Harvey's duiker is sympatric in a few localities but tends to be more orange- brown in colour. There is not yet enough evidence to reliably distinguish images of the local form of black-fronted duiker (C. n. kivuensis) in the Ruwenzori Mountains from the Ruwenzori duiker (C. n. rubidus).



1. Blackfronted duiker *C. nigrifrons,* Chinko, C.A.R. © Thierry Aebischer



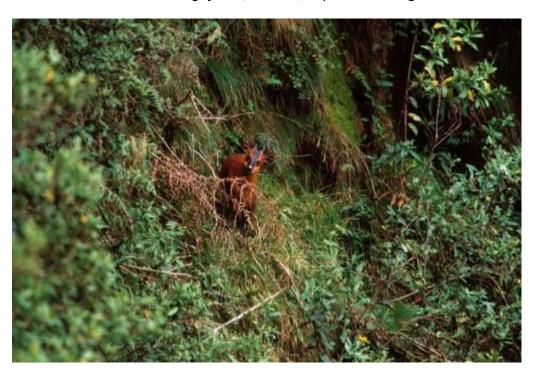
2. Blackfronted duiker *C. nigrifrons,* Chinko, C.A.R. © Thierry Aebischer



3. Blackfronted duiker *C. nigrifrons*, Ouesso, Republic of Congo © Mathias D'haen



4. Black-fronted duiker *C. nigrifrons*, Ouesso, Republic of Congo © Mathias D'haen





6. Black-fronted duiker *C. nigrifrons*, Endebess, Kenya © Stratton Hatfield (CC BY-NC)



7. & 8. Black-fronted duiker *C. nigrifrons*, Aberdares, Kenya © Manchester Metropolitan University





9. Black-fronted duiker *C. nigrifrons,* Chinko, C.A.R. © Thierry Aebischer



10. Blackfronted duiker *C. nigrifrons*, Chinko, C.A.R. © Thierry Aebischer



11. Blackfronted duiker *C. nigrifrons*, Bangassou, C.A.R. © Thierry Aebischer

### Red-flanked duiker Cephalophus (Cephalophorus) rufilatus

**Distribution and status:** Across West and Central Africa from Senegal and Gambia to western South Sudan, northeast DRC, and extreme northwest Uganda. Two subspecies have been described, but the boundary between them is not clearly defined and the differences could be clinal. *C. r. rufilatus*: Senegal to Chari and Benue Valleys (back and legs light grey); *C. r. rubidior*: Chari R to Nile Valley (back and legs dark grey). Widespread and fairly common especially in protected areas. **IUCN Red List:** Least Concern but declining.

*Habitat and ecology*: It occupies the savanna woodland zone, forest-savanna mosaics, forest edge, riverine forest and thickets. It occurs in drier habitats than most other duikers.



Red-flanked duiker *C.* rufilatus distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Medium-sized duiker, weighing up to 14 kg. The body is light red-brown with a grey back and legs [1&3], and a black facial blaze [2]. The tail is long and thin, ending in a grey or black tuft [1,3,4]. The extent and shade of grey on the back can vary from a narrow line [1] to a broad band [2]. On IR it appears grey with a dark line on the back and face [5].

Similar species: C. rufilatus does not overlap with many other duiker species except in parts of the savanna-forest mosaic. Black-fronted duiker is the most similar in appearance, but I largely allopatric and has prefers forest habitats. Weyns's duiker shows a uniform body colour, without a dark dorsal line and less contrasting body/leg colour. Bay duiker is mainly nocturnal, has a rich chestnut coat with strongly contrasting black dorsal line, legs, and facial blaze, and a more solid head shape. White-bellied duiker has a thin black dorsal line narrowing to a point on the tail, pale flanks, and legs close to the colour of the body. Bush duiker is uniform grey-brown with a narrow dark line down the face.



1. Red-flanked duiker *C.* rufilatus, N'Zi River Lodge, Cote d'Ivoire © Philippe Chardonnet



2. Red-flanked duiker *C. rufilatus*, Tanguiéta, Benin © ONG OeBenin (CC NY-BC)



3. Red-flanked duiker *C. rufilatus*, Rafai, C.A.R. © Robin Fjellström (CC BC-NY)



4. Red-flanked duiker *C. rufilatus*, Nagero, D.R.C. © Mathias D'haen



5. Red-flanked duiker *C. rufilatus*, Nagero, D.R.C. © Mathias D'haen

# Black duiker Cephalophus (Cephalophorus) niger

**Distribution and status:** West Africa from Guinea to the lower Niger River, Nigeria. **IUCN Red List:** Least Concern.

*Habitat and ecology*: Secondary forest, gallery forest, farmbush, more rarely in primary forest.



Black duiker *Cephalophus niger* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Medium-sized, weighing 21-24 kg. The body and legs are black or very dark grey, the head and neck are grey, with a prominent red-brown crown tuft [1-2]. The red-brown colour may extend onto the crown and further over the face and head in some individuals [3]. IR images show a dark or black body and paler head, neck and/or foreparts [3-4].

**Similar species:** Yellow-backed duiker is also uniformly dark with a red crown tuft but is much larger, has a *more elongated head*, a *pale patch on the back* and a pale lower face (not the whole head and neck paler). The uniform black or very dark body and legs lacking any contrasting pattern distinguish this species from <u>bay duiker</u> and <u>Ogilby's duiker</u>.



1. Black duiker C. niger © Brent Huffman / Ultimate Ungulate



2. Black duiker *C. niger*, Sapo N.P., Liberia © Fauna & Flora



3. Black duiker C. niger, Sierra Leone © Gola Rainforest Conservation LG

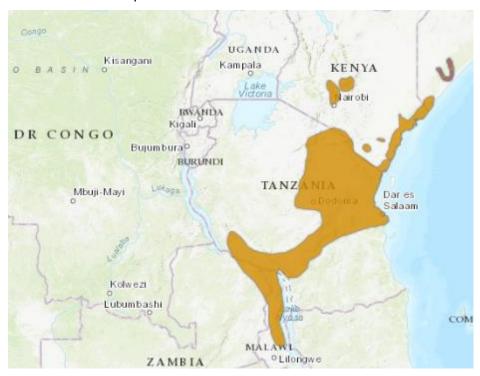


4. Black duiker *C. niger,*Sierra Leone © Gola
Rainforest Conservation LG

# Harvey's duiker Cephalophus (Cephalophorus) harveyi

**Distribution and status**: Central and northeast Tanzania, north Malawi, central and coastal Kenya into southeast Somalia. Often considered conspecific with Natal duiker *C. natalensis* and the two species may intergrade or show clinal differences from south to north. *IUCN Red List*: Least Concern.

*Habitat and ecology*: Coastal forests and thickets, gallery forest, montane forests including the bamboo zone up to 2400 m.



Harvey's duiker *Cephalophus harveyi* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Medium-sized duiker, 10-14 kg. It has rich red-brown pelage, with black or grey legs, and a black line or blaze on the face [1]. The crown tuft is black. The nape can be grey or dark grey but there is *no black dorsal line* [2]. Harvey's duiker is very variable in appearance, particularly in the intensity and extent of the black markings. E.g. some animals have a prominent black facial blaze [3], others are dark on the lower part of the face only [4].

Similar species: Natal duiker is very similar but generally lacks the dark legs and has a much smaller and less prominent face blaze. It is also allopatric but there are possible intergrades in Malawi. Aders's duiker is lighter brown and has a white band across the rump and white speckling on the legs. In the East African mountains: black-fronted duiker also has a black face blaze and lacks a dorsal stripe, but usually has a darker chestnut coat. Weyns's duiker also lacks a dorsal stripe and a clear face blaze but may show some darker areas on the face. Bush duiker has a more grizzled grey-brown or light brown pelage and a short, narrow face stripe. Suni is smaller, more lightly built, has a uniform light brown coat, lacks a face stripe, and has more prominent ears. Blue duiker is smaller, has a grey or brown (not red brown) coat, concolorous legs, a differently shaped head, a dark front on the face, and often shows a pale line above or around the eye.



1. Harvey's duiker *C. harveyi*, Nyika NP, Tanzania © Marc Henrion (CC BC-NY)



2. Harvey's duiker *C. harveyi*, Udzungwa, Tanzania © Udzungwa Ecological Monitoring Centre



3. Harvey's duiker *C. harveyi*, Mararani Forest, Kenya © KWS/ZSL/WPT



4. Harvey's duiker *C. harveyi*, Aberdares, Kenya © Manchester Metropolitan University





6. Harvey's duiker C. harveyi, Tanzania © Udzungwa Ecological Monitoring Centre

# Natal duiker Cephalophus (Cephalophorus) natalensis

**Distribution and status:** KwaZulu-Natal, Eswatini, Mozambique, southern Malawi to the Rufiji Valley in south-east Tanzania. **IUCN Red List:** Least Concern.

Habitat and ecology: Forest, thickets, riverine woodlands and coastal bush. Diurnal.



Natal duiker

Cephalophus

natalensis distribution

© IUCN Red List of

Threatened Species.

Version 2025-1.

**Description:** Medium-sized, 9-13 kg. The body and legs are red-brown with some grey on the nape[1]. There is a narrow black line on the face, varying in length and intensity, becoming indistinct on some animals[2]. The crown tuft is red-brown or sometimes black [3,4].

Similar species: Harvey's duiker is similar but usually has dark legs and more extensive facial blaze. The narrow face line can look very similar to that of <u>bush duiker</u>, which in SE Africa has dark brown and grey pelage and in East Africa is light brown with a prominent white eye ring. <u>Suni</u> is smaller, more lightly built, has a uniform light brown coat, lacks a face stripe, and has more prominent ears. <u>Blue duiker</u> is smaller, with a differently shaped head, no tuft on the crown, and in SE Africa has a rich dark brown body with variable amount of grey on the forequarters.



1. Natal duiker  $\it C.\ natalensis$ , Umlalazi Ezemvelo, South Africa  $\it C.\ natalensis$ , University Un



2. Natal duiker *C. natalensis*, Hluhluwe, South Africa © Axel Hunnicutt (CC BY-NC)



3. Natal duiker *C. natalensis*, iSimangaliso, South Africa © magdastlucia (CC BY-NC)

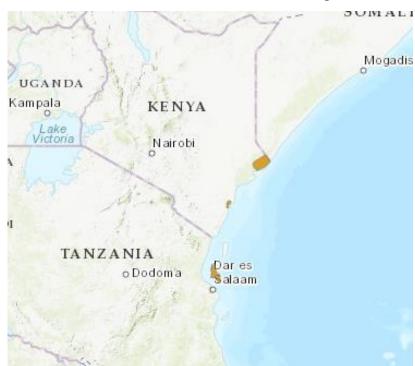


4. Natal duiker *C. natalensis*, Mbombela, South Africa © Heinrich Human (CC BY-NC)

### Aders's duiker Cephalophus (Leucocephalophus) adersi

**Distribution and status:** Endemic to East Africa's coastal forests from Zanzibar north to southwest Somalia. It occurs in three widely separated localities: Zanzibar (Unguja, the main island, and a small, translocated population on Mnemba island); Arabuko-Sokoke Forest, Kenya; and the Boni-Dodori forest complex in the lower Tana Valley, Kenya, extending across the border into southwest Somalia. The last report from Somalia dates from 1975. **IUCN Red List:** Vulnerable.

*Habitat and ecology*: Coastal thickets, scrub, and forest. Mainly diurnal but camera trap evidence shows it is sometimes also active at night.



Aders's duiker *Cephalophus adersi* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** Small-medium-sized, 9-10 kg. The body is red-brown or reddish brown, with a grey nape and a *horizontal white band across the lower rump and hindlegs* continuing onto the white undersides [1,2]. The bright white undersides may show clearly in good light [2]. The legs are marked with small white spots or patches [2,3,4]. The extent of grey varies and may extend onto the back or shoulders [1,3]. Some animals on Zanzibar have grey foreparts or even a wholly grey body except the hindquarters. The face may be darker, or show a partial black blaze [1,3]. The crown tuft is reddish. On IR, the uniform pale body and white rump band usually show clearly, as may a darker colour on the nape or shoulders and the white speckling on the legs [3,4]. However, on some IR and flash images the white markings on the legs and even the rump band can be obscured.

Similar species: Within its limited range Aders's duiker overlaps with Harvey's duiker, suni, blue duiker, and bushbuck. Harvey's duiker has a darker chestnut red coat, contrasting black legs, a wider, clear black face blaze, black crown tuft, and lacks the white rump band and white spots on the legs. Suni has a lighter build, uniform pale grey-brown coat, lacking any black markings, and larger, more prominent ears. Blue duiker is smaller, grey or brown in colour, and has a differently shaped head and face. In Central Africa some blue duikers can show a pale band on the rump but this feature has not been observed in East African animals. Bushbuck also has white patches on the legs, but has longer legs, and more prominent ears, features that are clear even if the striped and spotted body and horns are not visible.



1. Aders's duiker C. adersi © Brent Huffman / UltimateUngulate



2. Aders's duiker *C. adersi* © KWS/ZSL/WPT



3. Aders's duiker *C. adersi*, Boni Forest, Kenya © KWS/ZSL/WPT



4. Aders's duiker *C. adersi,* Boni Forest, Kenya © KWS/ZSL/WPT

### Zebra duiker Cephalophus (Cephalophula) zebra

**Distribution and status:** The Upper Guinea Forest of West Africa from eastern Sierra Leone through south-east Guinea, Liberia, to the Niouniourou River in south-west Côte d'Ivoire. Current distribution is mainly restricted to the two major blocks of remaining primary forest (Gola-Wonegizi-Ziama in the west and Sapo-Tai in the east). **IUCN Red List:** Vulnerable.

**Habitat and ecology:** Primary rainforest, forest margins, hill forests and sometimes in secondary forest. Not recorded in heavily degraded forest or farmbush. Active during the day and night.

**Description:** Medium-sized duiker, 14-18 kg. The body is pale to yellowish-brown with 10-16 vertical black stripes between the shoulder and the tail. The forequarters and neck vary from light brown to reddish-brown [1, 2]. The forelegs are black to the knee, the hindlegs are black on the hock. There may be varying amounts of black on the face, particularly on the lower part, but not forming a clear facial blaze.

**Similar species:** Zebra duiker cannot easily be confused with any other species within its limited range in West Africa. The boldly striped body pattern is distinctive and also shows clearly on IR images [3].



Zebra duiker C. zebra distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Zebra duiker C. zebra, Sapo N.P., Liberia © Fauna & Flora



2. Zebra duiker *C. zebra,* Sapo N.P., Liberia © Fauna & Fauna



3. Zebra duiker *C. zebra*, Sierra Leone © Gola Rainforest Conservation LG

### Bush duiker Sylvicapra grimmia

**Distribution and status:** Occurs in most of sub-Saharan Africa except the rainforest zone and very arid parts of the north-east. It is the most widespread duiker species. **IUCN Red List:** Least Concern.

*Habitat and ecology*: Savanna woodland, open bush, grasslands, and montane habitats up to 4900 m.

**Description:** A very variable species in size (10-22 kg) and appearance. Fourteen subspecies are described in *Mammals of Africa* but the limits between most forms are undetermined. Body colour can be grizzled grey-brown, sandy, grey-brown, reddish brown or dark brown [1-6]. *S. g. caffra* in southeast Africa is uniform light grey except for some chestnut on the crown [2]. *S. g. steinhardti* in southwest Africa is uniform pale or sandy brown with a white chin and upper throat [4]. Animals in the East African mountains have a darker brown, longer coat [6]. In most animals the legs are the same colour as the body or a little darker. There is no dorsal stripe. All forms have a narrow, clearly delineated, dark or black line on the face, varying in length from the crown or the eyes to the end of the muzzle. Only males have horns which are slim, parallel, and point straight upwards [4,7]. Where present, the tuft on the crown is thin and spike-like [2,6]. The ears are long and pointed. The tail is long, thin, and black with white edges [2,3,6]. On IR, bush duiker appears uniformly pale or mid-grey with a narrow black line on the muzzle [7-8].

Similar species: Bush duiker does not occur in dense tropical forest but may co-occur with some of the red duikers in forest-savanna mosaics, drier forest, and the mountains of East Africa. Bush duiker has relatively longer legs, more prominent ears, and longer, slimmer horns than the other duikers, and a narrow dark line on the face. Red-flanked duiker has red-brown pelage and contrasting grey back and legs. In montane grasslands and heathlands near the forest edge, Black-fronted duiker is dark chestnut in colour with black legs and a prominent broad facial blaze. In East and southeast Africa, Harvey's and Natal duikers are red brown or bright red brown, and Harvey's often also has dark legs. In Namibia, NW South Africa and adjoining areas of Angola and Botswana, it is superficially similar to the oribi (Ourebia ourebi)



but the species scarcely overlap in range. Oribi is larger, longer legged, lacks a dark line on the face and is pale or golden brown with a white throat and undersides [9]. Suni is smaller, more lightly built, has a uniform light brown coat and lacks a face stripe. Bushbuck also has a narrow dark line on the face but is much larger, the legs are longer and with white patches, the body is marked with white spots and stripes, the head is different shape and the horns in males are much longer and thicker.

Bush duiker *Sylvicapra grimmia* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Bush duiker
Sylvicapra grimmia ©
Brent Huffman /
Ultimate Ungulate



2. Bush duiker *S. grimmia* Mopani District, South Africa © Kobus Lubbe (CC BY-NC)



3. Bush duiker S. grimmia,
Tambacounda,
Senegal © Patrick
Monney (CC BY-NC)



4. Bush duiker *S. grimmia steinhardti,*Hardap, Namibia ©
anniengel (CC BY-NC)



5. Bush duiker *S.* grimmia, Pinetown, South Africa © Otto Hirzel (CC BY-NC)



6. Bush duiker *S.* grimmia, Aberdares, Kenya © ruperl (CC BY-NC)



7. Bush duiker *S. grimmia*, Chris Hani District, South Africa © Marion Holmes (CC BY-NC)



8. Bush duiker S. grimmia
Waterberg, South
Africa ©
Jabulani\_webcams
(CC BY-NC)



9. Oribi *Ourebia* oribi, Senkelle, Ethiopia © ASG

### Maxwell's duiker Philantomba maxwelli

**Distribution and status:** Originally thought to occur from Gambia and Senegal to the Cross River in Nigeria, but the eastern populations are now considered to be *P. walteri*. It is the most abundant antelope within its range. *IUCN Red List*: Least Concern.

*Habitat and ecology*: Primary and secondary forest, farmbush, thickets, gallery forests in the savanna zone, montane habitats to at least 1400 m. Predominantly active during the day but occasionally also at night. Often seen in pairs.



Maxwell's duiker *Philantomba maxwelli* distribution © IUCN Red List of Threatened Species. Version 2025-1.

**Description:** A smallish duiker, 6-12 kg with short legs and a small head. The body and legs are uniform grey, grey-brown, or brown with a paler throat and neck [1-5]. There is a clearly delimited black facial patch, broad across the forehead, narrowing down the muzzle which usually shows prominently and with a white line above, or a full white ring around, the eye [1-5]. The tail is relatively long, black, with white edges on top, white underneath and is regularly flicked up and down. Some white on the inner leg is sometimes visible. IR images show a uniformly grey body and legs, with the characteristic facial pattern of black triangular patch and white eyebrow [6-8].

Similar species: Blue duiker is very similar in appearance, but smaller, and the two species are allopatric. Walter's duiker is also very similar but the extremely limited material available on this newly described species is not enough to show whether (a) it is also allopatric or (b) there are any clear distinguishing features. Maxwell's duiker is most likely to be confused with Royal antelope, which is smaller, with longer, slimmer legs, grizzled grey-brown pelage, lacks the black face patch and white eyebrow, and has a shorter tail without white edges; the white chin and upper throat shows on some images. Black duiker is uniform in appearance but very dark in colour, has a different build and head shape and lacks a contrasting black head pattern. Brooke's and bay duikers are larger with pale red-brown or chestnut coats and a black dorsal line. On IR images, the smaller body, lack of black dorsal line or contrasting legs, and the characteristic triangular black face patch and white eyebrow should be sufficient to distinguish Maxwell's duiker.



1. Maxwell's duiker *P. maxwelli*, Guinea © Fauna & Flora



2. Maxwell's duiker *P. maxwelli*, Yegue, Ghana © Crispian Emberson-HDC International (CC BY-ND)



3. Maxwell's duiker *P. maxwelli* Kombo Saint Mary, Gambia © Paul Cools (CC BY-NC)



4. Maxwell's duiker *P. maxwelli*, Sapo N.P., Liberia, © Fauna & Flora



5. Maxwell's duiker *P. maxwelli*, Sierra Leone © Gola Rainforest Conservation LG



6. Maxwell's duiker *P. maxwelli*, Sierra Leone © Gola Rainforest Conservation LG



7. Maxwell's duiker *P. maxwelli*, Sierra Leone © Gola Rainforest Conservation LG



8. Maxwells duiker *P. maxwelli*, Sierra Leone © Gola Rainforest Conservation LG

### Walter's duiker Philantomba walteri

**Distribution and status:** Formerly considered to be the eastern population of *P. maxwelli* and described as a separate species in 2010, based on skull measurements supported by genetic differences. There are a few confirmed specimens from Togo, Benin and Nigeria. The range may extend from the lower Volta River in Ghana to the lower Niger. *IUCN Red List*: Data Deficient. Very few confirmed records are available.

Habitat and ecology: Forest, forest plantations, and bush-farmland mosaics. Diurnal.

**Description:** Very similar to Maxwell's duiker. The body and legs are pale grey-brown overall, sometimes showing a blue-grey tone, the face has a triangular black patch and a white eyebrow [1,2]. On IR it appears uniform grey with a characteristic facial pattern [3].

Similar species: For differences from other species see Maxwell's duiker.



Walter's duiker Philantomba walteri provisional distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Walter's duiker P. walteri, Forêt de Lama, Benin © Sogbohossou, A.E. / LEA



2. Walter's duiker *P. walteri*, Omo Forest Reserve, Ogun State, Nigeria © Nigerian Conservation Foundation/Wild Planet Trust



3. Walter's duiker *P. walteri*, Omo Forest Reserve, Ogun State, Nigeria © Nigerian Conservation Foundation/Wild Planet Trust

### Blue duiker Philantomba monticola

**Distribution and status:** From the Cross River, Nigeria, across Central Africa east to western Kenya and south to Angola and Zambia; the East African coastal forests, southern Tanzania, and Malawi. There are disjunct populations in northern Mozambique, southeastern South Africa, and on the islands of Bioko (Gulf of Guinea) and Zanzibar/Pemba (Indian Ocean). In most places it is the most abundant small antelope within its range. **IUCN Red List:** Least Concern.

*Habitat and ecology*: A wide range of forest types, scrub, thickets, and submontane habitats up to 3000 m. Mainly diurnal, also active at night. Often occurs in pairs.

**Description:** The smallest duiker, weighing 4.5-6 kg. Very variable in appearance. *Mammals of Africa* recognises 13 subspecies, divided into four groups (northern, southern, montane, island). Body colour varies from pale blue-grey [1,3,4], dark grey-brown [4] to almost black [5]. Southern populations may be paler grey with light brown legs [3]. *P. m. hecki* (in south Malawi and north Mozambique) has red-brown flanks and a grey back [6]. Animals along the East African coast are pale brown. In Central Africa, some animals have an indistinct white band across the lower buttocks [1,2]. In all populations, the head is small with a black patch, broad across the forehead, becoming narrower down the face, often showing prominently. There is a light brown or pinkish line above the eye [1,3,4,5,6], more prominent in some populations than others, but rarely as clear as the white eyebrow in *P. maxwelli*, and a pale line on the lips [4,5,6]. The horns are short, borne by males and females in some populations, males only in others. There is no crown tuft. The tail is short and black with white edging [2,3,4] and constantly flicked up and down. IR images show a uniformly grey body and legs and the dark facial patch.

**Similar species:** In the *Congo Basin* the uniform colouration, lack of dorsal stripe, and characteristic black face patch distinguish it from the red duikers. Here it is most likely to be confused with <u>Bate's antelope</u>, which is smaller, with *longer*, *slimmer legs*, grizzled brown pelage, a small, rounded head, and lacks a clear black face; the white chin and upper throat are visible on some images. In *East Africa*, <u>suni</u> is larger, with slender build, longer legs, larger and more prominent ears and lacks a black face patch. On a close view suni's horns are ringed along most of the length, but in blue duiker only at the base. <u>Harvey's duiker</u> and <u>Natal duiker</u>



are chestnut-red with varying amounts of black on the legs and a straight black face blaze. Aders's duiker is also larger, has a different head-shape and light red brown coat with a horizontal white rump patch. Some blue duikers in central Africa can have a pale area on the rump, but this feature has not been observed in East African individuals

Blue duiker *Philantomba monticola* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Blue duiker *P. monticola*, South Sudan © Fauna & Flora



2. Blue duiker *P. monticola*, Yalinga, C.A.R. © Thierry Aebischer



3. Blue duiker *P. monticola*, KwaZulu Natal © Linda Widdop (CC BY-NC)



4. Blue duiker *P. monticola*, Uthungulu, South Africa © Joshua Malbin (CC BY-NC)



5. Blue duiker *P. monticola* Bvumba, Zimbabwe © Niall Perrins (CC BY-NC)



6. Blue duiker *P. m. hecki,*Mabu mountains, Mozambique© Julian Bayliss



7. Blue duiker *P. monticola* Mulanje, Malawi © Ruben Foquet (CC BY-NC)



8. Blue duiker *P. monticola* Mulanje, Malawi © Ruben Foquet (CC BY-NC)

# Suni Nesotragus moschatus

**Distribution and status:** East and southeastern Africa from Kenya to KwaZulu-Natal province of South Africa. **IUCN Red List:** Least Concern.

Habitat and ecology: Occurs in evergreen and deciduous forests, woodlands, thickets, and undergrowth, up to 2700 m. Mainly diurnal.

**Description:** A small, rather delicate species, weighing 4-6 kg and with long, slender legs. The coat is variable: sandy, grey-brown, red or dark brown [1-6]. The tail is relatively long and bushy and is either the same colour as the body, or black with a very narrow white edge [1,2,3]. The ears are relatively large [1-5]. The legs are similar in colour to the body. There is usually a short, narrow black line on the lower muzzle or a generally darker tone on the face [1-6]. A straight black suborbital gland can be quite prominent [5,6]. The horns are very short and straight. On IR suni appears uniformly pale grey [7-9].

Similar species: Suni's larger and more prominent ears, lighter build and longer legs, and long bushy tail distinguish it from the duikers in general. Harvey's duiker is rich chestnut red with contrasting black legs and black facial blaze. Natal duiker also has a rich red-brown coat and a dark facial blaze. Aders's duiker is light reddish-brown with a prominent white band across the rump. Suni is most likely to be confused with blue duiker which is also quite variable. Blue duikers are usually slaty-grey, but can also be sandy-brown, dark brown, or dark grey. The form of blue duiker in Malawi and northern Mozambique (P. monticola hecki) has rich brown flanks and a grey back (photo 6, page 80). The best distinguishing features wherever their ranges overlap are: (a) Suni has larger and more prominent ears, a longer, bushy tail which is generally the same colour as the body, while blue duiker has a short, rectangular black tail with clear white edges. (b) Blue Duiker flick its tail up and down, while Suni moves its tail from side to side; (c) on a close view of the face, the pre-orbital gland on blue duiker curves sharply underneath the eye while on the Suni it is straight. d). On a very close view, the horns on male Blue duikers are shorter and only lightly ringed at the base, whereas male Suni horns are ringed for ¾ of the length.



Suni *Nesotragus moschatus* distribution © IUCN Red List of Threatened Species.
Version 2025-1.



1. Suni *N. moschatus,* M'phingwe Lodge, Mozambique © Martin Mandák (CC BY-NC)



2. Suni *N. moschatus*,Umkhanyakude, South Africa© Maritzasouthafrica (CC BY-NC)



3. Suni *N. moschatus,* KwaZulu Natal, South Africa © Murray Christian (CC BY-NC)



4. Suni *N. moschatus,* Aberdares, Kenya © Manchester Metropolitan University



5. Suni *N. moschatus* Lengwe NP, Malawi © markusgmenier (CC BY-NC)



6. Suni *N. moschatus*, Marromeu, Mozambique © Caitlin Curry (CC BY-NC)



7. Suni *N. moschatus,* Kwale, Kenya © Erwout Knoester (CC BY-NC)



8. Suni *N. moschatus,* Kwale, Kenya © Erwout Knoester (CC BY-NC)



9. Suni *N. moschatus,* Laikipia, Kenya © Tim Collins (CC BY-NC)

# Royal antelope Neotragus pygmaeus

**Distribution and status:** Occurs in the forests of West Africa from southwest Guinea to the Volta River in Ghana. Reportedly common or abundant in bushmeat markets but rarely captured on camera traps (perhaps reflecting a preference for habitats other than primary rainforest where most camera trapping takes place). **IUCN Red List:** Least Concern.

*Habitat and ecology*: Forest, secondary growth, plantations, farmbush, and cultivation, wherever there is dense cover.

**Description:** A very small species weighing 2-3 kg. It has a rounded, often hunched body shape, a small tapering head, and long, thin legs [1,2,4]. The pelage is brown with varying amounts of grey on the head, back, and flanks. The overall colour may appear rich brown or paler and duller, depending on the quality of light [1,2,3] and the face may be quite dark grey [1]. The tail is very short, the same colour as the body on top, white underneath and occasionally shows narrow white edges. The underparts are white. There is a white patch on the chin and upper throat and a smaller white patch on the chest [1,3,4]. The ears are small and rounded. Tiny horns are present in the males. On IR images it appears uniform grey and may show some pale on the underparts [4]. The white throat patch may be visible depending on the angle of view [4].

Similar species: Royal antelope is only likely to be confused with Maxwell's duiker which is larger, with a heavier body, shorter legs, blue-grey or grey-brown coat, has a sharply defined black triangle on the face, a white line above the eye, and a longer, black tail with white edges that is constantly flicked up and down (royal antelope moves the tail from side to side). Maxwell's duiker also has a more solid head. Bates's antelope is very similar in appearance but is allopatric, with a range east of the Niger River. The other medium-sized duikers in West Africa (bay, Brooke's) are much larger and heavier bodied, with brown or red-brown colour, and a black dorsal line (and in bay duiker, black legs). Black duiker is all dark or black with reddish head and prominent red crown tuft, while zebra duiker has a diagnostic striped pelage.



Royal antelope *Neotragus pygmaeus* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Royal antelope *Neotragus pygmaeus* © Brent Huffman / UltimateUngulate



2. Royal antelope *N. pygmaeus*, Freetown Peninsula, Sierra Leone © Tacugama Chimpanzee Sanctuary



3. Royal antelope *N. pygmaeus*, Freetown Peninsula, Sierra Leone © Tacugama Chimpanzee Sanctuary



4. Royal antelope N. pygmaeus, Freetown Peninsula, Sierra Leone  $\mathbb C$  Tacugama Chimpanzee Sanctuary

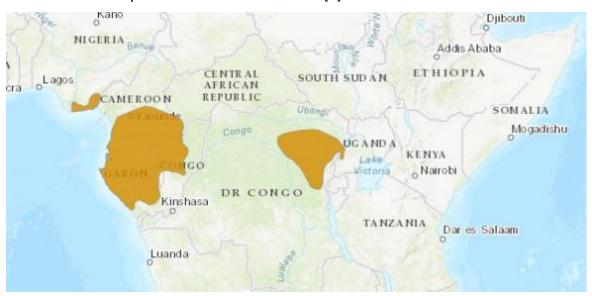
# Bates's antelope Neotragus batesi

Distribution and status: Distributed in three separate patches: (i) South-east Nigeria between the Niger and Cross Rivers; (ii) the western Congo basin (Cameroon south of the Sanaga River, southeast CAR, Gabon, ROC, mainland Equatorial Guinea, but not Bioko island); (iii) DRC east of the Congo River, just extending into western Uganda. IUCN Red List: Least Concern. Bates's antelope is reportedly common or abundant in many localities but like N. pygmaeus, it is very rarely captured on camera traps, perhaps reflecting a preference for habitats other than primary rainforest where most camera trapping takes place.

*Habitat and ecology:* Forest, secondary growth, plantations, farmbush and cultivation, wherever there is dense cover.

**Description:** Very small, weighing 2-3.5 kg, with long slim legs [1,2,3] and a rather small, tapering head [1,2,4,5]. The body and legs are uniformly brown to dark brown, sometimes showing red-brown tones, and with variable amounts of grey on the nape and back, and sometimes showing a darker head [1,2], depending on the light. There are white patches on the chin and throat [1,2,4]. The legs are often greyer in colour. The tail is short, the same colour as the body on top, white underneath. On IR images it appears uniform grey with a short, concolorous tail [5].

**Similar species:** Royal antelope is very similar in appearance but has an *allopatric* distribution in West Africa. Bates's antelope is only likely to be confused with <u>blue duiker</u>, which is *larger*, has a heavier body, shorter legs, blue-grey or grey-brown coat, a clear black face, a pale line above or around the eye, and a longer black tail with white edges that is constantly flicked up and down (Bates's antelope moves the tail from side to side). The <u>red duikers</u> within its range are much larger, have a heavier body and a larger head, and the pelage is light brown to deep chestnut brown with contrasts between black dorsal line, legs and/or face blaze. The ears on *N. batesi* are more prominent than most duikers [2].



Bates's antelope *Neotragus batesi* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Bates's antelope *N. batesi*, mounted specimen in the American Museum of Natural History © Brent Huffman / Ultimate Ungulate



2. Bates's antelope *N. batesi*, Boumba-et-Ngoko,
Cameroon © Marc Languy



3. Bates's antelope
Neotragus batesi, Gabon
© LHOEST
Simon\_FONTEYN
Davy\_FAYOLLE
Adeline\_Gembloux AgroBio Tech (Liège University)



4. Bates's antelope *Neotragus batesi*, Gabon © TOSSENS Sarah\_DOUCET Jean-Louis\_LHOEST Simon\_Gembloux Agro-Bio Tech (Liège University)



5. Bates's antelope *Neotragus batesi*, Gabon © LHOEST Simon\_FONTEYN Davy\_FAYOLLE Adeline\_Gembloux Agro-Bio Tech (Liège University)

# Water chevrotain Hyemoschus aquaticus

**Distribution and status:** Occurs in two blocks: (i) West Africa from Guinea-Bissau to southwest Ghana, and (ii) Central Africa from the Niger River through the Congo Basin to the Albertine Rift, just reaching western Uganda. **IUCN Red List:** Least Concern.

*Habitat and ecology*: Moist tropical forest mainly along, or not far from, rivers and streams. Has a crepuscular and nocturnal activity pattern.

**Description:** 9-15 kg. Water chevrotain has a heavy body, a short, thick neck, and short legs [1,2]. The hindquarters are larger and higher, giving a hunched appearance [1,2]. The ears are small and inconspicuous. The coat is brown or reddish brown, strongly marked with white spots, two horizontal stripes along the flanks [1,2] and two diagonal stripes on the throat [1,6]. On IR it appears grey or dark grey with white spots and stripes and the rounded body shape also shows well [3-7].

**Similar species:** The heavy body, short legs, rounded posture, and strong pattern of white spots and stripes distinguish the water chevrotain from all other species. These features show well on IR images and are diagnostic even on poor-quality images [5,6,7]



Water chevrotain *Hyemoschus aquaticus* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Water chevrotain *Hyemoschus aquaticus* Mai-Ndombe, D.R.C. © Dérozier Violette (CC BY-NC)



2. Water chevrotain *Hyemoschus aquaticus,* Gabon © Parc de la Lékédi (CC BY-NC)





4. Water chevrotain *Hyemoschus aquaticus*, Chinko, C.A.R. © Thierry Aebischer



5. Water chevrotain

Hyemoschus aquaticus,
Sapo N.P., Liberia © Fauna
& Flora



6. Water chevrotain

Hyemoschus aquaticus,
Sapo N.P., Liberia © Fauna
& Flora



7. Water chevrotain

Hyemoschus aquaticus,
Sierra Leone © Gola
Rainforest Conservation LG

# Bongo Tragelaphus eurycerus

**Distribution and status:** Distributed in three separate blocks: (i) West Africa from Guinea to Benin; (ii) Central Africa from southern Cameroon through the northern Congo Basin to the Albertine Rift; (iii) montane forests of Kenya and formerly Uganda. Two subspecies are recognised, lowland bongo *T. e. eurycerus* in West and Central Africa and mountain bongo *T. e. isaaci* in small relict populations in the mountains of East Africa. **IUCN Red List:** Lowland bongo is Near Threatened, mountain bongo is Critically Endangered.

*Habitat and ecology*: Lowland bongo occupies tropical forests, gallery forest, mosaics, preferring clearings, forest edge, regrowth; it occurs less frequently in dense primary rainforest. Mountain bongo inhabits various montane forest types including the bamboo zone from around 1500 m to above 3000 m.

**Description:** A very large species, males can weigh up to 400 kg, females to 275 kg. The body is heavy, rather rounded and rich red-brown [1] to darker brown [2] in colour, with 9-16 thin, vertical white stripes [1-2]. The neck and shoulders can be dark brown or blackish on older males. The inner legs have prominent black and white patches [1,2,3,5], and the lower part of their forelegs is black [2&3]. The lower muzzle is dark or black [1-4]. There are white patches on the side of the face, chin, and lower chest and a white or light-coloured chevron across the muzzle just below the eyes [2,3]. The ears are very large and point outwards [2,3,5]. Males and females have long, thick horns twisted up in an open spiral. On IR the white stripes may appear faint or invisible, but the bulky body, large horns, prominent ears, black and white legs and dark muzzle are good distinguishing features [4,5,6].

**Similar species:** The large, heavy body with thin vertical stripes but no spots or lateral stripes, large horns in both sexes, and very large ears distinguish bongo from sitatunga and bushbuck and show on most IR images. On <u>sitatunga</u> the white chevron between the eyes is clearly separated in two, but continuous or broken by a only narrow gap in bongo. <u>Bushbuck</u> has a slimmer build, shorter horns (in males) and the white patches on the inner leg and black on the outer surface are less prominent than in bongo.



Bongo *Tragelaphus eurycerus* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Mountain bongo, Mt Kenya Wildlife Conservancy © ASG



2. Lowland bongo, C.A.R. © Thierry Aebischer



3. Bongo *T. eurycerus,* CAR © Thierry Aebischer



4. Bongo *T. eurycerus,* CAR © Thierry Aebischer



5. Bongo *T. eurycerus*Sierra Leone © Gola
Rainforest Conservation
LG

# Sitatunga Tragelaphus spekii

**Distribution and status:** The main area of distribution lies from southern Togo, east to Uganda and south the Okavango of northern Botswana. There are small, isolated populations in Senegal and Gambia; the southern Lake Chad basin; South Sudan; and northern Angola. **IUCN Red List:** Least Concern.

Habitat and ecology: Occurs in wetlands, marshes, papyrus swamps, and wet tropical forests. Description: a rather variable species. Up to 10 different forms have been described, three of which are recognized in the Mammals of Africa. Males weigh 100-120 kg and females 25-60 kg. The hair is long and shaggy [1,2]. Males are dark brown or greyish brown. Females are red brown to greyish brown [2,3,46]. Vertical white stripes, spots and lateral stripes in both sexes may be prominent [2,3,6,8], faint, or absent [1,4,5,7,9]. The legs are usually the same colour as the body. A white chevron is present below the eyes in males and sometimes in females with a distinct gap in the centre [1,4,7]. The tail is narrow, with white edges, and a black tip [3,5]. The hooves are very long to aid movement over marshy ground, though this feature is rarely captured on photos [6]. Only the males have horns which curve up and backwards and have up to two twists [1,5,8]. On IR sitatunga appears uniformly grey or dark grey, with or without faint white stripes or spots [7-9].

Similar species: Bushbuck is smaller, often has a hunched appearance, and the horns of the males are shorter. Bushbuck also have white patches at the top of the inner leg, a narrow dark line on the face, and a broader tail. Some bushbuck populations have black on the chest and belly. Distinguishing features on IR are the white leg patches, contrasting pattern between body and neck, black chest, black dorsal line, and thin black line on the face. Bongo is much larger, with thin white stripes on the body but no spots or lateral stripes, black and white legs, larger ears and longer, more robust horns in both sexes. On IR images the horn shape and black and white legs of the bongo should be enough to distinguish the two species. In a head-on view, the white chevron on the bongo is continuous or has only a narrow gap while on sitatunga it is clearly in two parts [1].



Sitatunga *Tragelaphus spekii* distribution © IUCN Red List of Threatened Species. Version 2025-1.



1. Sitatunga *T. spekii*, male, Rubondo Island, Tanzania © Alex (CC BY-NC)



2. Sitatunga *T. spekii*, female, Bou Hokou, C.A.R. © simben (CC BY-NC)



3. Sitatunga *T. spekii* females, Ogooué-Lolo, Gabon © Zein et Carlo (CC BY-NC)



4. Sitatunga *T. spekii* female, Lesio-Louba reserve, D.R.C. © Tony King (CC BY-NC)



5. Sitatunga *T. spekii* male, Lekoko, Gabon © koenbetjes (CC BY-NC)



6. Sitatunga *T. spekii* female, Ivindo, Gabon © Royle Safaris (CC BY-NC)



7. Sitatunga *T. spekii* female, D.R.C. © Nadia Balduccio, LuiKotale Bonobo Project (LKBP)



8. Sitatunga *T. spekii* male, D.R.C. © Nadia Balduccio, LuiKotale Bonobo Project (LKBP)



9. Sitatunga *T. spekii*, female, Benin © ONG ODDB (CC BY-NC)

# Bushbuck Tragelaphus scriptus

Distribution and status: Ranges across most of sub-Saharan Africa except the dense Congo Basin forests and arid zones in the north-east and south-west. IUCN Red List: Least Concern. Habitat and ecology: Occurs in a wide range of forest and bush habitat types up to 4000 m. **Description:** A very variable species. Eleven subspecies are recognised in *Mammals of Africa*. These are not yet assessed on the Red List because of conflicting genetic results, poorly delineated range boundaries, and patchy sampling. Males weigh 40-55 kg and females 24-34 kg. Most bushbucks are brown or red-brown, with white vertical stripes and lateral patterns of stripes and spots on the flanks and some black on the belly. The pattern of white stripes and spots is stronger in western and northern populations [1,2] and reduced or nearly absent in the east and south [3,4]. Males in some populations in southern Africa and the mountains of Ethiopia are very dark brown, almost black, and lack white markings on the body [5,6]. A very narrow black dorsal line is visible in some animals [1,3,8,9]. The neck is sometimes grey [2]. There is a white patch on the throat and another on the chest [1,2,4,5,6] but this feature may not be visible on IR. The legs are brown, often black on the outer surface and with large white patches at the top on the inner leg [2,3,7,8, 10,11]. Northern populations have varying amounts of black on the chest and belly [1,7,10]. Only the males have horns, which are rather short and may be straight or twisted [1,3,5,6,11]. A narrow black line on the face extends from the forehead or from the eyes to the muzzle [1,3,5,7,8,11,]. IR images typically show a grey body, sometimes with a darker neck [9], or thin black dorsal band [8-9]. The white spots and stripes may be usually faint or invisible, but the contrasting black and white patches on the legs show clearly [7,8,10,11].

Similar species: Bongo is much larger, has a heavier body marked with thin white vertical stripes but no spots or horizontal stripes, longer, thicker horns, and prominent black and white patches on the legs. Sitatunga is larger, with longer hair, and longer horns, has a small white chevron between the eyes and lacks black and white patches on the legs. Bush duiker also has a narrow black line on the muzzle but is smaller with a different body shape, does not have any white stripes or spots, or lack black and white on the legs, and it has thin, straight horns. Bushbuck is distinguished from large and medium sized duikers on IR by overall slimmer body shape and relatively longer legs black and or white patches on the legs, and

MALI NIGER
CHAD SUDAN

RIGERIA

LTHILFIA

DR CONGO

LARZADA

NAMIBIA

SOUTH
APRICA

Atlantic
Ocean

Bushbuck *Tragelaphus scriptus* distribution © IUCN Red List of Threatened Species. Version 2025-1.

more prominent ears [7-11].



1. Bushbuck *T. scriptus,* Niokolo-Koba, Senegal © ASG



2. Bushbuck *T. scriptus* Udzungwa, Tanzania © Udzungwa Ecological Monitoring Centre



3. Bushbuck *T. scriptus* Nakasongola, Uganda © Ryan Steiner (CC BY-NC)



4. Bushbuck *T. scriptus*, Trafalgar, South Africa © annaartje (CC BY-NC)



5. Bushbuck *T. scriptus* uMkhanyakude, South Africa © scaup (public domain)



6. Bushbuck *T. scriptus* (Menelik's bushbuck), Bale Mountains, Ethiopia © Robert Thibault (CC BY-NC)



7. Bushbuck *T. scriptus,* Sapo N.P., Liberia © Fauna & Flora



8. Bushbuck T. scriptus, Yalinga, C.A.R. © Thierry Aebischer



9. Bushbuck *T. scriptus*, Bassila, Benin © Iles Ecologiques (CC BY-NC)



10. Bushbuck *T. scriptus,* Savalou, Benin © sekeyerimasero (CC BY-NC)



11. Bushbuck *T. scriptus*, Bassila, Benin © Iles Ecologiques (CC BY-NC)

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