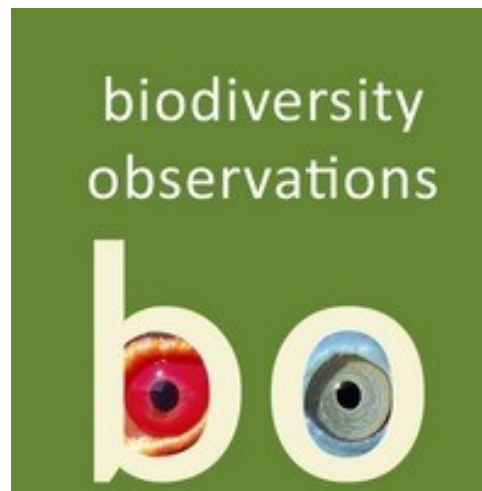


First records of leucism in two species of duiker (Cephalophinae) in Gabon

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Mammals

First records of leucism in two species of duiker (Cephalophinae) in Gabon

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Abstract

The present study aimed to describe partial leucism, which is a pigmentation disorder, in two duiker species: *Philantomba monticola* and *Sylvicapra grimmia*. Leucism is a condition characterized by partial loss of pigmentation, resulting in white or pale patches on the animal's body. This is the first report of leucism in the subfamily Cephalophinae, which includes duikers, and similar occurrences may exist

in other duiker species across their sub-Saharan distribution range. This finding highlights the potential for further research on pigmentation disorders in duikers and their prevalence in different species within the subfamily.

Observation

Leucism (also known as partial albinism) is a pigmentation disorder characterized by a reduction or lack of pigmentation in different parts of the body. It appears in vertebrates as white spots on the skin and/or pure white fur or feather, and normal coloured eyes and claws (Buckley 1982; Miller 2005). Previous studies have shown that it is caused by the expression of mutant alleles (Edelaar et al. 2011; Fleck et al. 2016; Liu et al. 2019). Leucism seems frequent in bats (Marin-Vasquez et al. 2010; Sánchez-Hernández et al. 2012), birds (Sage 1962, 1963; Bensch et al. 2000; van Grouw 2006; Guay et al. 2012; van Grouw 2012) and in other mammals (ie. Carnivores, rodents (Acevedo & Aguayo 2008; Steen & Sonnerud 2012; Abreu et al. 2013; Brito & Valdivieso-Bermeo 2016; Talamoni et al. 2017). The goal of this paper was to report leucism in two duiker species: the blue duiker *Philantomba monticola* and the common duiker *Sylvicapra grimmia* (Figure 1).

The first case of leucism in blue duiker was reported in July 2018 in northern Gabon, in the village called “Konoville les deux Eglises” (1°50'28"N 11°38'39"E), in the Woleu-Ntem Province. This specimen of blue duiker was caught on a cable snare trap (Figure 2a), skinned (Figure 2b and c), and the meat sold to locals. The entire body of the animal was white, except for a few areas around the ears, the dorsal part of the neck, and the upper part of the back (in continuity with the neck). Although this part of the country is more populated and has more plantations, primary forest is still present (Wheatley 2014).

The second case of leucism in blue duiker was reported in August 2021 in northeastern Gabon, near the town of Makokou (0°34'00" N, 12° 52' 00"E), in the Ivindo Province. There, the blue duiker specimen was white only on the tips of both its hind legs, the rest of body

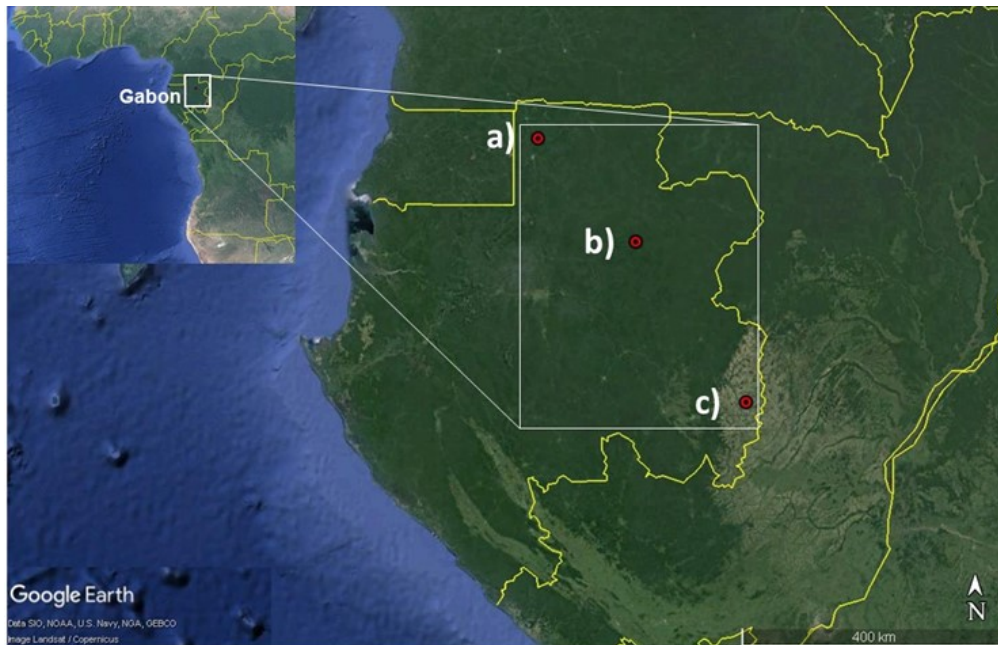


Figure 1: Location of the three reported cases of duiker leucism in Gabon: (a and b) *Philantomba monticola* and (c) *Sylvicapra grimmia*

being normally coloured (Figure 3). The blue duiker is commonly hunted and sold as bushmeat in the region (Juste et al. 1995; Fa et al. 2000; Barnes 2002; Fa et al. 2002; Nielsen 2006; Kümpel et al. 2010; Ávila et al. 2019). In the wild, this species occupies different habitat types including dense forest, woodland mosaics, and forest fragments (Dubost 1980; Gautierhion et al. 1980; Heymans & Lejoly 1981; Kingdon 1997). This part of the country is covered with dense tropical forest and the Ivindo National Park, a new UNESCO world heritage site, is nearby (UNESCO World Heritage Convention 2021).

For the present study, a third leucistic duiker was reported in August 2021 in southeastern Gabon, within the Leconi Park (1°25' 24.5"S, 14°16' 50.9"E). The species is the common duiker *S. grimmia*. A young duiker was observed close to the leucistic duiker, and was mostly likely its cub. The young had normal body coloration, while the adult looked entirely white from afar (Figure 4). The common duiker is the only one that is exclusively found in savanna habitat

(Kingdon 1997). In Gabon, the common duiker is solely found in the Plateau Batéké region (including in Gabon's Plateau Batéké National Park) where there are extensive savannas which span into the neighbouring country, the Republic of the Congo.

The present study is the first to report cases of leucism in duikers. These observations call into question the species designation of the white-legged duiker *C. Ogilbyi* which is genetically close to the Peter's duiker *C. calypigus* (Ntie et al. 2010; Johnston et al. 2011; Johnston & Anthony 2012; Ghassemi-Khademi & Hamidi 2019).

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Figure 2: The blue duiker *Philantomba monticola* specimen reported by the village Konoville les deux Eglises, in the Woleu-Ntem Province, northern Gabon: (a) the entire specimen, and (b and c) and the left-over skin after the meat was sold.



Figure 3: The blue duiker *Philantomba monticola* specimen reported near the city of Makokou, Ogooué Ivindo Province, northeastern Gabon.



Figure 4: The common duiker *Sylvicapra grimmia* (a and b) specimen reported in Lekoni Park, southeastern Gabon.

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