

First record of a melanistic Common Genet *Genetta genetta* in southern Portugal extends the geographic range of this variant in Europe

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Abstract

We report the first record of a melanistic Common Genet *Genetta genetta* in southern Portugal, obtained with a camera-trap set near a seasonal stream in May 2019. This record extends the distribution of this genetic variant towards the south-western tip of the introduced area of this species. Melanism cases can contribute to the analysis of patterns of introduction and spread of the only viverrid in Europe. They can also shed light on possible mechanisms of natural or artificial selection behind melanism in the genet's introduced range.

Keywords: Iberian Peninsula, introduced species, mammals, melanism, pigmentation

Introduction

The Common Genet *Genetta genetta* is a wild mammal (Carnivora: Viverridae) native to Africa and the Arabian Peninsula. It has been introduced and is considered naturalized in Europe (Gaubert *et al.* 2015). It is currently widespread in Portugal (Álvares *et al.* 2019), Spain (Calzada 2007), Andorra and France (Gaubert *et al.* 2008), and it occurs less extensively in other European countries (Delibes 1999, Gaubert *et al.* 2008, 2015).

Common Genets normally display a pale yellow-grey coat with distinctive black spots in the back and flanks, a black stripe along the spine, and black rings along the tail. Cases of melanism are infrequently reported, geographically localized, and dispersed within this species's Iberian introduced range (Duarte & Rubio 1999, Gaubert & Mézan-Muxart 2010). In Portugal, the country covering the south-western limits of the introduced range, few cases of melanism have been previously described, all of which in the central and northern regions (Barros *et al.* 2014).

A camera-trapped melanistic individual

A remote camera-trap placed in a private nature reserve near Ourique, southern Portugal (Fig. 1a), photographed a new instance of a melanistic Common Genet at 01h35 on 19 May 2019 (Fig. 2). The pictures clearly show the characteristic spotted pattern against a markedly darkened coat (Fig. 1b). The camera is a Reconyx HP2W Professional White Flash Camera, which can take night-time photographs in colour. This does not appear to disturb most

wildlife. Some animals may stop in front of the camera, so multiple photographs are taken. This is what apparently happened with this genet, as the camera was set to take a series of three photographs when triggered but it took eight photographs of this individual, indicating that it stopped walking for a few moments (Fig. 2).



Fig. 1. Location (black dot), in south-western Europe, of the melanistic Common Genet *Genetta genetta* depicted in Fig. 2. The map is in Lambert equal-area projection and was made with QGIS 3.6.3.

The camera was pointed along a vehicle track (dirt road) close to where the track is crossed by a winterbourne, i.e. a temporary stream which is normally dry through the summer months and wet when there has been sufficient rainfall, usually in winter. This track is also used by other small and medium-sized mammal species, such as Wood Mouse *Apodemus sylvaticus*, European Rabbit *Oryctolagus cuniculus*, Iberian Hare *Lepus granatensis*, Beech Marten *Martes foina*, Wild Cat *Felis silvestris*, Red Fox *Vulpes vulpes*, European Badger *Meles meles* and Eurasian Wild Pig *Sus scrofa*.



Fig. 2. (a) Melanistic Common Genet *Genetta genetta* photographed with a camera-trap in southern Portugal in May 2019; (b) close-up of the genet.

Discussion

Our record extends the geographic spread of documented melanistic genets across the Iberian Peninsula (cf. Barros *et al.* 2014, Alguazas-Martínez *et al.* 2017). This supports the idea that melanism in the Common Genet is disseminated in this species's introduced area, hence unlikely driven by environmental conditions (Gaubert & Mézan-Muxart 2010, Barrull & Mate 2012, Barros *et al.* 2014), although this has not been formally tested. Given their genetic foundation, the documentation and mapping of cases of melanism may contribute to the elucidation of introduction patterns of the Common Genet into Europe (Gaubert & Mézan-Muxart 2010, Barros *et al.* 2014), as well as the possible mechanisms of natural and/or artificial selection that may explain the spread of this pigmentation variant in this introduced species's range (Delibes *et al.* 2013).

Author contributions

AMB conceived the article, built the map and led the writing. PP provided the genet photographs and contributed to the writing. Both authors reviewed and improved the final version. We thank Will Duckworth for his helpful comments on this manuscript.

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