

First record of Johnston's Genet *Genetta johnstoni* in Senegal

Liliana PACHECO¹, Nerea RUIZ DE AZUA¹, José María FERNÁNDEZ-GARCÍA¹, Nacho ARANSAY¹, Ferran GUALLAR¹ and Philippe GAUBERT²

Abstract

Johnston's Genet *Genetta johnstoni* is an elusive small carnivore endemic to the Upper Guinean forests. The species was recently assessed as Vulnerable by *The IUCN Red List of Threatened Species*. Its known occurrence is mostly restricted to the rainforests of Ghana, Côte d'Ivoire, Liberia, Sierra Leone and Guinea. We here present the first sighting of the species in Senegal, through a camera-trap video recorded on April 2011 in Dindefelo Natural Reserve, south-eastern Senegal, about 260 km north of the species's westernmost previous known occurrence. Our observation adds further support to the hypothesis that Johnston's Genet may inhabit certain forest-savannah mosaics.

Keywords: Dindefelo, forest-savannah mosaics, Kedougou, Upper Guinean forests, Viverridae

Première observation de la Genette de Johnston *Genetta johnstoni* au Sénégal

Résumé

La Genette de Johnston *Genetta johnstoni* est un petit carnivore discret, endémique du Bloc forestier de Haute Guinée. Le statut de l'espèce a été récemment évalué « Vulnérable » par la *Liste Rouge des Espèces Menacées de l'UICN*. Son aire de répartition connue est principalement restreinte aux forêts tropicales humides du Ghana, de la Côte d'Ivoire, du Libéria, de la Sierra Leone et de la Guinée. Nous présentons ici la première observation de l'espèce au Sénégal, grâce à une capture vidéo enregistrée en Avril 2011 dans la Réserve Naturelle de Dindéfelo, au sud-est du Sénégal, à environ 260 km au nord de la plus proche occurrence préalablement connue de l'espèce. Cette observation renforce l'hypothèse que la Genette de Johnston peut occuper un habitat de type « mosaïque forêts-savanes ».

Mots clés: Dindéfelo, forêts de Haute Guinée, Kédougou, mosaïque forêts-savanes, Viverridae

Johnston's Genet *Genetta johnstoni* Pocock, 1908 is a poorly known small carnivore from West Africa, with a known distribution encompassing the Upper Guinean rainforests, including five countries: Ghana, Côte d'Ivoire, Liberia, Sierra Leone and Guinea (Dunham & Gaubert 2013; Fig. 1). Gaubert *et al.* (2002) identified a total of 24 specimens in museum collections worldwide. Johnston's Genet was thought to be restricted to lowland moist forests west of the so-called Dahomey Gap, also inhabiting swamp and riverine forests, but its geographical range and ecological niche have been proposed to show a wider spectrum, possibly including moist woodlands and savannahs from Guinea (Gaubert *et al.* 2002, Papeş & Gaubert 2007). The species is classified as Vulnerable on *The IUCN Red List of Threatened Species*, based on its inferred rate of population decrease (based on forest loss within its range) and the plausible impact of bushmeat hunting (Dunham & Gaubert 2008).

At 23h15 on 24 April 2011, we video-recorded (15 seconds) a slender genet drinking at a small waterhole in Dindefelo (12°24'N, 12°18'W, altitude 350 m, Google Earth digital elevation model), Kedougou region, south-eastern Senegal. In this location, close to the Guinean border, the Spanish branch of the Jane Goodall Institute is implementing a research and conservation project with the ultimate goal of proposing a 15,000 ha community-managed natural reserve. As part of this project, an inventory of mammals is being carried out, through both enquiries of villagers and camera-trapping. Hence, a set of three camera-traps (Scoutguard SG560) have been operating in the field on a non-systematic basis.

The video (which can be viewed at <http://www.youtube.com/watch?v=sfN6SUCG-L0&feature=plcp>) was analysed in detail, and the individual was positively identified as a Johnston's Genet according to the criteria of Gaubert *et al.* (2008).

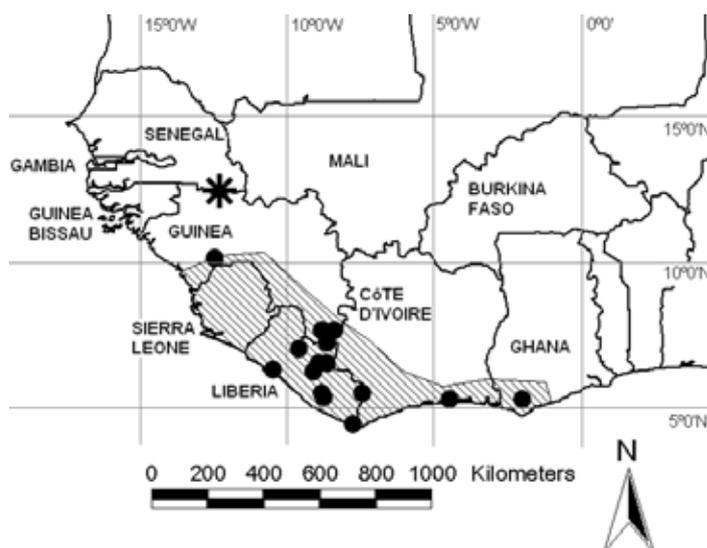


Fig. 1. Western Africa, showing the location of the record of Johnston's Genet *Genetta johnstoni* here reported (asterisk), records of the species compiled by Gaubert *et al.* (2002) (black dots), and generalised range as delineated by Dunham & Gaubert (2008).



Fig. 2. Johnston's Genet *Genetta johnstoni*, Dindefelo Natural Reserve, south-eastern Senegal, on 24 April 2011.

It was a lightly-built genet, with elongated body and face, relatively large eyes, and a long tail (Fig. 2). The estimated head-body length, deduced from side view, was similar to that of the tail. Some well-defined characteristics included a mid-dorsal dark stripe contrasting with the brownish dorsal spots, the absence of well-defined nuchal stripes, the densely-spotted coat and coalescence of dorsal spots at the rump. The tail had eight pale rings, their width being less than 20% of that of the dark rings (middle of the tail). The tip of the tail, though ill-defined, was pale but mixed with dark hairs. The hindlimbs and forelimbs were darker than ground coloration.

These features are, overall, consistent with the distinguishing characteristics of Johnston's Genet, more than with any other West African genet. Following Gaubert *et al.* (2005, 2008), other genet species that might co-occur with Johnston's Genet can be distinguished from the latter by the following features:

- Common or Small-spotted Genet *G. genetta*: presence of a mid-dorsal crest, equal width of pale and dark tail-rings, and lower density of dorsal spots;
- Hausa Genet *G. thierryi*: rufous-brown dorsal line (often split into two longitudinal stripes by a brighter median stripe), equal width of pale and dark rings of the tail, and lower density of dorsal spots;
- King Genet *G. poensis*: heavier proportions, larger head, and fewer pale rings on the tail (4–6);
- Bourlon's Genet *G. bourloni*: shorter tail relative to head-body length, well-spotted forefeet, fewer pale rings on the tail (5–7) and almost completely dark distal half of the tail;
- Pardine Genet *G. pardina*: heavier body, tail shorter than head-body length, fully dark tip of the tail, fewer pale rings on the tail (6–7), and absence of coalescence in the first row of dorsal spots.

The checklist of small carnivores recorded in the study area is still expanding. So far, the other confirmed species of genets are Common Genet and Hausa Genet (LP & NRDA own data). In the Niokolo–Koba National Park, the south-eastern border of which lies about 50 km away from Dindefelo, Common Genet, Pardine Genet and Hausa Genet have all been recorded (Sillero-Zubiri & Marino 1997).



Fig. 3. Semi-deciduous forest patch where the Johnston's Genet *Genetta johnstoni* was recorded in Dindefelo Natural Reserve, Senegal. (Photo: N. Ruiz de Azua).

This first observation of a Johnston's Genet in Senegal is a remarkable record, not only because it may extend the known range of this rare, little-known species about 260 km north from its north-westernmost previously known occurrence (Kolenté Plateau, Guinea; Gaubert *et al.* 2002; Fig. 1), but also because of the vegetation and ecological features of the study area. Dindefelo Natural Reserve is located at the northern edge of the Guinean forest–savannah ecoregion (Burgess *et al.* 2004), characterised by a mosaic of semi-deciduous and riverine gallery forest patches and wooded savannahs (Fig. 3). Although most previously accepted observations of Johnston's Genet suggested that rainforest is the species's typical habitat, the reassessment of Gaubert *et al.* (2002) also presented a record from moist woodland in Guinea. Besides, Papeş & Gaubert (2007) developed geographically explicit distribution models predicting suitability of the deciduous forests in the Fouta Djallon highlands, a massif of which the northern slope lies towards the Senegal border in Dindefelo area. Thus, this observation at Dindefelo supports the view of a wider distribution and ecological niche for this threatened species.

Acknowledgements

The Dindefelo field team included Diba Diallo and Dauda Diallo. The project 'Biological inventories in the Dindefelo Natural Reserve' was funded by Wula Naafa (USAID) and Fundación Biodiversidad (Spanish Ministry for the Environment). Javier Calzada, Miguel Delibes and Wim Wendelen provided expert advice. The comments by Mark Taylor, Vladimir Dinets and Emmanuel Do Linh San improved the draft.

References

- Burgess, N. D., D'Amico Hales, J., Underwood, E., Dinerstein, E., Olson, D., Itoua, I., Schipper, J., Ricketts, T. & Newman, K. 2004. *Terrestrial ecoregions of Africa and Madagascar: a continental assessment*. Island Press, Washington D.C., U.S.A.
- Dunham, A. E. & Gaubert, P. 2008. Johnston's Genet *Genetta johnstoni*. In *IUCN Red List of Threatened Species*. Version 2011.2. <www.iucnredlist.org>. Downloaded on 12 February 2012.

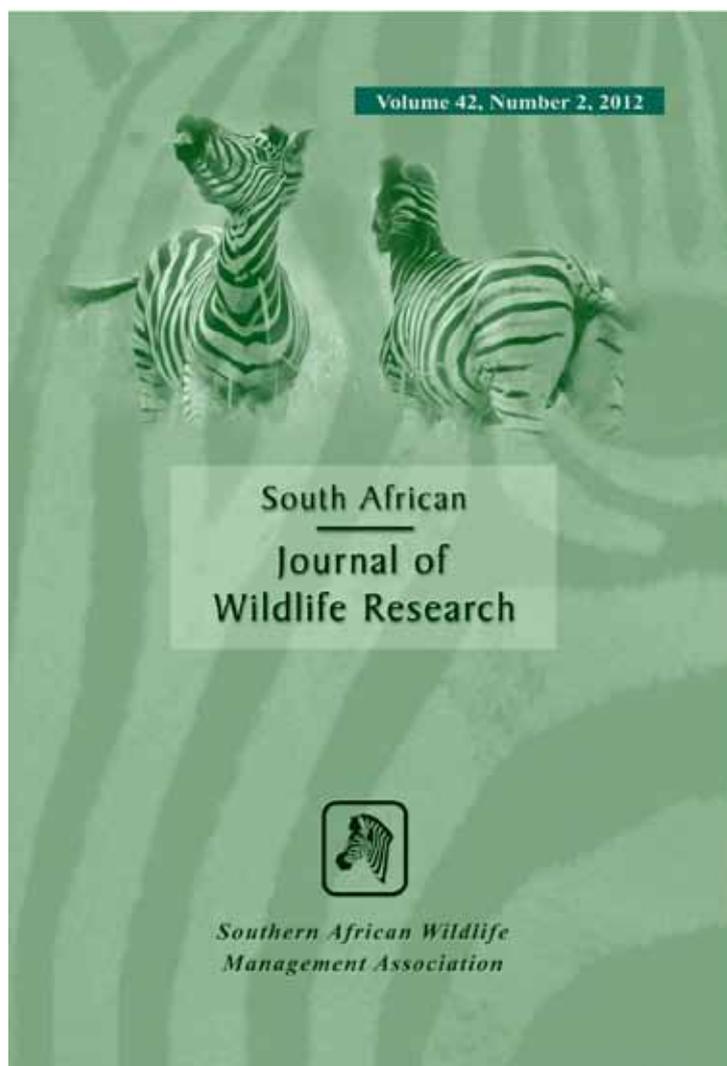
- Dunham, A. & Gaubert, P. 2013. Johnston's Genet *Genetta johnstoni*. Pp. 230–232 in Kingdon, J. & Hoffmann, M. (eds) *Mammals of Africa, V. Carnivores, pangolins, equids and rhinoceroses*. Bloomsbury, London, U.K.
- Gaubert, P., Veron, G., Colyn, M., Dunham, A., Shultz, S. & Tranier, M. 2002. A reassessment of the distribution of the rare *Genetta johnstoni* (Viverridae, Carnivora) with some newly discovered specimens. *Mammal Review* 32: 132–144.
- Gaubert, P., Taylor, P. & Veron, G. 2005. Integrative taxonomy and phylogenetic systematics of the genets (Carnivora, Viverridae, *Genetta*): a new classification of the most speciose carnivoran genus in Africa. Pp. 371–383 in Huber, B. A., Sinclair, B. J. & Lampe, K. H. (eds) *African biodiversity: molecules, organisms, ecosystems*. Springer, Bonn, Germany.
- Gaubert, P., Chalubert, A. & Dubus, G. 2008. An interactive identification key for genets and oyans (Carnivora, Viverridae, Genettinae, *Genetta* spp. and *Poiana* spp.) using Xper². *Zootaxa* 1717: 39–50.
- Papeş, M. & Gaubert, P. 2007. Modelling ecological niches from low number of occurrences: assessment of the conservation status of poorly known viverrids (Mammalia, Carnivora) across two continents. *Diversity and Distributions* 13: 890–902.
- Sillero-Zubiri, C. & Marino, J. 1997. The status of small carnivore species in Niokolo-Koba National Park, Senegal. *Small Carnivore Conservation* 17: 15–19.

¹The Jane Goodall Institute, Dindéfelo, Kedougou, Senegal.

Email: liliana@janegoodall.es

²Muséum National d'Histoire Naturelle, UMR BOREA IRD 207, 43 rue Cuvier, 75005 Paris, France.

Email: gaubert@mnhn.fr



South African Journal of Wildlife Research

Volume 42, Number 2, 2012

The *South African Journal of Wildlife Research* (SAJWR) is a product of the Southern African Wildlife Management Association (SAWMA) and has been published annually since 1971.

The Journal is an ISI ranked, peer reviewed scientific publication on wildlife management and research in Africa, Arabia and Malagasy. With a broad base covering scientific, applied, managerial, methodological and sociological issues related to wildlife research, the journal publishes original full-length scientific papers, short communications, book reviews as well as reviews on science-based research invited by the editor-in-chief.

It reaches a wide readership, including both local and foreign academics, researchers, professionals and practitioners involved with the science and management of wildlife.

This research journal currently has a hybrid open access system to the electronic version, allowing open access to all articles older than 24 months.

Papers can be submitted to:

The Editor-in-Chief, Prof. M.R. Perrin
Tel.: 033-260-5118
Fax: 033-260-5105
E-mail: perrin@ukzn.ac.za
Cc: elma@mweb.co.za

Print ISSN: 0379-4369
Online ISSN: 0370-4369
Frequency: Semi-Annual

Southern African Wildlife Management Association