

New Record of *Leopardus pardalis* (Linnaeus, 1758) (Carnivora: Felidae) in the Caatinga of the state of Pernambuco, northeastern Brazil

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ABSTRACT: The ocelot (*Leopardus pardalis*) has a wide geographic distribution. However, in Brazil, there is still a lack of information on their population status and, in the Caatinga, little is known about its occurrence. This paper aims to register the new occurrence of *Leopardus pardalis* in the State of Pernambuco, Northeast Brazil.

The ocelot, *Leopardus pardalis* (Linnaeus, 1758), has a wide geographic distribution, and it is found in the extreme southern region of Texas (USA), across Mexico and Central America to northern Argentina, excluding Chile (Redford and Eisenberg 1994; Emmons and Feer 1997; Murray and Gardner 1997). It is a species that is not considered a concern by IUCN (2012), vulnerable by IBAMA (2003), and it is listed in CITES, in Appendix I (CITES 2012). Among neotropical small and medium felids, *L. pardalis* is the best studied species, mainly with regard to its ecological parameters, home range, diet, habitat use and population (Murray and Gardner 1997). However, in Brazil, there is still a lack of information on their population status and in some biomes, such as the Caatinga, little is known about its occurrence (Oliveira 2006; Rodrigues and Oliveira 2006).

Studies on the *L. pardalis* indicate an apparent association of this species with tropical-humid forest, although it may also occur in dry scrub areas, and it has a tendency to avoid open areas altered by man (Murray and Gardner 1997; Harverson *et al.* 2004; Jackson *et al.* 2005; Maffei *et al.* 2005; Di Bitetti *et al.* 2006). This suggests that the range of microhabitats occupied by the species is more restricted than that expected by its geographical distribution.

A known record of ocelot in Caatinga was registered in Serra da Capivara National Park, state of Piauí (Olmos 1993; Araújo *et al.* 1998), where the vegetation is a complex ecotonal among Caatinga, Cerrado and Semidecidual Forest (Andrade-Lima 1978), and therefore, it may favor the occurrence of *L. pardalis*.

This paper aims to register the new occurrence of *Leopardus pardalis* in the State of Pernambuco, Northeast Brazil. In May 2012, an adult male *L. pardalis* (Figure 1) was captured in the municipality of Serrita, State of Pernambuco, Brazil (7°57'11"S, 39°15'25"W) (Figure 2) by an official of IBAMA. The specimen is kept in captivity in the Wildlife Conservation and Management Centre

(CEMAFAUNA) of the Universidade Federal do Vale do São Francisco (ID 0521).



FIGURE 1. Adult of *Leopardus pardalis* captured in the Caatinga of the state of Pernambuco, northeastern Brazil and kept in captivity in the Wildlife Conservation and Management Centre. Photograph by Wesley Lopes.

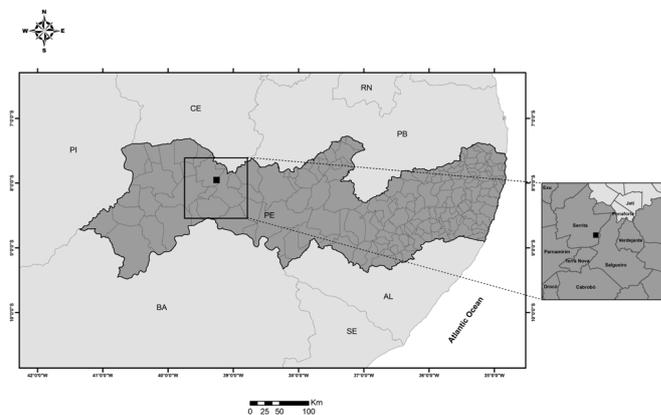


FIGURE 2. Map showing the local sampled in Brazil. Solid point represent the local where the ocelot were found.

The diagnostic features for species identification were the largest body size, compared to *L. tigrinus* and *L. wiedii*; ventral whitish; dorsal black spots, forming rosettes open and partially united, forming longitudinal stripes on the side of the body; proportionally short tail and analysis of cuticle and medulla guard-hairs microstructure (Figure 3).

The morphometric measurements presented for the individual are: head and body length = 620 mm, tail length = 290 mm, hind foot length = 126.77 mm; ear length (inner side) = 51.24 mm and whole body weight = 7.900 g. These values are relatively smaller than those presented by Murray and Gardner (1997). However, they are within the scope determined by Tewes (*unpublished data*), and Emmons and Feer (1997), Wieloch *et al.* (1997).

Unlike the known recording sites, the new site where the *L. pardalis* was found is an anthropically disturbed area of Caatinga habitat with dense shrub in initial stages of succession, dominated by *Croton* sp., *Poincianella pyramidalis* and *Cnidioscolus phyllacanthus*, and there is also the occurrence of arboreal elements with limited *Bursera leptophloeos* and *Spondias tuberosa* (Figure 4).

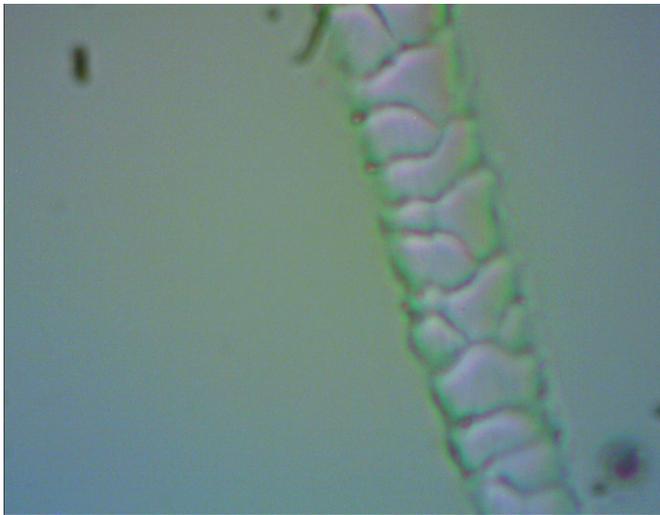


FIGURE 3. Cuticle morphology of the upper shaft of guard-hair from *Leopardus pardalis* (increase of 400x).



FIGURE 4. Vegetation type where the ocelot was captured.

This particular species; *L. pardalis* has a tolerance to changing environments allowing the species to adapt to multiple environments in the world (Kuhnen *et al.* 2011). The record of this mammal in the semiarid Caatinga region of Brazil gives proof that this species can adapt well to new environments, even in areas altered by man.

LITERATURE CITED

- Andrade-Lima, D. 1978. As formações vegetais da bacia do Parnaíba; p. 123-135 In R.C. Lins (ed.) *Bacia do Parnaíba: aspectos fisiográficos*. Recife: Instituto de Pesquisas Sociais.
- Araújo, A.J.G., A.M. Pessis, C. Guérin, C.M.M. Dias, C. Alves, E.S. Salvia, F. Olmos, F. Parenti, G.D. Felice, J. Pellerin, L. Emperaire, M. Chame, M.C.S.M. Lage, M. Faure, N. Guidon, R.P. Medeiros and P.R.G. Simões. 1998. *Parque Nacional da Serra da Capivara, Piauí, Brasil*. São Raimundo Nonato: Fundham.94 p.
- Ashton K.G., M.C. Tracy and A. Queiroz. 2000. Is Bergmann's rule valid for mammals? *American Naturalist* 156: 390-415.
- CITES - Convention on International Trade in Endangered Species of Wild Flora and Fauna. 2012. *Appendices I, II and III*. Electronic Database accessible at <http://www.cites.org/esp/app/appendices.shtml> Captured on 10 may 2012.
- Di Bitetti, M.S., A. Paviolo and C. De Angelo. 2006. Density, habitat use and activity patterns of ocelots (*Leopardus pardalis*) in the Atlantic Forest of Misiones, Argentina. *Journal of Zoology* 271(1): 153-163.
- Emmons L.H. and F. Feer. 1994. *Neotropical Rainforest Mammals. A field guide*. Chicago: The University of Chicago Press. 2nd Edition. 281 p.
- Harverson, P., M. Tewes and G. Anderson. 2004. Habitat use by ocelots in south Texas: implications for restoration. *Wildlife Society Bulletin* 32: 948-954.
- IBAMA - Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis. 2003. *Lista da Fauna Ameaçada de Extinção*. Electronic Database accessible: <http://www.ibama.gov.br/fauna/downloads/lista%20spp.pdf>. Captured on 10 may 2012.
- IUCN 2012. *IUCN Red List of Threatened Species. Version 2012.2*. Electronic Database accessible at: www.iucnredlist.org. Captured on 27 November 2012.
- Jackson V.L., L.L. Laack and E.G. Zimmerman. 2005. Landscape metrics associated with habitat use by ocelots in south Texas. *Journal of Wildlife Management* 69(2): 733-738.
- Kuhnen, V.V., R.E. Müller de Lima, J.F. Santos, M.E. Graipel, L.C.P. Machado Filho and E.J. Soriano-Sierra. 2011. First record of *Leopardus pardalis* (Linnaeus, 1758) at the State Park of the Serra do Tabuleiro, Santa Catarina, Brazil. *Brazilian Journal of Biology* 71(1): 219-220.
- Maffei L., A.J. Noss, E. Cueller and D. Rumiz. 2005. Ocelot (*Felis pardalis*) population densities, activity and ranging behavior in the dry forests of easter Bolívia: data from camera-trapping. *Journal of Tropical Ecology* 21(3): 349-353.
- Murray R.L. and G.L. Gardner. 1997. *Leopardus pardalis*. *Mammalian Species* 548: 1-10.
- Oliveira TG. 2006. Research in terrestrial carnivora from Brazil: current knowledge and priorities for the new millennium; p. 41-45 In R.G. Morato, F.H.G. Rodrigues, E. Eizirik, P.R. Mangini, F.C.C. Azevedo and J. Marinho-Filho (ed.) *Manejo e Conservação de Mamíferos neotropicais*. São Paulo: Ibama.
- Olmos F. 1993. Notes on the food habits of Brazilian "Caatinga" carnivores. *Mammalia* 57: 126-130.
- Redford K.H. and J.F. Eisenberg. 1992. *Mammals of the Neotropics, Volume 2: The Southern Cone: Chile, Argentina, Uruguay, Paraguay*. Chicago: University of Chicago Press. 460 p.
- Rodrigues F.H.C. and T.G. Oliveira. 2006. Unidades de Conservação e seu papel na conservação de carnívoros brasileiros; p. 99-110 In R.G. Morato, F.H.G. Rodrigues, E. Eizirik, P.R. Mangini, F.C.C. Azevedo and J. Marinho-Filho (ed.) *Manejo e Conservação de Mamíferos neotropicais*. São Paulo: Ibama.
- Wieloch D.R., B.V. Veado and D.B. Furtado. 1997. *Cadernos da Fundação Zoo-Botânica I - Animais do Zoológico*. Belo Horizonte: Fundação Zoo Botânica de Belo Horizonte, Serviço de educação ambiental. 236 p.

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