TICK AND FLEA INFESTATION IN A CAPTIVE MARGAY *LEOPARDUS WIEDII* (SCHINZ, 1821) (CARNIVORA: FELIDAE: FELINAE) IN PERU

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The Margay, Gato Tigre or Tigrillo *Leopardus wiedii*, is a small-sized solitary felid which can be found from southern Texas (USA) to northern Uruguay, mainly occupying forest habitats (Bianchi et al. 2011). It is classified as Near Threatened by the IUCN Red List and its population is considered to be decreasing (Payan et al. 2008). Major threats faced by this species include habitat loss and fragmentation, accidents along roads, illegal trade (pets and skins), and retaliatory killing (animals are often shot due to predation on poultry) (Payan et al. 2008).

The impacts of diseases on wildlife are increasingly recognized (Bevins et al. 2012). The exposure of Brazilian free-ranging wild felids to infectious agents such as Herpesvirus, Calicivirus, Parvovirus and Ehrlichia has already found by Filoni et al. (2006). Moreover, tick species including *Amblyomma ovale, A. parvum, A. cajennense, Boophilus microplus* and *Ixodes aragaoi* have been reported infesting Brazilian Pumas Puma concolor (Labruna et al. 2005) and *A. aureolatum* and *A. ovale* have been reported parasitizing on free-ranging Brazilian Margays *Leopardus wiedii* (Martins et al. 2010). But to date little is known about ectoparasites infesting Peruvian wild felids.

<u>Results:</u> A male cub Margay was presented for consultation in Lima, Peru. Anamnesis revealed the Margay came from the region of Madre de Dios in Peru. Moreover, the Margay had been kept as a pet for about 15 days, during which it had lived together with



ISSN Online 0974–7907 Print 0974–7893

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domestic dogs and cats. At physical examination the cub presented a mild infestation of ectoparasites (ticks and fleas) (Image 1), poor body condition, pallid and yellowish mucous membranes, dehydration, anorexia and lethargy; supportive therapy was administered based on clinical signs. Fleas and ticks were collected directly off the animal and identified as *Rhipicephalus sanguineus* and *Ctenocephalides felis* by using the Centers for Disease Control and Prevention (CDC) (2013) keys.

Discussion and Conclusions: To the authors'



Image 1. Margay fleas

 DOI: http://dx.doi.org/10.11609/JoTT.o3666.5501-2 | ZooBank: urn:lsid:zoobank.org:pub:B07627EB-996E-4601-815B-4EB41DC0376D

 Editor: Ulrike Streicher, Wildlife Veterinarian / Wildlife Management Consultant, Vietnam.
 Date of publication: 26 February 2014 (online & print)

Manuscript details: Ms # 03666 | Received 16 June 2013 | Final received 09 February 2014 | Finally accepted 12 February 2014

Citation: Quevedo, M., L. Gómez & J. Lescano (2014). Tick and flea infestation in a captive Margay *Leopardus wiedii* (Schinz, 1821) (Carnivora: Felidae: Felinae) in Peru. *Journal of Threatened Taxa* 6(2): 5501–5502; http://dx.doi.org/10.11609/JoTT.o3666.5501-2

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Funding: None.

Competing Interest: The authors declare no competing interests.



Tick and flea infestation in a Margay

knowledge, this is the first report of *R. sanguineus* and *C. felis* parasitizing on a margay from Peru, hence, this finding increases the number of host species for these parasites. However, as the Margay had direct contact with dogs and cats, this interaction might have been the source of infestation.

The genus *Rhipicephalus* is known to transmit tickborne diseases such as ehrlichiosis, anaplasmosis and babesiosis (Aktas et al. 2009; Götsch et al. 2009) and the effects of one or more of these infections could be associated with the clinical signs observed in this animal (i.e., pallid and yellowish mucous membranes, anorexia, dehydration and lethargy), which have been found in felids manifesting ehrlichiosis (Stich et al. 2008).

Based on this finding, special attention should be paid to interactions between Margays and domestic animals as the former are considered to be susceptible to disease outbreaks (Payan et al. 2008).

References

- Aktas, M., K. Altay, N. Dumanli & A. Kalkan (2009). Molecular detection and identification of *Ehrlichia* and *Anaplasma* species in ixodid ticks. *Parasitology Research* 104: 1243–1248; http://dx.doi. org/10.1007/s00436-009-1377-1
- Bevins, S.N., S. Carver, E.E. Boydston, L.M. Lyren, M. Alldredge, K.A. Logan, S.P.D. Riley, R.N. Fisher, T.W. Vickers, W. Boyce, M. Salman, M.R. Lappin, K.R. Crooks & S. VandeWoude (2012). Three pathogens in sympatric populations of pumas, bobcats, and domestic cats: implications for infectious disease transmission. *PLoS ONE* 7(2): e31403; http://dx.doi.org/10.1371/journal.pone.003140
- Bianchi R. de C., A.F. Rosa, A. Gatti & S.L. Mendes (2011). Diet of margay, Leopardus wiedii, and jaguarundi, Puma yagouaroundi,

(Carnivora: Felidae) in Atlantic Rainforest, Brazil. Zoologia (Curitiba, Impr.) 28(1): 127–132; http://dx.doi.org/10.1590/S1984-46702011000100018

- CDC (2013). Pictorial keys to arthropods, reptiles, birds, and mammals of public health significance. Centers for Disease Control and Prevention. http://www.cdc.gov/nceh/ehs/Publications/Pictorial_ Keys.htm>. Downloaded on 09 April 2013.
- Filoni, C., J.L. Catáo-Dias, G. Bay, E.L. Durigon, R.S. Jorge, H. Lutz & R. Hofmann-Lehmann (2006). First evidence of feline herpesvirus, calicivirus, parvovirus, and *Ehrlichia* exposure in Brazilian freeranging felids. *Journal of Wildlife Diseases* 42(2): 470–477; http:// dx.doi.org/10.7589/0090-3558-42.2.470
- Götsch, S., M. Leschnik, G. Duscher, J.P. Burgstaller, W. Willie-Piazzi & A. Joachim. (2009). Ticks and haemoparasites of dogs from Praia, Cape Verde. *Veterinary Parasitology* 166(1-2):171-4; http://dx.doi. org/10.1016/j.vetpar.2009.08.009
- Labruna, M.B., R.S.P. Jorge, D.A. San, A.T.A. Jácomo, C.K. Kashivakura, M.M. Furtado, C. Ferro, S.A. Perez, L. Silveira, T.S. Santos JR, S.R. Marques, R.G. Morato, A. Nava, C.H. Adania, R.H. F. Teixeira, A.A.B. Gomes, V.A. Conforti, F.C.C. Azevedo, C.S. Prada, J.C.R. Silva, A.F. Batista, M.F.V. Marvulo, R.L.G. Morato, C.J.R. Alho, A. Pinter, P.M. Ferreira, F. Ferreira & D.M. Barros-Battesti (2005). Ticks (Acari: Ixodidae) on wild carnivores in Brazil. *Experimental and Applied Acarology* 36(1–2): 149–163; http://dx.doi.org/10.1007/s10493-005-2563-1
- Martins, J.R., J. Reck Jr., R.L. Doyle, N.L. da Cruz, A.W. Vieira & U.A. Souza (2010). Amblyomma aureolatum (Acari: Ixodidae) parasitizing margay (*Leopardus wiedii*) in Rio Grande do Sul. *Revista Brasileira de Parasitologia Veterinária* 19(3): 189–191; http:// dx.doi.org/10.1590/S1984-29612010000300013
- Payan, E., E. Eizirik, T. de Oliveira, R. Leite-Pitman, M. Kelly & C. Valderrama (2008). *Leopardus wiedii*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <www.iucnredlist.org>. Downloaded on 09 April 2013.
- Stich, R.W., J.J. Schaefer, W.G. Bremer, G.R. Needham & S. Jittapalapong (2008). Host surveys, ixodid tick biology and transmission scenarios as related to the tick-borne pathogen, *Ehrlichia canis. Veterinary Parasitology* 158(4): 256–273; http:// dx.doi.org/10.1016/j.vetpar.2008.09.013

