



A note on occurrence of *Ehrlichia* infection in a Langur (*Semnopithecus* sp.) from Nagpur, Maharashtra, India

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Ixodid tick transmitted ehrlichiosis has a broad host range that includes humans, domestic animals and wild animals such as Deer (Belongia et al. 1997), Lions (Buoro et al. 1994), Lemurs (Williams et al. 2002), Rhesus Macaques (Lewis et al. 1975) and Baboons (Lewis et al. 1975). Although the disease has been recorded in nonhuman primates from other parts of the globe, information is lacking from Indian subcontinent. Langurs are distributed from the Himalaya to Cape Comorin with the exception of the western deserts (Prater 1990), and they may act as a blood reservoir by infecting ticks for subsequent transmission to other mammals. The present communication reports the occurrence of *Ehrlichia* infection in a langur (*Semnopithecus* sp.) from Nagpur District of Maharashtra State.

A severely injured and anaemic langur from Nagpur was presented for treatment at Nagpur Veterinary College Hospital, Nagpur. Clinical and radiological examination revealed fracture in a forelimb, which was removed surgically. The animal did not survive and succumbed to its injuries. A post-mortem examination was performed within an hour after death and blood smears were prepared from heart blood, stained with Leishman's stain and examined under a microscope. Identification was performed based on morphological characters (Kreier 1977).

Ehrlichiosis is well known as an important emerging tick-

borne disease of mammals having a broad host range. Detection of *Ehrlichia* organisms in monocytes of a nonhuman primate, the langur, seems to be a first report from Indian subcontinent. The occurrence of disease has been well-documented in human and nonhuman primates from other parts of the globe. Foley et al. (1999) successfully inoculated two Rhesus Macaques (*Macaca mulatta*) with human granulocytic ehrlichiosis, which was confirmed by polymerase chain reaction (PCR), Western blot and clinical manifestations. Natural *Ehrlichia chaffeensis* infection in 2 prosimian primate species i.e. Ring-tailed Lemur (*Lemur catta*) and Ruffed Lemur (*Varecia variegata*) was documented by Williams et al. (2002) from Duke University Primate Center (U.S.A.). Ring-tailed Lemurs, Blue-eyed Black Lemurs (*Eulemur macaco flavifrons*) and Black and White Ruffed Lemurs (*Varecia variegata variegata*) were tested serologically and by PCR assay for detection of tick-borne ehrlichiae and were found positive without showing any clinical manifestations (Yabsley et al. 2004). Rhesus Macaques and Baboons (*Papio anubis*) were inoculated with *Ehrlichia equi*, the etiologic agent of equine ehrlichiosis and ehrlichial morulae were evidenced in neutrophils of Rhesus Macaques and Baboons (Lewis et al. 1975). *E. chaffeensis* and a Venezuelan human *Ehrlichia*, likely a strain of *E. canis*, has been isolated from a human (Anderson et al., 1991; Perez et al., 1996). However, inoculation of *E. canis* by Van Harden and Goosen (1981) did not induce disease in vervet monkeys (*Cercopithecus pygerythrus*).

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Date of publication (online): 26 August 2009
 Date of publication (print): 26 August 2009
 ISSN 0974-7907 (online) | 0974-7893 (print)

Editor: Jacob V. Cheeran

Manuscript details:

Ms # o1777
 Received 14 May 2007
 Final received 09 September 2008
 Finally accepted 15 June 2009

Citation: Baviskar, B.S., P.J. Gawande, A.K. Jayraw, D.K. Maske & S.S. Raut (2009). A note on occurrence of Ehrlichia infection in a Langur (*Semnopithecus* sp.) from Nagpur, Maharashtra, India. *Journal of Threatened Taxa* 1(8): 444.

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Acknowledgement: The authors are thankful to the Associate Dean, Nagpur Veterinary College, Maharashtra Animal and Fishery Sciences University, Nagpur for providing necessary facilities.



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