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Short Communication

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First Record & Clinical Management of Tick Infestation by *Amblyomma gervaisi*, Giardiasis and Tail Injury in a Bengal Monitor (*Varanus bengalensis*; Daudin, 1802) in Himmatnagar, Gujarat (India)

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Abstract

A Bengal monitor (*Varanus bengalensis*; Daudin, 1802) was rescued from a house near Rajpur village of Himmatnagar, Sabarkantha district, Gujarat (India) and brought to the Veterinary Hospital of Kamdhenu University at Rajpur for physical checkup before release. Physical examination revealed minor injury on tail and clinical tick infestation. Ticks were identified as *Amblyomma gervaisi* while excreta revealed presence of *Giardia* spp.. The present paper is the first record of *Amblyomma gervaisi* tick, giardiasis and tail injury in a Bengal monitor in Himmatnagar, Gujarat which will provide baseline information for future research.

Keywords: Bengal monitor, Tick, *Amblyomma gervaisi*, Giardiasis, Gujarat

Introduction

The Bengal monitor (*Varanus bengalensis*; Daudin, 1802) or a 'Common Indian Monitor' is generally found in Indian subcontinent including most of the states. It is included under the 'Least Concern' category by the International Union for Conservation of Nature (IUCN) but the population trend is shown to be decreasing (IUCN 3.1). The naturally-occurring diseases and other deleterious conditions which are associated with Bengal monitor's propinquity to human population can affect overall health and well-being of the species.

There is a paucity in available published literature on existing infectious and non-infectious diseases of Bengal monitor except some biological studies and veterinary case studies in different areas. Some relevant publications include [1] Report on *Aponomma gervaisi* as a reptile parasite in Pakistan and India by Auffenberg and Auffenberg (1990); [2] *Aponomma gibsoni* tick infestation in monitor lizard at Nagpur by Harkare *et al.* (2007); [3] *Amblyomma gervaisi* in monitor lizard *Varanus salvator* in Tamil Nadu by Soundararajan *et al.* (2013); [4] Morphological characterization of tongue of Bengal monitor lizard in Mathura by Pathak *et al.* (2015); [5] *Amblyomma gervaisi* identification in captive snakes and mention of monitor in Tamil Nadu by Catherine *et al.* (2017); [6] Successful management of fracture in Indian monitor lizard in Pune by Dubey *et al.* (2018); [7] Species of ticks detected on reptiles in Wayanad

region of Western Ghats by Kumar *et al.* (2018); and [8] *Physaloptera* stomach worm infestation in Bengal monitor reported in Bengaluru by Manjunatha *et al.* (2020) etc.

The present paper documents first record of *Amblyomma gervaisi* tick infestation, giardiasis and tail injury in a Bengal monitor at Himmatnagar, Gujarat which has not been documented previously.

Case Management & Discussion

A rescued adult Bengal monitor was brought to the Veterinary Hospital functional under the Postgraduate Institute of Veterinary Education & Research (PGIVER) at Rajpur (Nava), Himmatnagar of Sabarkantha district, Gujarat for physical examination and treatment of minor injury on tail in August-2019. It was rescued from a house in a nearby village. Anamnesis did not reveal any other specific details.

The Bengal monitor was carefully restrained to conduct detailed physical examination [Figure-1] which revealed tick infestation [Figure-2] and minor injury on tail [Figure-3]. No other clinical symptoms were observed. All ticks were removed manually as a part of clinical management and collected for identification. Minor injury on tail was initially flushed with sterile fluid (Normal saline) and cleaned with antiseptic (Povidone iodine) followed by topical application of antibiotic (Cephalexin in powder form) and final application of a paste containing zinc oxide to promote early healing.

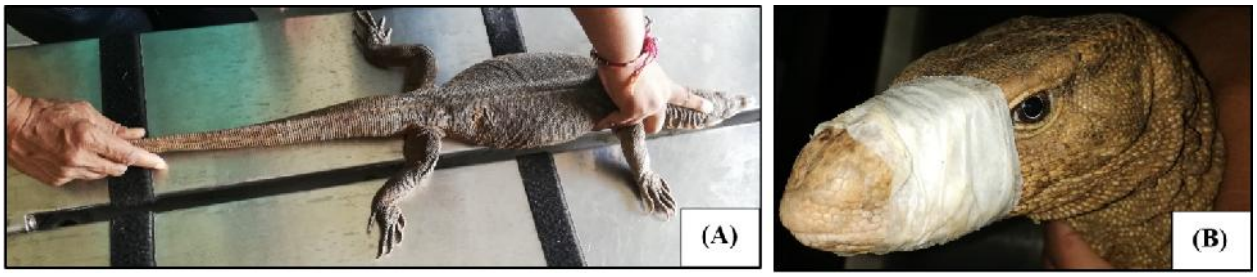

Figure-1: (A) Physical restraint and (B) Securing mouth to prevent bites during checkup

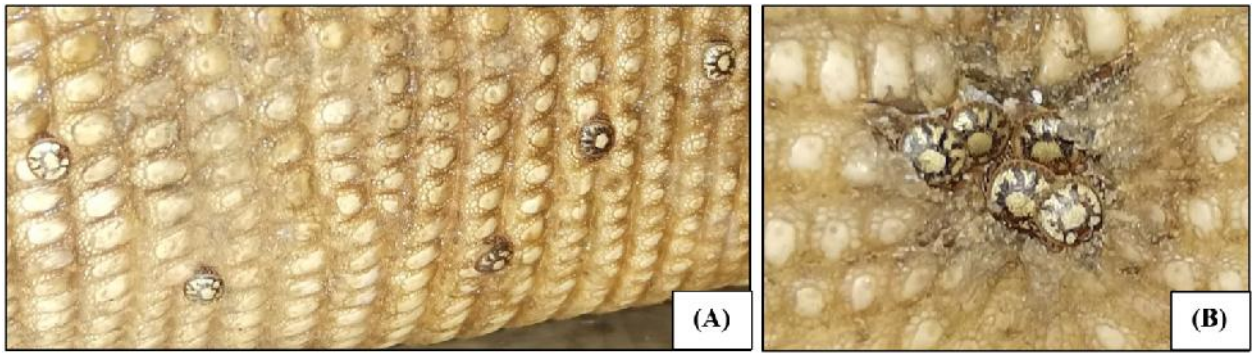

Figure-2: Tick infestation (A) Lateral side of tail (B) Ventral aspect of base of tail

Figure-3: Minor injury on tail

Ticks were identified as *Amblyomma gervaisi* (previously known as *Aponomma gervaisi*) based on external characteristics examined under stereoscopic microscope [Figure-4(A)]. Tick infestation by *Amblyomma gervaisi* in monitor lizards has been documented by Auffenberg and Auffenberg (1990), Soundararajan *et al.* (2013) and Kumar *et al.* (2018); however, there is no scientific documentation on existing prevalence of *Amblyomma gervaisi* infestation in Bengal monitor population of Gujarat state. Furthermore, there is no published evidence of diseases transmitted by *Amblyomma gervaisi* tick of Bengal monitor. This is an area of possible future research in India.

Moreover, the Bengal monitor removed excreta during physical examination and treatment. This is a natural behavior like other reptilian species. The excreta were collected for microscopic examination which revealed characteristic presence of *Giardia* spp. organisms [Figure-4(B)]. *Giardia* spp. is responsible for causing giardiasis in animals and humans. There is no available literature on standard dose rates of different medicines in Bengal monitor. Hence, oral administration of metronidazole or an available antibiotic is advisable in cases of giardiasis. The present case had mild giardiasis which did not manifest any other major clinical sign of digestive disturbance. Generally, harmless and clinically non-significant giardiasis does not require intensive treatment; however, specific and supportive therapies should be administered only if the Bengal monitor shows severe clinical signs. The Bengal monitor mentioned in this case recovered successfully and it was released in suitable habitat after two days of treatment and observation.

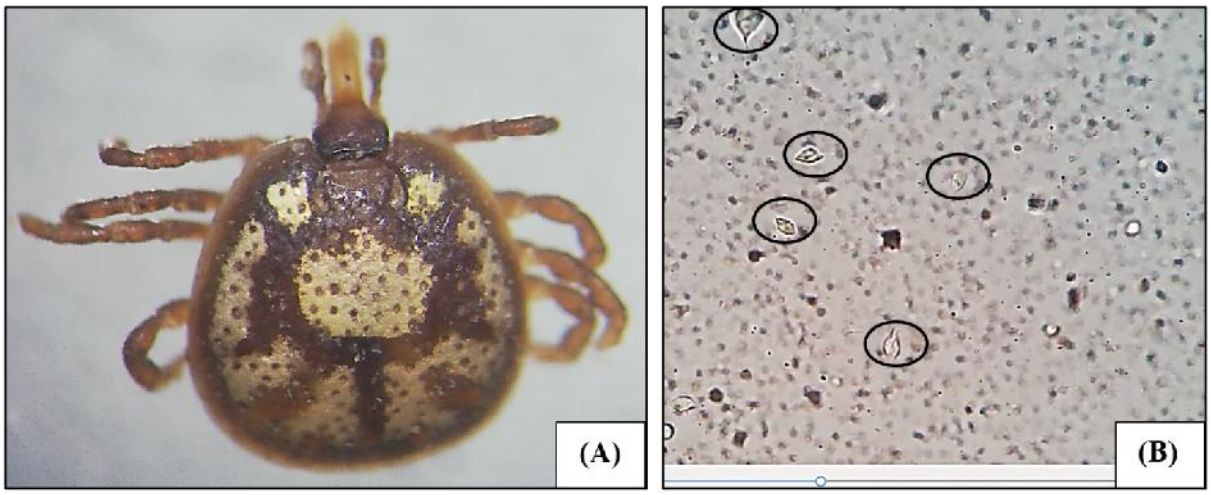

Figure-4: (A) A male *Amblyomma gervaisi* tick and (B) *Giardia* spp. in excreta – screenshot of a video recorded during examination

Conclusion

First report of tick infestation by *Amblyomma gervaisi*, giardiasis and tail injury in a Bengal monitor (*Varanus bengalensis*; Daudin, 1802) in Himmatnagar, Gujarat is documented. This communication will provide baseline information on recognition of disease conditions for the benefit of veterinary practitioners in better clinical case management and also provide platform to conduct large-scale investigations in future.

Acknowledgments

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