Case Report

HYALOMMA TRUNCATUM IN AN ASIAN ELEPHANT (*ELEPHAS MAXIMUS*) – A REPORT

E. Tamileniyan[1], A. Latchumikanthan[2]*, M. Veeraselvam[3], M. Sivachandran[4] and R. Velusamy[5]

Department of Veterinary Parasitology
Veterinary College and Research Institute
Tamil Nadu Veterinary and Animal Sciences University
Orathanadu - 614 625

ABSTRACT

Physical examination of an adult female Asian elephant (Elephas maximus) housed at the M.R. Palayam Elephant Rescue and Rehabilitation Centre, Tiruchirapalli Forest Division,revealed tick infestation in the axillary region Based on distinct morphological characters such as medium body size, long mouth parts, dark brown integument with banded legs, squarish adanal plates, posteriorly placed anal groove and large oval to comma-shaped spiracular plates, the ticks were identified as Hyalomma truncatum. The case marks the first report on its occurrence on Asian elephants from Tamil Nadu, India.

Keywords: Asian elephant, *Elephas maximus*, *Hyalomma*, tick

Received : 10.01.2026 Revised : 24.03.2026 Accepted : 10.04.2026

INTRODUCTION

Ectoparasites represent one of the most pervasive and damaging threats to terrestrial vertebrates and ticks in particular are among the most medically and economically significant blood-sucking ectoparasites globally. Their capacity for transmitting pathogens has profound implications for both wildlife and domestic animals, as well as for human health (Walker *et al*., 2003). *Hyalomma* sp. ticks are especially important in this context. Members of this genus are generally large ixodid (hard) ticks, characterized by long mouthparts and banded legs and they exploit a wide range of vertebrate hosts. These species are capable of infesting multiple hosts and transmitting serious pathogens(Gargili *et al*., 2017). Collectively, these attributes underscore the significance of *Hyalomma* ticks in livestock, wildlife and human health. This study reports the occurrence of *H. truncatum* in an Asian elephant (*Elephas maximus*).

[1]Internee,
[2]Assistant Professor, * Corresponding Author email: latchupara2010@gmail.com
[3]Assistant Professor, Dept. of Veterinary Medicine,
[4]Forest Veterinary Assistant Surgeon, Forest Veterinary Dispensary, MR Palayam Elephant Rehabilitation Centre, Tiruchirappalli
[5]Assistant Professor

An adult female elephant housed at the MR Palayam Elephant Rescue and Rehabilitation Centre (ERRC), Tiruchirapalli forest division, was examined during a routine health assessment carried out by a team from the Veterinary College and Research Institute (VCRI), Orathanadu. Physical examination revealed the presence of ticks in the axillary region (Fig.1), which was collected in 70% ethanol for further analysis. The samples were brought to the Department of Veterinary Parasitology, VCRI Orathanadu for morphological identification. The ectoparasites were processed using 10% potassium hydroxide, followed by dehydration through ascending grades of alcohol and clearing in xylene. Morphometric measurements were carried out using calibrated ocular micrometer, and all dimensions were recorded in millimeters (mm).

The ticks collected were identified morphologically as *Hyalomma truncatum*. Adults (male–3 and female–2) were medium-sized hard ticks with long mouthparts, dark brown body and distinctly banded legs. The male conscutum appeared smooth and glossy with sparse anterior punctations (Fig. 2a and b) and a characteristic semicircular caudal depression densely covered with coarse punctations. The male conscutum measured approximately 3.8 mm in length and 2.3 mm in width with festoons (Fig. 3a). Pedipalps were long, slender and laterally projecting, with palpal segment II elongated and slightly flared laterally. Palpal segment III is shorter than segment II and tapers distally, while segment I is short and inconspicuous. The hypostome showeda typical 3/3 dentition in the anterior region (Fig. 3b). Genital aperture was noticed in between coxa II and prominent posteriorly directed spurs were observed on coxae I (Fig. 4b). The anal opening was situated on the ventral surface posterior to the genital aperture and was surrounded by a distinct anal groove positioned posterior to the anus. The adanal plates were squarish, with small subanal plates aligned in the same plane (Fig. 5a). The spiracular openings were represented by large, oval to comma-shaped spiracular plates located posterolateral to coxa IV on either side; these plates were well sclerotized and exhibited a well-defined macula surrounded by distinct porous and non-porous zones (Fig. 5).

Asian elephants are known to host a variety of tick genera. *Amblyomma* integrum has been recorded from wild elephants in Tamil Nadu (Kavitha *et al.*, 2021) *Haemaphysalis* is another commonly reported genus, documented in surveys of Indian elephants (Pathak and Chhabra, 2012). *Ixodes* ticks have been recorded in southern India (Ajithkumar *et al*., 2018). *Rhipicephalus* species have similarly been reported in Asian elephants (Hirunkanokpun *et al*., 2018). Interestingly, soft ticks of the genus *Ornithodoros* have also been documented in elephants in Thailand indicating that both hard and soft tick genera can infest these large mammals (Hirunkanokpun *et al.*, 2018). While reports of *Hyalomma* ticks on elephants are relatively uncommon compared to other genera, previous studies in African elephants have documented *Hyalomma* species, including *H. truncatum* (Kariuki *et*

al., 2019). In our study, the detection of *H. truncatum* on an Asian elephant is especially significant, as there is limited documentation of this species on elephants, this marks the first report of this species on Asian elephants in Tamil Nadu, India.

The morphological features observed in the present specimens were compared with commonly reported *Hyalomma* species in India, particularly *Hyalomma anatolicum* and *Hyalomma marginatum*. All three species share generic characters such as elongated mouthparts, banded legs, presence of festoons and ventral plates in males, which are typical of the genus *Hyalomma* (Ramadan *et al*., 2024). However, distinct differences were evident in the conscutal ornamentation and ventral plate morphology. The adanal plates were squarish with subanal plates aligned in the same plane, a feature consistent with *H. truncatum*, whereas *H. anatolicum* and *H. marginatum* typically show more elongated adanal plates with subanal plates positioned posteriorly (Chavan, 2019).The detection of *H. truncatum* on an elephant indicates that adult ticks may utilize elephants as hosts, potentially due to habitat overlap with other large wild herbivores or livestock. This host-parasite interaction has important ecological implications, in areas where elephants share their habitat with domestic animals at fringe areas.. These findings emphasize the need for regular ectoparasite monitoring, pathogen screening and integrated health management, especially in areas with close human, livestock and wildlife interactions. This report marks the first case of *Hyalomma truncatum* infestation in Asian elephants from Tamil Nadu, India.

ACKNOWLEDGEMENTS

The authors are thankful to the Dean, Veterinary College and Research Institute, Orathanadu, Thanjavur for the constant support and facilities provided to carry out this study. We also thankfully acknowledge The District Forest Officer, Tiruchirapalli Forest Division for providing the opportunity.

Fig.1. Presence of tick on the axillary region

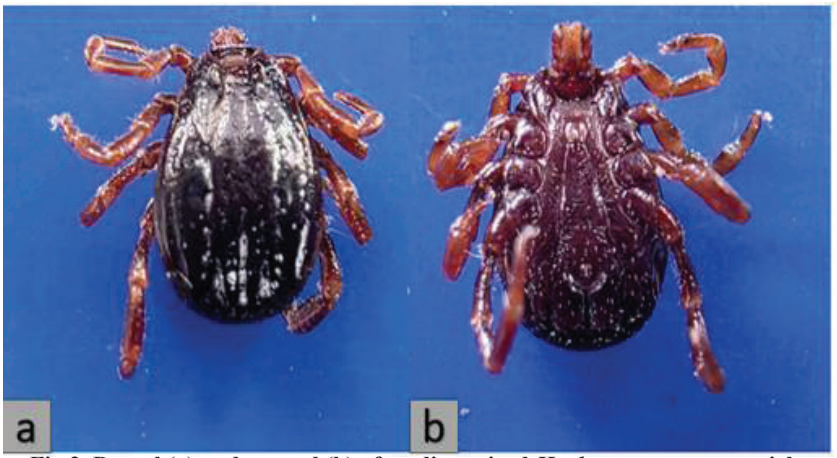

Fig.2. Dorsal (a) and ventral (b) of medium-sized *Hyalomma truncatum* ticks with long mouthparts, dark brown body with sparse anterior punctations and distinctly banded legs

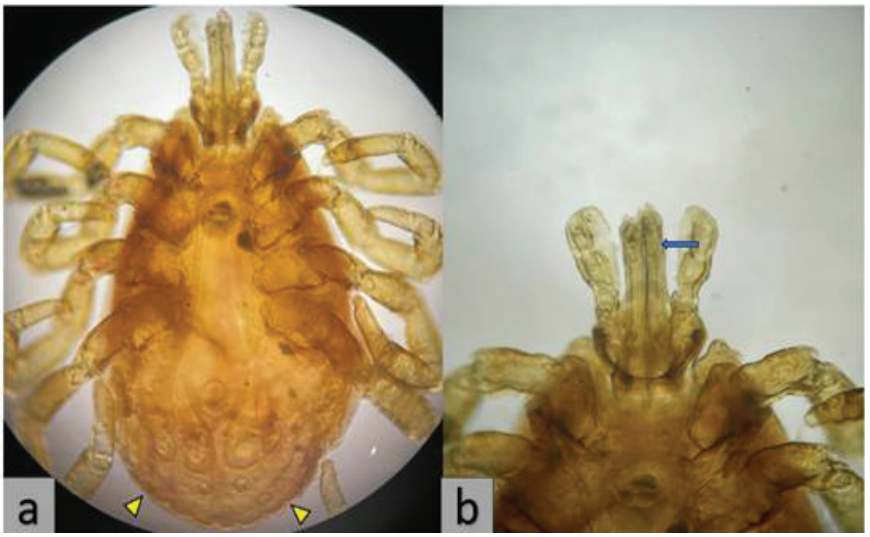

Fig.3. Presence of 12 festoons at the posterior regionof *Hyalomma truncatum* (arrowheads (a); laterally projecting pedipalps with palpal segment II elongated and hypostomal dentition showing a typical 3/3 pattern in the anterior region (arrow) (b).

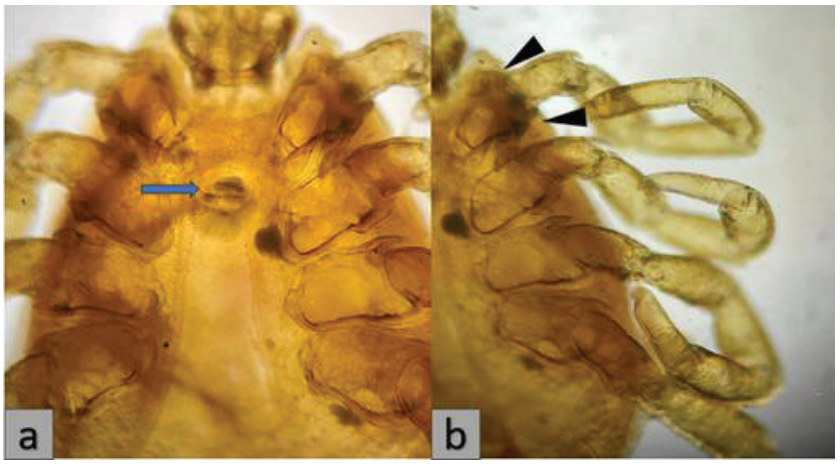

Fig.4. Genital opening of *Hyalomma truncatum* located at the level of coxa II (arrow, a), with prominent posteriorly directed bifid spurs observed on coxae I (arrowhead, b)

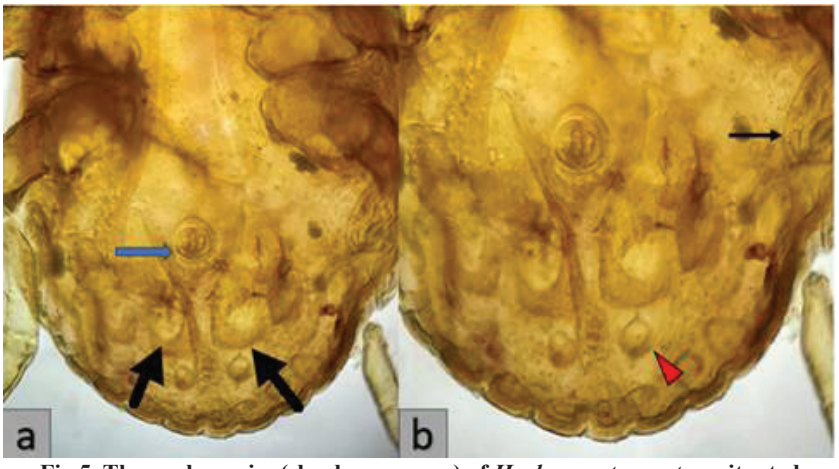

Fig.5. The anal opening(slender arrow, a) of *Hyalomma truncatum* situated posterior to the genital aperture and surrounded by a posteriorly placed anal groove with squarish adanal plates (broad arrows). Large comma-shaped spiracular plates (arrow, b) evident posterolateral to coxa IV with spherical subanal plates (arrowhead, b).

REFERENCES

Ajithkumar, K.G., Ravindran, R., Johns, J., Chandy, G., Rajagopal, K., Chandrasekhar, L., George, A.J. and Ghosh, S. (2018). Ixodid tick vectors of wild mammals and reptiles of southern India. *Journal of Arthropod-Borne Diseases*, **12**(3): 276–285.

Chavan, D.R. (2019). Studies on taxonomy of parasitic tick genus Hyalomma (Ixodida: Ixodidae) from Aurangabad district M.S. India. *International Journal of Entomology Research*, **4**(3):27 – 30.

Gargili, A., Estrada-Peña, A., Spengler, J.R., Lukashev, A., Nuttall, P.A. and Bente, D.A. (2017). The role of ticks in the maintenance and transmission of Crimean-Congo hemorrhagic fever virus: A review of published field and laboratory studies. *Antiviral Research*, **144**: 93–119.

Hirunkanokpun, S., Ahantarig, A., Baimai, V. and Trinachartvanit, W. (2018). A new record of Wolbachia in the elephant ticks from Thailand. *Science Asia*, **44**(Suppl): 44–47.

Kariuki, E., Kutima, H., Kock, M., Horak, I.G., Jooste, R. and Neves, L. (2019). Ixodid ticks (Acari: Ixodidae) collected from African savanna elephants (Loxodonta africana) and African forest elephants (Loxodonta cyclotis). *Onderstepoort Journal of Veterinary Research*, **86**(1): 1–5.

Kavitha, K.T., Rubinibala, B., Prathipa, A. and Latha, B.R. (2021). Occurrence of *Amblyomma integrum* from wild Asian elephant (Elephas maximus) in Tamil Nadu, India: a report. *Indian Journal of Veterinary and Animal Sciences Research*, **50**(1): 157–169.

Pathak, K.M.L. and Chhabra, M.B. (2012). Parasites and parasitic diseases of the Indian elephant, mithun and yak: An overview. *Indian Journal of Animal Sciences*, **82**(12): 1459–1467.

Ramadan, R.M., Taha, N.M., Auda, H.M., Elsamman, E.M., El-Bahy, M.M. and Salem, M.A. (2024). Molecular and immunological studies on *Theileria equi* and its vector in Egypt. *Experimental and applied acarology*, **93**(2): 439–458. https://doi.org/10.1007/s10493-024-00933-4

Walker, A.R., Bouattour, A., Camicas, J.-L., Estrada-Peña, A., Horak, I.G., Latif, A.A., Pegram, R.G. and Preston, P.M. (2003). Ticks of domestic animals in Africa: A guide to identification of species. *Bioscience Reports*, 095451730X.