TAXONOMY AND DISTRIBUTION OF HARD TICKS (IXODIDAE) IN SELECTED AREAS IN SRI LANKA AND SIGNIFICANCE OF THE TRANSMISSION OF TICK BORNE DISEASES

D. R. LIYANAARACHCHI

Postgraduate Institute of Science, University of Peradeniya, Sri Lanka

and

Department of Veterinary Pathobiology, Faculty of Veterinary Medicine and Animal

Science, University of Peradeniya, Sri Lanka

Ticks are the most important ecto parasites of animals that cause great economic losses in several ways including the transmission of diseases. They are constantly having interactions with their natural environment affecting the risk of infection by tick-borne pathogens. Polymerase chain reaction is used to identify causative agents of tick borne diseases. The objectives of this study were to assess the distribution, host preference of tick species on domestic and wild animals and in humans of Sri Lanka providing detail description of taxonomical characters of each adult male and female tick species collected from this study with identification keys to all tick species reported in Sri Lanka. Moreover, to assess the questing tick diversity in forests and domestic environments and their abundance in forest area in Kandy district in relation to ambient temperature, relative humidity and rain fall.Further, to identify tick vectors for spotted fever and *Babesia canis*.

Ticks were collected from animals by field visits, wild life parks, animal clinics, and through civilians. Flagging method was carried out to collect questing ticks from Randenigala and Hantana forests and adjoining pastures, also from pastures in villages. Moreover, ticks infesting in human body were collected from Kandy district. Twenty six species were identified infesting on animals and questing on ground. PCR was conducted to spotted fever and *B. canis*. Taxonomical characters of adult tick species were illustrated and identification keys were prepared.

Some species showed host preference and number of tick species on animals was higher than recorded. Ticks had expanded their geographical boundaries and host range. *Dermacentor auratus, Haemaphysalis turturis, H. aculeata, H. hystricis,* and *H. kyasanurensis,* which were previously recorded only on wild animals were recorded on domestic animals. Immature *D. auratus* and *Amblyomma testudinarium* were abundant on humans and questing on human habitats. Spotted fever was positive from *A. testudinarium, A. clypeolatum, A. javanense* of wild animals and *Rhipicephalus sanguineus* of a dog, following *Babesia canis* from *R. microplus* and *R. sanguineus.* Wild animals could serve as natural hosts for zoonoses and dogs are significant agents to spread ticks between wild and domestic environments. This gives an alarming warning that even pathogens of diseases which unidentified yet in Sri Lanka could be introduced to humans via these animals.