Importance

*Rhipicephalus appendiculatus* is a hard tick, found in Africa, that feeds in the ears of cattle, small ruminants and other livestock. It also infests wildlife including African buffalo (*Syncerus caffer*) and antelope. This tick is considered to be a major pest in areas where it is endemic. Heavy infestations can cause anemia, severe damage to the ears, or the loss of resistance to some tick-borne infections. More than a thousand ticks have been found on some animals. *R. appendiculatus* can also transmit a number of pathogens including *Theileria parva* (East Coast fever), Nairobi sheep disease virus and Thogoto virus.

A closely related species, *Rhipicephalus zambeziensis*, which has similar feeding patterns and hosts, occurs in hotter, drier areas of Africa. It is known to transmit at least some of the same pathogens as *R. appendiculatus*, including *T. parva*.

Species Affected

The preferred hosts for *R. appendiculatus* include cattle, African buffalo, large tragelaphine antelope, eland (*Taurotragus oryx*) and waterbuck (*Kobus ellipsiprymnus*); however, it is also found regularly on some other ungulates including sheep and goats. This tick is sometimes seen on wild or domestic canids and felids, and one study found large numbers of adult ticks on sick or elderly lions. Immature ticks may feed on additional species such as livestock, small antelope, carnivores, hares and other mammals. *R. zambeziensis* is thought to use similar hosts.

Geographic Distribution

*R. appendiculatus* and *R. zambeziensis* occur in parts of sub-Saharan Africa. *R. appendiculatus* has also become established on some islands in the Indian Ocean (e.g., Mauritius, Grande Comore). *R. appendiculatus* prefers humid and relatively cool, shaded, shrubby or woody savannas or woodlands with at least 24 inches of annual rainfall, while *R. zambeziensis* occurs in hotter, drier regions. Their distribution can overlap in some transitional areas.

Life Cycle

*R. appendiculatus* and *R. zambeziensis*, which are three-host ticks, can be found on the host for several days while they feed, then drop to the ground to develop to the next stage. In cattle, African buffalo and large antelope, the adult ticks congregate mostly in the ears but can also be found on the head. Immature *R. appendiculatus* tend to attach in the ears, on the head and on the legs.

*R. appendiculatus* completes one life cycle per year in the subtropical central and southern regions of Africa, and the occurrence of adults, nymphs or larvae is seasonal, with most adult ticks found from mid-summer to late summer. In tropical areas, more than one life cycle can be completed each year, and all stages occur at one time. Up to three generations per year may be seen in areas with sufficient rainfall.

Identification

*R. appendiculatus* and *R. zambeziensis* are closely related ticks in the family *Ixodidae* (hard ticks). Hard ticks have a dorsal shield (scutum) and their mouthparts (capitulum) protrude forward when they are seen from above.

*R. appendiculatus* and *R. zambeziensis* are both brownish or reddish-brown ticks with short palps. The basis capitulum of *Rhipicephalus* spp. is usually hexagonal and generally inornate. Eyes and festoons are both present and Coxa I is deeply cleft. The spiracular plates are comma-shaped. The males of this genus have adanal shields and usually have accessory shields.

Male *R. appendiculatus* range from 1.8 to 4.4 mm in length. The basis capitulum in the male is variable; the lateral margins may be more or less angled. The scutal punctuations are scattered and of moderate size; they are evenly dispersed in the center, but few or none may be found beyond the lateral grooves and in the lateral fields. The cervical grooves are moderately reticulate or non-reticulate. The posteromedian and para-median grooves are narrow and distinct. The adanal shields
Rhipicephalus appendiculatus

Internet Resources

Hard Ticks from the University of Edinburgh (photographs)
University of Bristol, Tick Identification Key (for ticks of veterinary importance).
World Organization for Animal Health (WOAH)
WOAH Terrestrial Animal Health Code

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References


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Rhipicephalus appendiculatus


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