

Amblyomma hebraeum

Bont Tick,
Southern Africa Bont Tick

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Importance

Amblyomma hebraeum, a hard tick found in Africa, feeds on a wide variety of species but is a particular concern in livestock. Its long mouthparts, which can make these ticks difficult to remove, cause painful bites and leave large wounds that may become infected by bacteria or infested by screwworms. *A. hebraeum* frequently attaches in the interdigital space of goats, which can result in lameness. Scrotal ticks were associated with infertility in bulls, while ticks on the udder may decrease milk yield or result in permanent damage to the quarters. *A. hebraeum* is also an important biological vector for some pathogens including *Ehrlichia ruminantium*, the agent of heartwater, and *Rickettsia africae*, the agent of African tick-bite fever.

Species Affected

A. hebraeum adults and immature ticks both feed on a wide variety of hosts. Adult ticks tend to occur on livestock (e.g., cattle, sheep, goats, equids) and large wild ungulates including antelope, African buffalo (*Syncerus caffer*) and rhinoceroses, while larvae and nymphs often feed on smaller mammals (ungulates, carnivores), ground-feeding birds and some reptiles including leopard tortoises (*Stigmochyles pardalis*).

Geographic Distribution

A. hebraeum is found in southern regions of Africa, where it is most abundant in moderately humid, warm savannas.

Life Cycle

A. hebraeum, a three-host tick, feeds on the host for days to weeks (depending on its life stage) before dropping to the ground to develop to the next stage. Adult ticks are usually located on relatively hairless parts of the body, generally on the ventral body surface, perineum, axillae and underside of the tail in cattle. They are also common in the interdigital space on the feet of sheep and goats.

Identification

A. hebraeum is a member of the family Ixodidae (hard ticks). Hard ticks have a dorsal shield (scutum) and their mouthparts (capitulum) protrude forward when they are seen from above. *A. hebraeum* are large, variegated ticks with long, strong mouthparts. The palps are long, with a second segment that is twice as long as it is wide. Eyes are present and the festoons are well developed.

A. hebraeum males are oval and about 4.2–5.7 mm long. They have no adanal shields, accessory shields or subanal shield. The capitulum is long, with a rectangular basis; the lateral margins are rounded and the posterolateral angles are rounded and slightly salient. Palpal segment 2 is approximately three times as long as palpal segment 3. The hypostomal dentition is 3.5/3.5. The scutum is smooth and convex, with fine black or brown spots and stripes on a pale greenish-white background. The posteromedian stripe is narrow and is knobbed anteriorly; it rarely reaches the falciform stripe. The poster-accessory stripes are short and well separated from the third lateral spots. The festoons, with the exception of the external festoons, are pale. The scutal eyes are small, slightly convex and circular. The ventral surface is dull greenish-yellow, with distinct ventral plaques and festoons with dark brown scutes (obsolete on the external one). The spiracular plate is moderately large and triangular, with rounded angles. The legs are dark brown, moderately stout, and have apical yellow banding at the distal end of each segment. Coxa I has two unequal spurs (a characteristic that helps distinguish *A. hebraeum* and *A. variegatum* from *A. americanum* and *A. cajennense*), coxae II and III contain salient ridges, and coxa IV has a short stout spur. The tarsi are short and abruptly attenuated.

Unfed *A. hebraeum* females are also about 5 mm long but can reach up to 20 mm when engorged. The dorsum is dark greenish-brown or black, punctate and striate. The capitulum is about 2 mm long, with a rectangular basis, convex lateral margins and slightly salient posterolateral angles. The palpi are slender; segment 2 is slightly curved and approximately 2.5 times as long as segment 3. The hypostome is long and slightly



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spatulate. The dentition is 3.5/3.5. The scutum is ornate, with widespread pale coloration, and slightly longer than wide. The cervical grooves are deep anteriorly, but become shallow and end in the posterior third of the scutum. The cervical stripe extends posteriorly to the limiting spots and is generally connected to a small frontal spot by a thin line. The scapulae are dark and the punctuations are fine; however, the punctuations are coarser and more crowded in the scapular field. The eyes are pale, circular and bulging. The genital opening is level with the interspace between coxa II and coxa III. The legs are thinner than in the male and legs III and IV have pale stripes.

Tick identification to the species level can be difficult, and ticks should be submitted to an expert for identification or confirmation. *A. hebraeum* closely resembles *A. gemma*, another African tick.

Control

Disease Reporting

Veterinarians who encounter or suspect the presence of an exotic tick should follow their national and/or local guidelines for disease reporting. In the U.S., state or federal authorities must be notified immediately.

Prevention

Measures used to exclude exotic ticks from a country include pre-export inspection to certify that the animals are free of ectoparasites, quarantines upon entry, and treatment with acaricides. Three-host ticks, which spend at least 90% of their life cycle in the environment, can be very difficult or impossible to eradicate once they become established in an area.

In endemic regions, acaricides can eliminate *A. hebraeum* from the animal, but do not prevent reinfestation. Indiscriminate use of acaricides may lead to ticks becoming resistant to these agents, and can also have adverse environmental effects, including incidental effects on other arthropods. Individual measures for tick control include physical removal and the use of repellents.

Public Health

A. hebraeum can transmit *Rickettsia africae*, the agent of African tick-bite fever. Its bites are painful and the wound may become infected.

Internet Resources

[Food and Agriculture Organization of the United Nations \(FAO\). Ticks and Tick-borne Diseases](#)

[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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