

Amblyomma variegatum

Tropical Bont Tick,
Tropical African Bont Tick,
Antigua Gold Tick,
Senegalese Tick

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Importance

Amblyomma variegatum is a hard tick that feeds on a number of domestic animals including cattle, sheep, goats, horses, camels and dogs, as well as humans. 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. Damage to the udder may affect milk production. *A. variegatum* is also an important biological vector for *Ehrlichia ruminantium*, the agent of heartwater, and *Rickettsia africae*, the agent of African tick-bite fever.

Species Affected

Adult *A. variegatum* ticks preferentially feed on cattle, but can also be found on other livestock including sheep, goats, horses, camels and dogs, as well as some wild ungulates such as antelope. Immature ticks occur on smaller mammals, ground-feeding birds (e.g., cattle egrets, *Bubulcus ibis*) and reptiles, as well as livestock.

Geographic Distribution

A. variegatum is widespread in sub-Saharan Africa and has also been reported in southern Arabia, parts of the Caribbean, and some islands in the Indian Ocean (Madagascar, Mauritius, La Reunion, Anjouan). In Africa, it can be found in diverse habitats ranging from dry grasslands to moist tree savannas at the edges of equatorial forests. In 2018, two individual ticks were found on livestock on the islands of Sardinia and Corsica in Europe, possibly after being carried there on migrating birds; however, *A. variegatum* is not thought to be established on either island.

Life Cycle

A. variegatum, a three-host tick, feeds on the host for a time before dropping to the ground to develop to the next stage. Adult ticks are usually found on relatively hairless parts of the body, especially the ventral body surface, genitalia, perineum and underside of the tail.

Identification

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A. variegatum 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. variegatum are large ticks with long, strong mouthparts. The palps are long; the second segment is twice as long as it is wide. Hemispherical (convex) eyes are present and the festoons are well developed. Female *A. variegatum* are brown with a large pale patch on the posterior scutum, and can be up to about 20 mm (roughly the size of a nutmeg) when engorged. The males are brightly ornamented with orange, and the iridostoma has a dark brown border. The males have no adanal shields, accessory shields or subanal shield. A shorter external spur on coxa I, closely associated with the internal spur, can help distinguish *A. variegatum* (and *A. hebraeum*) from *A. americanum* and *A. cajennense*. Tick identification to the species level can be difficult, and ticks should be submitted to an expert for identification or confirmation.

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. variegatum* 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. Various methods are used for acaricide application. One novel technique employed successfully against *A. variegatum* in Africa was the daily use of acaricide footbaths to kill adult ticks, which temporarily attach to the interdigital space before they migrate to permanent attachment sites on the body. Other measures for tick control include physical removal and the use of repellents.

Eradication programs have attempted to eliminate *A. variegatum* from the Caribbean, where this tick has been spreading from island to island since about 1828, when it was introduced. Early programs were successful in a few locations such as Puerto Rico. The most recent program, begun in 1994, was an extensive effort based on animal identification and mandatory periodic acaricide treatment of livestock by farmers, as well as public education, surveillance, quarantines and movement restrictions. Apparent success was seen on a few islands; however, the tick sometimes became re-established, and the program was eventually abandoned in 2008 due to difficulties in implementation, high costs and failure to meet its goals.

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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