

# Vector Hazard Report Spotlight:

## Tick Vectors of Ghana



Notes on the biology and identification of ticks vectors of Ghana.

Last Updated by David Pecor October 2021

# *Amblyomma variegatum* Fabricius 1794

Common name: Tropical bont tick

## Associated Hosts:

*Amblyomma variegatum* is a three-host tick and has been collected from the following host species: African grass rat (*Arvicanthis niloticus*), Typical striped grass mouse (*Lemniscomys striatus*), Natal multimammate mouse (*Mastomys natalensis*), Zebu (*Bos indicus*), Aurochs (*Bos primigenius*), Goat (*Capra aegagrus hircus*), Sheep, (*Ovis aries*), Cattle (*Bos taurus*), Domestic pig (*Sus scrofa domesticus*), African Buffalo (*Syncerus caffer*), Buffalo (*Syncerus caffer*), Eland (*Taurotragus oryx*), Camel (*Camelus dromedarius*), Dog (*Canis lupus familiaris*), black-backed jackal (*Canis mesomelas*), White rhino (*Ceratotherium simum*), Chicken (*Gallus gallus*), Giraffe (*Giraffa camelopardalis*), Warthog (*Phacochoerus aethiopicus*), Rüppell's pipistrelle Bat (*Pipistrellus rueppellii*), Olive thrush (*Turdus olivaceus*).

## Medical Importance:

*Ehrlichia ruminantium* (heart water), *Anaplasma bovis*, *Anaplasma ovis*, *Theileria mutans*, *T. velifera*, *Coxiella burnettii* (Q-fever), *Rickettsia aeschlimannii*, *R. africae*, *Paracoccus* spp.



*Amblyomma variegatum* Male (Dorsal), photo credit WRBU



*Amblyomma variegatum* Male (Ventral), photo credit WRBU



*Amblyomma variegatum* Female (Dorsal), photo credit WRBU



*Amblyomma variegatum* Female (Dorsal), photo credit WRBU

# *Haemaphysalis leachi* Audouin 1826

Common Name: Yellow Dog Tick

## Host Associations:

*Haemaphysalis leachi* is a three-host tick which has been collected from the following host species: Percival's spiny mouse (*Acomys percivali*), Kusu rat (*Arvicanthis*), Abyssinian grass rat (*Arvicanthis abyssinicus*), Abyssinian grass rat (*Arvicanthis abyssinicus*), Kusu rat (*Arvicanthis* spp.), Striped rats (*Rabdomys* spp.), Black rat (*Rattus rattus*), Four-striped grass mouse (*Rhabdomys pumilio*), Natal multimammate mouse (*Mastomys natalensis*), Zebra mice (*Lemniscomys* spp.), Striped grass mouse (*Lemniscomys striatus*), Typical striped grass mouse (*Lemniscomys striatus*), Harsh-furred mouse (*Lophuromys flavopunctatus*), Multimammate mouse (*Mastomys coucha*), Dog (*Canis lupus familiaris*), black-backed jackal (*Canis mesomelas*), Hedgehog (*Erinaceus albiventris*), Cat (*Felis catus*), Large-spotted genet (*Genetta tigrine*), White-tailed mongoose (*Ichneumia albicauda*), Striped polecat (*Ictonyx striatus*), Hare (*Lepus victoriae*), African vleis rats (*Otomys* spp.), Leopard (*Panthera pardus*).

## Medical Importance:

Tick typhus, *Bartonella* spp., *Rickettsia* spp., *R. conorii*, *R. akari*, *Babesia rossi*, *Ehrlichia* sp. *Coxiella burnetii* (Q fever), *Proteus mirabilis*.

**Notes on taxonomy:** *Haemaphysalis leachi* is the name-bearing member of the Leachi complex comprising *H. spinulosa* and *H. ethiopica*.

# *Haemaphysalis spinulosa* Neumann 1906

## Host Associations:

*Haemaphysalis spinulosa* is a multi-host tick and has been collected from the following host species: Dog (*Canis lupus familiaris*), Banded mongoose (*Mongos mungo*), Hedgehog (*Erinaceus albiventris*).

## Medical Importance:

Thogoto virus (THOV).

**Notes on taxonomy:** *Haemaphysalis spinulosa* is a member of the Leachi complex comprising *H. spinulosa* and *H. ethiopica*.

# *Hyalomma rufipes* Koch, 1844

**Host Associations:** *Hyalomma rufipes* is a two-host tick which has been collected from the following host species: *Bos taurus* (Cow), *Camelus* spp. (Camel), *Gallus gallus* (Chicken), *Ovis aries* (Sheep), *Syncerus caffer* (African Buffalo), *Taurotragus oryx* (Eland).

## Medical Importance:

Crimean-Congo Hemorrhagic Fever virus (CCHFV), *Anaplasma bovis*, *Rickettsia* spp. *R. aeschlimannii*, *R. conorii*.



*Hyalomma rufipes* Female (L) and Male (R). By Daktaridudu - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=50512302>

# *Hyalomma turanicum* Pomerantsev 1946

## Host Associations:

This species is a two-host tick that has been collected from the following host species: Turkana Camel (*Camelus dromedarius*), Sheep (*Ovis aries*), Goat (*Capra aegagrus*), East African Goat (*Capra hiathus*), Domestic horse (*Equidae* spp.) Domestic cattle (*Bovidae* spp.), Dog (*Canis lupus familiaris*), Rat (*Rattus rattus*), Giraffe (*Giraffa* spp.), Warthog (*Phacochoerus africanus*), African Elephant (*Loxondota africana*), Baboon (*Papio cynecephalus*).

## Medical Importance:

Rift Valley fever virus (RVFV), Crimean-Congo hemorrhagic fever virus (CCHFV), Dugbe virus (DUGV), Kupe virus (KUPV), *Coxiella burnetii* (Q-Fever), *Anaplasma* spp., *A. bovis*, *A. centrale*, *A. marginale*, *Babesia* spp., *B. bigemina*, *B. bovis*, *B. caballi*, *Ehrlichia ruminantium*, *Rickettsia* spp., *R. africana*, *R. aeschlimannii*, *Theileria velifera*, *Trypanosoma vivax*.

# *Rhipicephalus appendiculatus* Neumann 1901

**Host Associations:** *Rhipicephalus appendiculatus* is a three-host tick and has been collected from the following host species: Cow (*Bos taurus*), African buffalo (*Syncerus caffer*) Waterbuck (*Kobus defassa*), Warthog (*Phacochoerus aethiopicus*), Hare (*Lepus victoriae*), Camel (*Camelus dromedarius*), Eland (*Taurotragus oryx*), Chicken (*Gallus gallus*), Dog (*Canis lupus familiaris*), Feral cat (*Felis catus*), Sheep (*Ovis aries*), Domestic pig (*Sus scrofa domesticus*), Goat (*Capra aegagrus*), Giraff (*Giraffa* spp.), Natal multimammate mouse (*Mastomys natalensis*), Striped grass mouse (*Lemniscomys striatus*), African grass rat (*Arvicanthis niloticus*), Harsh-furred mouse (*Lophuromys flavopunctatus*), Groove-toothed rat (*Otomys irrorata*), Four-striped grass mouse (*Rhabdomys pumilio*). Zorilla (*Ictonyx striatus*), Large-spotted genet (*Genetta tigrine*), White-tailed mongoose (*Ichneumia albicauda*), Elephant shrew (*Elephantulus* spp.).

## Medical Importance:

Crimean-Congo hemorrhagic fever virus (CCHFV), *Anaplasma ovis*, *Babesia* spp., Bhanja virus (BHAV), *Borrelia* spp., Dugbe virus (DUGV), Lumpy skin disease virus (LSDV), Kadam virus (KADV), Nairobi sheep disease virus (NSDV), *Coxiella burnetii*, *Rickettsia* spp., *R. africae*, *Theileria parva* (East Coast fever), *T. lawrencei*, *T. taurotragi*, Thogoto virus (THOV).



*Rhipicephalus appendiculatus* Male (Dorsal),  
photo credit WRBU



*Rhipicephalus appendiculatus* Male (Ventral),  
photo credit WRBU



*Rhipicephalus appendiculatus* Female (Dorsal),  
photo credit WRBU



*Rhipicephalus appendiculatus* Female (Ventral),  
photo credit WRBU

# *Rhipicephalus decoloratus* Koch 1844

**Host Associations:** *Rhipicephalus decoloratus* is a one-host tick and has been collected from a variety of host species including: Cow (*Bos taurus*), Chadian Saddle Horse (*Equus caballus*), Zebu (*Bos taurus indicus*), Chicken (*Gallus gallus*), Dog (*Canis lupus familiaris*), Domestic pig (*Sus scrofa domesticus*), Sheep (*Ovis aries*), Goat (*Capra aegagrus*), Zebu (*Bos indicus*), Camel (*Camelus dromedarius*), Aurochs (*Bos primigenius*), Thomson's gazelle (*Eudorcas thomsonii*) African rock python (*Python sebae*).

## **Medical Importance:**

*Anaplasma* spp., *A. marginale*, Bhanja virus (BHAV), *Ehrlichia* spp., *E. ruminantium*, Lumpy skin disease virus (LSDV), *Rickettsia* spp., *R. africae*, *Theileria* spp., *T. mutans*, *T. velifera*, *T. orientalis*, Thogoto virus (THOV).



*Rhipicephalus decoloratus* Female, engorged (Dorsal), photo credit WRBU



*Rhipicephalus decoloratus* Female, engorged (Ventral), photo credit WRBU

# *Rhipicephalus evertsi evertsi* Neumann

**Host Associations:** *Rhipicephalus evertsi evertsi* is a three-host tick and has been collected from the following host species: Cow (*Bos taurus*), Zebu (*Bos taurus indicus*), Camel (*Camelus dromedarius*), Hare (*Lepus capensis*), Eland (*Taurotragus oryx*), Chicken (*Gallus gallus*), African buffalo (*Syncerus caffer*), Goat (*Capra aegagrus*), Sheep (*Ovis aries*), Warthog (*Phacochoerus africanus*), Zebra (*Equus burchellii*), Thomson's gazelle (*Eudorcas thomsonii*), Grant's gazelle (*Nanger granti*), Coke's hartebeest (*Alcelaphus buselaphus cokii*), Blue wildebeest (*Connochaetes taurinus*), Masai giraffe (*Giraffa camelopardalis tippelskirchii*), Aurochs (*Bos primigenius*), Dog (*Canis lupus familiaris*).

## Medical Importance:

Crimean-Congo hemorrhagic fever virus (CCHFV), *Anaplasma centrale*, *Anaplasma marginale*, *Babesia bigemina*, *Babesia bovis*, *Babesia caballi*, *Babesia equi*, *Ehrlichia ruminantium*, *Theileria velifera*, *Trypanosoma vivax*.



*Rhipicephalus evertsi evertsi* Male (Dorsal), photo credit WRBU



*Rhipicephalus evertsi evertsi* Male (Ventral), photo credit WRBU



*Rhipicephalus evertsi evertsi* Female (Dorsal), photo credit WRBU



*Rhipicephalus evertsi evertsi* Female (Ventral), photo credit WRBU

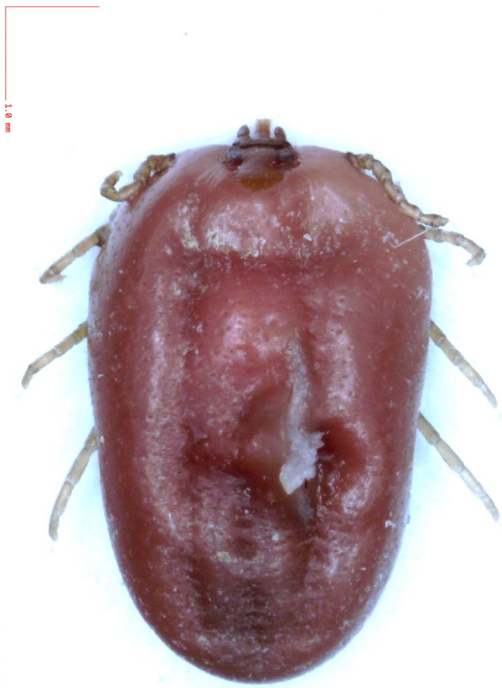
# *Rhipicephalus microplus* Canestrini 1888

**Host Associations:** *Rhipicephalus microplus* is a one-host tick and has been collected from the following host species: Cow (*Bos taurus*), African buffalo (*Syncerus caffer*), Goat (*Capra aegagrus*), Sheep (*Ovis aries*), Domestic pig (*Sus scrofa domesticus*), Human (*Homo sapiens*).

## **Medical Importance:**

*Wolbachia* spp., *Coxiella* spp., *Babesia* spp. and *Borrelia* spp.

**Note:** *Rhipicephalus microplus* is an invasive species in Uganda and considered to be a major threat to domestic livestock.



*Rhipicephalus microplus* Female, engorged  
(Dorsal), photo credit WRBU



*Rhipicephalus microplus* Female, engorged  
(Ventral), photo credit WRBU



# *Rhipicephalus sanguineus* Latreille 1806

## Host Associations:

This species is a three-host tick and has been collected from the following host species: Cow (*Bos taurus*), Sheep (*Ovis aries*), Camel (*Camelus dromedarius*), Hare (*Lepus capensis*), Goat (*Capra aegagrus*), Blue wildebeest (*Connochaetes taurinus*), Masai giraffe (*Giraffa camelopardalis tippelskirchii*), Crested porcupine (*Hystrix cristata*) Black-backed jackal (*Canis mesomelas*), Aurochs (*Bos primigenius*), Dog (*Canis lupus familiaris*), Human (*Homo sapiens*).



*Rhipicephalus sanguineus* ixodid ticks, female and male, dorsal.  
[Daktaridudu](#) 6 August 2016

## Medical Importance:

*Anaplasma* spp., *Babesia vogeli*, *Babesia canis*, *Coxiella burnetii*, Dugbe virus (DUGV), *Ehrlichia* spp., *E. canis*, *Hepatozoon canis*, *Mycoplasma haemocanis*, *Rickettsia* spp., *R. conorii*, *R. rickettsia*, *Wolbachia* spp.

# *Rhipicephalus simus* Koch 1844

**Host Associations:** *Rhipicephalus simus* is a two-host tick and has been collected from the following host species: Cow (*Bos taurus*), Sheep (*Ovis aries*), Camel (*Camelus dromedarius*), Zebu (*Bos taurus indicus*), Warthog (*Phacochoerus aethiopicus*), Masai giraffe (*Giraffa camelopardalis tippelskirchii*), Black-backed jackal (*Canis mesomelas*), Crested porcupine (*Hystrix cristata*), Southern multimammate mouse (*Mus coucha*), Kusu rat (*Arvicanthis* spp.), Zebra mouse (*Lemniscomys* spp.), African vlei rat (*Otomys* spp.), Multimammate mouse (*Mastomys coucha*), Abyssinian grass rat (*Lemniscomys* spp.), Angoni vlei rat (*Otomys angoniensis*), Typical striped grass mouse (*Lemniscomys striatus*), Hedgehog (*Erinaceus albiventris*), Eland (*Taurotragus oryx*), Dog (*Canis lupus familiaris*), Cat (*Felis catus*), Baboon (*Papio cynocephalus Anubis*), Human (*Homo sapiens*).

## Medical Importance:

*Babesia* spp., *Babesia microti*, *Coxiella burnetii*, *Rickettsia* spp., *R. akari*, *R. conorii*, Thogoto virus (THOV).