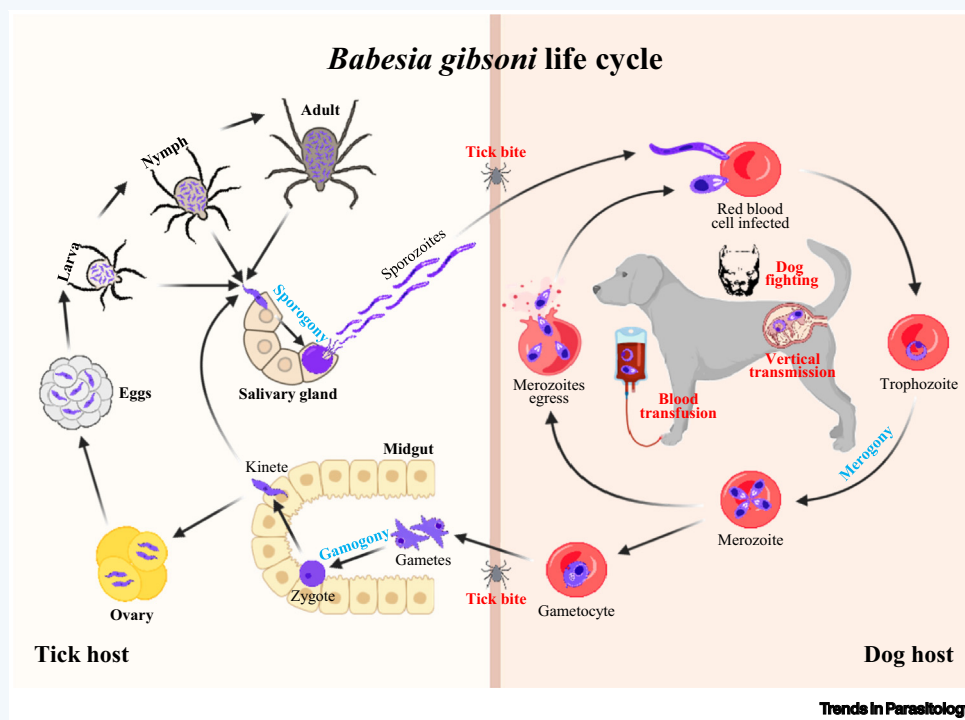


# Babesia gibsoni

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**KEY FACTS:**

There are three genomes in *B. gibsoni*: a nuclear genome, a linear mitochondrial genome (5.9 kb), and a circular apicoplast genome (28.4 kb).

Besides dogs, other canids such as coyotes, foxes, and jackals are also potential hosts.

Besides the primary tick vector *Haemaphysalis longicornis*, *Haemaphysalis bispinosa*, *Haemaphysalis hystricis*, *Ixodes ricinus*, *Ornithodoros moubata*, and *Rhipicephalus sanguineus* are also putative vectors of *B. gibsoni*.

Continuous asexual culture and establishment of genetic manipulation enable the study of the mechanisms underlying drug resistance and host-parasite interactions, and provide novel information for vaccine development and drug target discovery.

**DISEASE FACTS:**

Clinical signs include remittent fever, hemolytic anemia, weight loss, hemoglobinuria, and marked splenomegaly.

Infection is diagnosed mostly by detecting parasites in red blood cells through examination of Giemsa-stained blood smears or PCR assays.

In many cases, incomplete treatment regimens lead to low levels of parasitemia, which develops into a chronic subclinical carrier state.

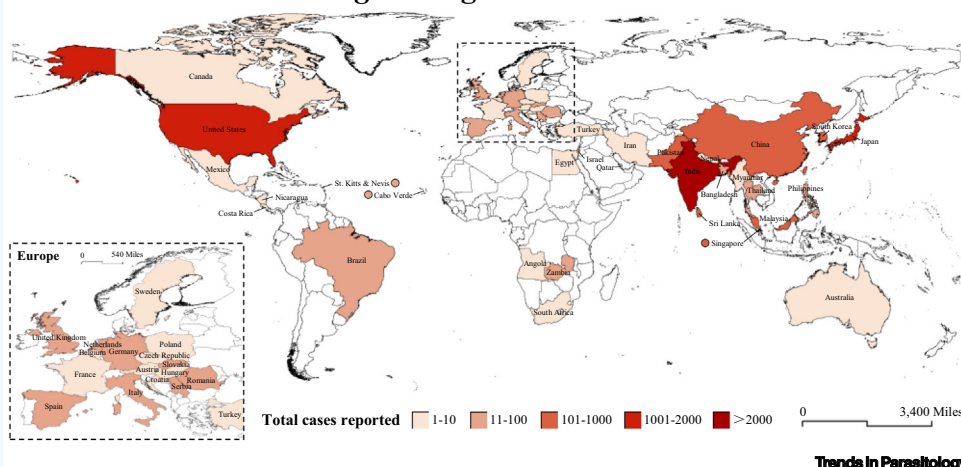
Chronic subclinical carriers could act as reservoirs for tick infection and disease spread.

**TAXONOMY AND CLASSIFICATION:**

- PHYLUM:** Apicomplexa
- CLASS:** Aconoidasida
- ORDER:** *Babesia sensu stricto*
- FAMILY:** Babesiidae
- GENUS:** *Babesia*
- SPECIES:** *B. gibsoni*

*Babesia gibsoni* is an intraerythrocytic apicomplexan parasite that causes babesiosis in dogs. Since its first report in India in 1910, *B. gibsoni* has spread globally. It is transmitted mainly by tick bite but many reports have demonstrated transmission by dog fighting, and blood transfusion, and a few reports have mentioned transplacental transmission to the developing fetus. The parasite life cycle consists of a sexual developmental phase in the midgut lumen of tick vectors (gamogony) and two asexual developmental phases occurring in the tick salivary glands (sporogony) and host red blood cells (merogony). To date, no effective commercial vaccine is available. Rapid and accurate diagnosis and prompt treatment of infected animals are required to control this disease. Due to emerging drug resistance, the current commonly used combination of antibiotics and antimalarial drugs have limited efficacy against *B. gibsoni* infections. Effective anti-*Babesia* drugs are urgently needed, especially in the acute clinical cases.

## Babesia gibsoni global distribution



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## Declaration of interests

The authors declare no competing interests.

## Resources

[www.cdc.gov/parasites/babesiosis/](http://www.cdc.gov/parasites/babesiosis/)

<https://piroplasmadb.org/piro/app>

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