

5 important points before testing for **Canine Babesiosis**

Introduction:

- Canine babesiosis is a worldwide, **primarily tick-borne**, protozoal disease.
- The disease is predominantly characterized by a **direct parasitic** and **immune-mediated erythrocyte destruction**, causing mild to severe systemic clinical manifestations.
- Babesia infections can be acute, subclinical, or chronic.
- The predominant species known to naturally infect dogs are ***B. canis*** and ***B. vogeli*** (large pyriform) and ***B. gibsoni*** (small pleomorphic).
- **Accurate species classification** is important for providing the **appropriate treatment** and is difficult to achieve using serological tests and/or microscopy.
- The infection is **more prevalent** in **certain seasons** and **geographical regions** with high prevalence of **tick vector**. Due to migration of infected animals, and ticks, geographic range of many Babesia species is expanding.
- Canine babesiosis is **frequently accompanied** by ***Ehrlichia canis*** and other tick transmitted infections.

1

Main features

Haemolytic anemia, thrombocytopenia, fever and splenomegaly are the most predominant features.

2

Blood smear evaluation

Capillary blood from ear Prick samples is recommended.

Blood smear is considered to have low sensitivity and prone to subjective errors in species classification especially in low parasitemia or chronic infection cases.

3

Serology limitations:

False Negative: generation of a detectable level of serum antibody can take up to 10 days post infection.

False Positive: positive antibody test may indicate past exposure rather than present disease.

Inaccurate species classification due to cross reactivity between Babesia species.

4

Accuracy

Accurate detection and species recognition are important for the selection of correct therapy and predicting the course of disease.

5

PCR assays

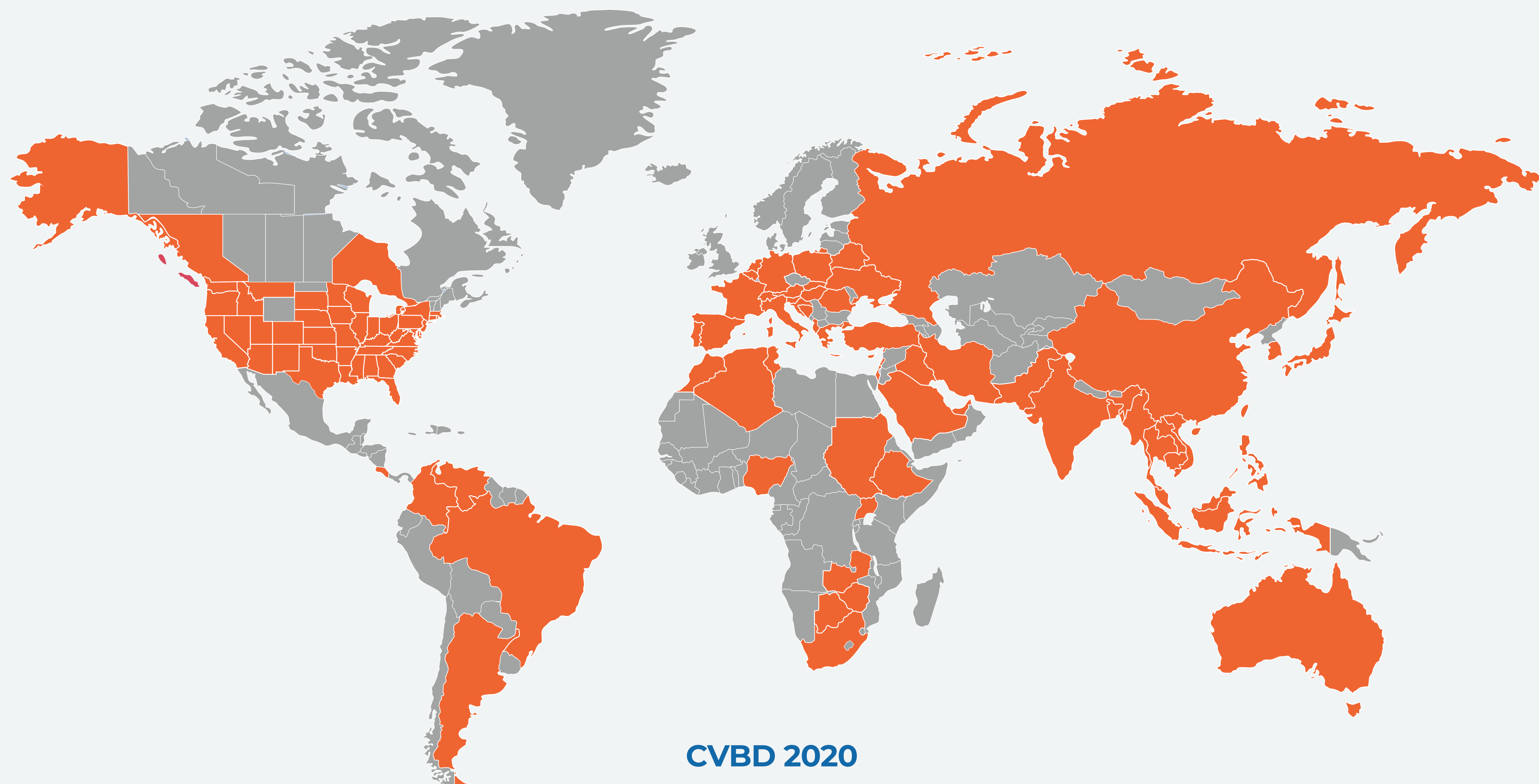
In clinic PCR tests, such as PCRun® Molecular detection kits, provide a rapid, sensitive, and species-specific diagnosis of canine babesiosis in acute and persistent infections, allowing to treat appropriately and efficiently.

- *Babesia* spp (*B. canis*, *B.vogeli*, *B. rossi*, *B.gibsoni* and *B.negevi*)
- *Babesia canis*
- *Babesia gibsoni*

The use of PCRun Babesia species test kit, which is a very sensitive test, in regions where both *B. canis* and *B. gibsoni* are common, a negative result will exclude Babesia infection. When result is positive a further investigation should be done by using PCRun *Babesia gibsoni* or *Babesia canis* kits to determine the specific species and thereafter the appropriate treatment.

Endemic Map

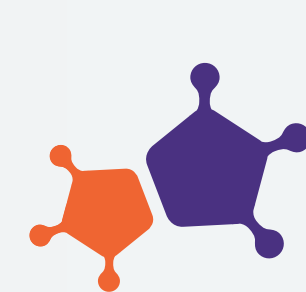
Endemic occurrence 



References:

1. Greene's Infectious diseases of the DOG and CAT, 5th Edition
2. Companion Vector-Borne Diseases (CVBD), 2020




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