

## New distribution records of *Amblyomma hebraeum* in the sandveld region of Botswana

Heartwater (syn: cowdriosis) is a major economic disease of domestic ruminants in Botswana. It is transmitted by *Amblyomma hebraeum* which is also one of the known vectors of *Rickettsia conorii*<sup>1</sup>. It is a member of the family Ixodidae and is widely distributed in southern Africa.

Previous studies of this disease in Botswana revealed the occurrence of *A. hebraeum* at numerous localities in the eastern part of the country. These localities include Dibete, Mahalapye, Francistown, Bisoli, Serowe, Bobonong and Tlhabala. There were a few sites in the western region of Ngamiland district<sup>2</sup>.

It was therefore believed that neither heartwater disease nor the vector were present in the sandveld regions of Botswana west of Mahalapye and Shoshong villages<sup>2</sup>. To support this hypothesis, the distribution of *A. hebraeum* was considered to be influenced by its need for shelter, and trees, bush and grass are relatively less abundant in the arid shrub sandveld desert. To date, there have been no published records of its presence in this area.

Interest in the distribution of *A.*

*hebraeum* in this region was aroused after numerous clinical cases of heartwater disease were reported there. The diagnosis was confirmed by the National Veterinary Laboratory in Gaborone by examination of brain smears of suspected cases. Investigations revealed that no domesticated ruminants had been transported to these locations from traditional heartwater areas within the past 12 months. This suggested that the heartwater cases were the result of transmission of the causal agent by a competent vector species present at the localities where they occurred.

A limited survey was conducted to determine the presence of *Amblyomma* species (the natural vectors of heartwater) at these localities. Results indicated that *A. hebraeum* was present at Moriri, Thubadane, Dihwa, Xhwaxhwa, Mmapilane, Kelele, Debegotse and Gadia. All of these localities are in the sandveld region of Botswana.

This is the first report of the presence of *A. hebraeum* in this area of Botswana. Its introduction is probably the result of the continuous movement of domesticated

ruminants, without dipping, from the traditionally infested areas in Botswana over the years. It may have been influenced considerably by the development of a better road network that has improved transportation to and from these areas since the study by Walker<sup>2</sup>.

Further studies will need to be conducted to determine the tick load in the environment, cattle and wildlife, to determine the potential impact of the presence of *Amblyomma* species here. Spatial and temporal population dynamics should also be determined.

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### References

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