

LETTER TO THE EDITOR



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Hepatozoon species infections in Nigeria

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Ticks and tick-borne diseases have a great importance worldwide and they affect animal and human health by sucking blood and also transmitting protozoan, bacterial, rickettsial, spirochetal and viral agents. Ticks can live in all regions of the world except for Poles. Theileriosis, babesiosis, anaplasmosis, ehrlichiosis and hepatozoonosis are important tick-borne diseases and they influence a great variety of domestic and wild animals (Jongejan & Uilenberg, 2004).

It is clearly seen that ticks and tick-borne infections have a wide distribution in Nigeria. Nevertheless several studies were conducted about tick-borne diseases in Nigeria (Ja'afaru *et al.*, 2008).

In order to develop appropriate control strategies for tick-borne diseases, it is required that agents are identified in the host or vector ticks primarily. Canine hepatozoonosis is a tick borne disease caused by *Hepatozoon canis* and *Hepatozoon americanum* transmitted by *Rhipicephalus sanguineus* and *Amblyomma maculatum* respectively. *H. canis* is the most common species associated with canine hepatozoonosis in Europe, Asia, Africa and Latin America (Baneth, 2011; Chomel, 2011).

Recently a successful parasitological survey was attempted to determine prevalence of *H. canis* and *Babesia canis* in dogs in Zaria, Nigeria using blood smear examination (Okubanjo *et al.*, 2013). The study has significance because limited number of studies was conducted about canine tick-borne

diseases in Nigeria. The authors declared that the prevalence of *Hepatozoon* spp. infection was 8% (12/150) in the study area. Higher infection rates were recorded in Turkey (25.8%) by Karagenc *et al.* (2006), in Nigeria (20.3%) by Sasaki *et al.* (2008), in Italy (57.8%) by Otranto *et al.* (2011) and in Thailand (36.6%) by Jittapalapong *et al.* (2006) via molecular diagnostic methods.

Microscopic, serological and molecular diagnostic methods can be used for detection of tick-borne agents in vertebrate hosts or vector ticks. Microscopic and serological methods have some disadvantages such as difficulties in species differentiation and cross reaction problems. It is possible to eliminate these disadvantages with molecular techniques. However molecular methods have a higher sensitivity and specificity than microscopy and serology. On the other hand new *Hepatozoon* genotypes can be detected in dogs. For example we detected *Hepatozoon* sp. MF (Accession number: KF439864, KF439865) in stray dogs in Central Anatolia in Turkey via sequencing (NBCI, 2013). In conclusion, canine hepatozoonosis may be caused by *H. canis* or by a new species of *Hepatozoon* in Nigeria. I prefer detailed molecular studies to detect *Hepatozoon* species in hosts and vector ticks in Nigeria also researchers in Nigeria can collaborate with other researchers to accelerate their study.

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