**INTRODUCTION**

Ticks are one of the most important ectoparasites of livestock. They are transmitters of diseases important to livestock farming throughout the world. Tick infestation on cattle can lead to direct effects such as discomfort, soreness, self-inflicted injuries from scratching, irritation and inflammation, allergic reactions, blood and in turn weight loss. Ticks have been observed to act as vectors of diseases like anaplasmosis, babesiosis, cowdriosis, theileriosis, and Rickettsiosis. In West Africa, *Amblyomma variegatum* and *Rhipicephalus. microplus* are among the most prevalent tick species of economic importance (Heylen et al., 2023).

The life stage of a tick is known to cause similar but different levels of effect on their hosts. Ticks are vectors of diseases of and their transmission potential has been found to differ by life stage. Adult ticks are generally bigger than their nymphal counterparts which would take up more blood from the host and cause significantly more discomfort to it. This is the case for the sexes of ticks. Female and male ticks have been observed to contain slightly too widely different microbiota, causing different levels of disease infliction to their host. Furthermore, Female ticks are more likely to cause significant damage to the host due to their large feeding sites, which can lead to irritation, inflammation, and secondary infections (Van Treuren et al., 2015). Their larger numbers would intensify future tick infestations and increase the potential for disease transmission.

Ticks have been seen to have a preference for certain predilection areas. Differences in their choices for attachment may be largely due to the tick's ability to attach to the skin of the cattle host, the species of cattle, hair density, body temperature, blood vessel proximity, species-specific evolutionary adaptations, environmental and microclimatic conditions.

In the southwest region of Nigeria, most of the cattle consumed are raised in the northern part of the country. These cattle are brought in from various northern states and occasionally from neighbouring countries like Niger and Chad. Cattle are a source of meat, hides and milk in these areas. In Nigeria and much of Sub-Saharan Africa, cattle also hold social significance, symbolizing status and playing a part in cultural and religious practices. Cattle farming in rural areas is vital, supporting diverse livelihoods and offering alternative ways to make money.

The attachment of ticks to the cattle ends up being of high economic loss for the farmers. They have the capacity for long-term attachment and would act as vectors of microbes that are of veterinary importance. Interestingly, Regardless of the tick burden on their livestock, the Fulani pastoralists do not usually employ acaricides (Bayer & Maina, 1984). The variations in tick biodiversity and abundance in cattle ruminants have been poorly studied in Nigeria. Interestingly, many studies in the region study the abundance or prevalence of ticks at predilection sites, but no study has been done to evaluate species-specific tick preference at the different predilection sites of cattle.

For most cattle sold in the southwest region of Nigeria, they have been imported from the northern states. Since these cattle are mostly reared in pastoral conditions, it is important to understand the ticks’ diversity, as this would give credence to how much these ectoparasites can adapt in the dynamic climatic conditions across the country (and beyond). Enriching already existing information would be needed for designing control approaches by pest regulatory agencies, and for equipping animal health authorities for potential tick-borne disease (TBD) management.

Research on ticks in Nigeria has yet to explore co-infestation patterns in cattle. Most studies have only focused on single-, double-, or triple-species infestations, which provide limited information on the specific species commonly found at preferred predilection sites. This highlights the need for more comprehensive community-level studies using multivariate approaches.

The ticks are of important concern in Nigeria. Very few surveys have been published on ticks in Edo state, Nigeria. Peculiarly, there has been no study on tick infestation in cattle in Edo state, except for the first being recorded in 2019, by Adane et al. (2019).

Ticks remain a critical concern in Nigeria, with few surveys conducted in Edo state, the most recent being by Adane et al. (2019). This study aims to address the current knowledge gap by [1] estimating tick diversity and abundance on a cattle ranch in Edo state, Nigeria, and further, [2] examining the community-level structure of ticks that infest different predilection sites on cattle, and [3] investigating whether certain tick population, life stage and sexes show a preference for specific predilection areas.

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