
TICKS INFESTATION ON DROMEDARY CAMELS (*CAMELUS DROMEDARIUS*) NEWLY INTRODUCED TO NATIONAL ANIMAL PRODUCTION RESEARCH INSTITUTE, SHIKA-ZARIA

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ABSTRACT

This report is aimed at giving the outcome of a physical examination conducted during quarantine of ten dromedary camels (Camelus dromedarius) newly introduced to Equine and Camel research programme, National Animal Production Research Institute Shika-Zaria. Ticks found were pulled out gently from the external surfaces (mammary, prepuce, anal, ear and abdominal regions) of ten camels' body using forceps and immediately transported in sample bottles to entomology laboratory. Hyalomma spp. (n= 80) was the only tick genus encountered and identified in the laboratory based on its morphological appearance. Further studies at both clinical and molecular levels on Hyalomma spp. as the most prevalent tick found on dromedary camels is recommended.

Keywords: Dromedary, Camel, Hyalomma, Tick, Infestation

INTRODUCTION

Ticks are known to affect the health of one-humped (dromedary) camel leading to physical irritation, anaemia and vectoring of haemoparasites, majorly Anaplasmosis and Babesiosis especially in other animals. There are several reports of prevalence of tick infestation on dromedary camel from some parts of Nigeria, Africa and Asia with predilection sites as mammary, prepuce, anal, ear and abdominal regions (Lawal *et al.*, 2007; Biu and Konto, 2012; Abdullahi *et al.*, 2019; Bebe, 2001; Abdelrahman *et al.*, 2001; Dinka *et al.*, 2010 and Akhtar *et al.*, 2011). The production of wholesome meat may be negatively affected by the debilitating effects of tick infestation as camel meat consumption is currently on the increase in some parts of the world, including Nigeria, where an average of 100 and 5 heads is slaughtered daily in Kano and Sokoto abattoirs respectively (Khalid *et al.*, 2015; Abdussamad *et al.*, 2015). The increase in use of camels for farm work due to their greater tractive efficiency when compared with work bulls and donkeys (Mohammed and Mansoor, 2013), may also suffer decline if ticks are not controlled. This infestation status of dromedary camels was reported to bring out basic information on the biology of these ectoparasites causing serious havoc to the animals. This could alert camel owners, academics and researchers to conduct more in-depth researches on the biology of this ectoparasite in order to device means of controlling them, considering the numerous socio-economic benefits derived from camel production.

MATERIALS AND METHODS

A total of eighty ticks were gently pulled out alive from ten camels using forceps. The live ticks were immediately transported in clean sample bottles and identified in the Entomology Laboratory, Department of Veterinary Parasitology and Entomology, Faculty of Veterinary Medicine, Ahmadu Bello University, Zaria, Nigeria. The ticks were identified morphologically according to the technique described by Charles (2002).

RESULTS AND DISCUSSION

Results

Hyalomma spp was the only tick genus identified in all the 80 tick samples submitted to the laboratory following the morphological examination. This was based on its characteristic morphological features

identified during the examination. The features identified are the characteristic elongated palps as well as the distinct eyes located in sockets adjacent to the postero-lateral edges of the scutum.

Discussion

The encountering of *Hyalomma* spp. as the only tick identified in this report agreed with the findings of Salem *et al.* (2011) who reported *Hyalomma* spp. as the most predominant tick infesting dromedary camel worldwide. The reported prevalence of *Hyalomma* spp. in Nigeria were 91.28% in Sokoto state by Lawal *et al.*, (2007); 88.1% in Borno state by Bui and Konto, (2012) and 71.0% in Sokoto state as well, by Abdullahi *et al.*, (2019). The reported prevalence in Ethiopia was 15.36% (Dinka *et al.*, 2010).

CONCLUSION AND RECOMMENDATION

Hyalomma spp was the only genus of tick that was encountered on the body surfaces of the dromedary camels, causing severe infestation, usually found around mammary, prepuce, anal, ear and abdominal regions. Further studies (at both clinical and molecular levels) on *Hyalomma* spp. should be conducted, including the biology of this ectoparasite in order to devise means of controlling them, considering the numerous socio-economic benefits derived from dromedary camel production.

REFERENCES

- Abdel Rahman, M. B. Osman, A. Y. and Hunter, A. G. (2001). Parasites of the onehumped Camel (*Camelus dromedarius*) in the Sudan: A review. *The Sudan Journal of Veterinary Research*. (4): 10- 12.
- Abdullahi, M., Mohammed, A. K. and Okubanjo, O. O. (2019). Prevalence of tick infestation on the one -humped camels. (*Camelus dromedarius*) in semi- arid region of Sokoto State, Nigeria. *Proceedings of 44th annual conference of Nigerian Society for Animal Production, University of Abuja*. 36.
- Abdussamad, A.M., Charruau, P., Kalla, D.J.U and Burger, P.A. (2015). Validating local knowledge on camels: Colour phenotypes and genetic variation of dromedaries in the Nigeria-Niger corridor. *Livestock Science* 18(1)131–136
- Akhtar, M., Muhammad, F., Lodhi, L. A., Hussain, I and Anwar, M. I (2011). Immunity against ticks- A review. *Pakistan Veterinary Journal*. 31(1):9-16
- Bebe, F. (2001). Prevalence and intensity of ectoparasites infestation in ISSA camels, Eastern Ethiopia. DVM thesis, FVM, AAU, Debre Zeit, Pp. 23- 29.
- Bui, A. A. and Konto, M. (2012). Survey of tick species infesting the one humped camel (*Camelus dromedarius*) in Borno state, Nigeria. *Journal of Agriculture and Veterinary Sciences*. Volume (4):1- 6.
- Charles, M (2002). *Diagnostic Parasitology for Veterinary technicians*. 3rd edition. Hendrix Ed Robinson publishers- Mosby. Pp.79- 82.
- Dinka, A., Eyerusalem, B. and Yacob, H. T. (2010). A study on major ectoparasites of camel in and around Dire-Dawa, Eastern Ethiopia. *Revue de Médecine Vétérinaire*, (161): 498-501.
- Khalid, A., Mushta, Q. A and Caroline, W. (2015). Ethnoveterinary medicinal plant knowledge and practice among the tribal communities of Thakht-e-Sulbaiman hills, West Pakistan, doi:10.1016/j.jep.2015.05.022 .
- Lawal, M. D., Ameh, I. G. and Ahmed, A. (2007). Some Ectoparasites of *Camelus dromedarius* in Sokoto Nigeria. *Journal of entomology*, 4: 143 – 148.
- Mohammad, Hossein R and Mansour, A. G (2013). Common gastrointestinal parasites of indigenous camels (*Camelus dromedarius*) with traditional husbandry management (free ranging system) in central deserts of Iran. *Journal of Parasitological Diseases* 37(2): 225–230.
- Salem, H., Rekik, M., Lassoued, N and Darghouth, M. A (2011). *Global warming and livestock in dry areas: expected impacts, adaptation and mitigation*. In: Blanco J, Kheradmand H (eds) Climate change—socioeconomic effects. InTech, Rijeka, Pp.341–366.