

Molecular detection and genetic characterization of *Ehrlichia ruminantium* harboured by *Amblyomma hebraeum* ticks of domestic ruminants in North West province, South Africa

Sifiso S. Mnisi¹, Malekoba. B. N. Mphuthi¹, Tsepo Ramatla^{2*}, lehlohonolo Mofokeng¹, Oriel M. M. Thekisoe² and Michela Syakalima^{1,3}

1. Department of Animal Health, School of Agricultural Sciences, North-West University, Private Bag X2046, Mmabatho, 2735, South Africa. sifisosiza.mnisi@gmail.com; nthabiseng.mphuthi@nwu.ac.za; mich-san65@gmail.com
2. Unit for Environmental Sciences and Management, North-West University, Private Bag X6001, Potchefstroom 2531, South Africa. thekisoe@gmail.com
3. University of Zambia, School of Veterinary Medicine, Disease Control Department, P.O Box 32379, Lusa-ka, Zambia

Table S1. BLASTn of sequence from *dsbA* gene with similar matches with *Ehrlichia ruminantium* from the NCBI.

Identification	similar sequence from GenBank	Query cover (%)	Percentage identity
NWUe1	<i>Ehrlichia ruminantium</i> , Kwanyanga. (CP040119.1)	96	99.7
NWUe2	<i>Ehrlichia ruminantium</i> , Mara87/7. (CP040118.1)	97	99.4
NWUe3	<i>Ehrlichia ruminantium</i> , Nonile. (CP040117.1)	97	99.7
NWUe4	<i>Ehrlichia ruminantium</i> , Springbokfontein2. (CP040115.1)	97	99.7
NWUe5	<i>Ehrlichia ruminantium</i> , Grootvellei. (CP040120.1)	97	99.4
NWUe6	<i>Ehrlichia ruminantium</i> , Grootvellei. (CP040120.1)	97	99.4
NWUe7	<i>Ehrlichia ruminantium</i> , Kwanyanga. (CP040119.1)	96	99.4
NWUe8	<i>Ehrlichia ruminantium</i> , Grootvellei. (CP040120.1)	94	98.5
NWUe9	<i>Ehrlichia ruminantium</i> , Springbokfontein4. (CP040114.1)	90	99.7
NWUe10	<i>Ehrlichia ruminantium</i> , Kwanyanga. (CP040119.1)	91	98.8
NWUe11	<i>Ehrlichia ruminantium</i> , Springbokfontein4. (CP040114.1)	94	99.1

NWUe12	<i>Ehrlichia ruminantium</i> , Kwanyanga. (CP040119.1)	97	99.7
NWUe13	<i>Ehrlichia ruminantium</i> , Mara87/7. (CP040118.1)	94	99.4
NWUe14	<i>Ehrlichia ruminantium</i> , Grootvellei. (CP040120.1)	96	99.7
NWUe15	<i>Ehrlichia ruminantium</i> , Kwanyanga. (CP040119.1)	95	100

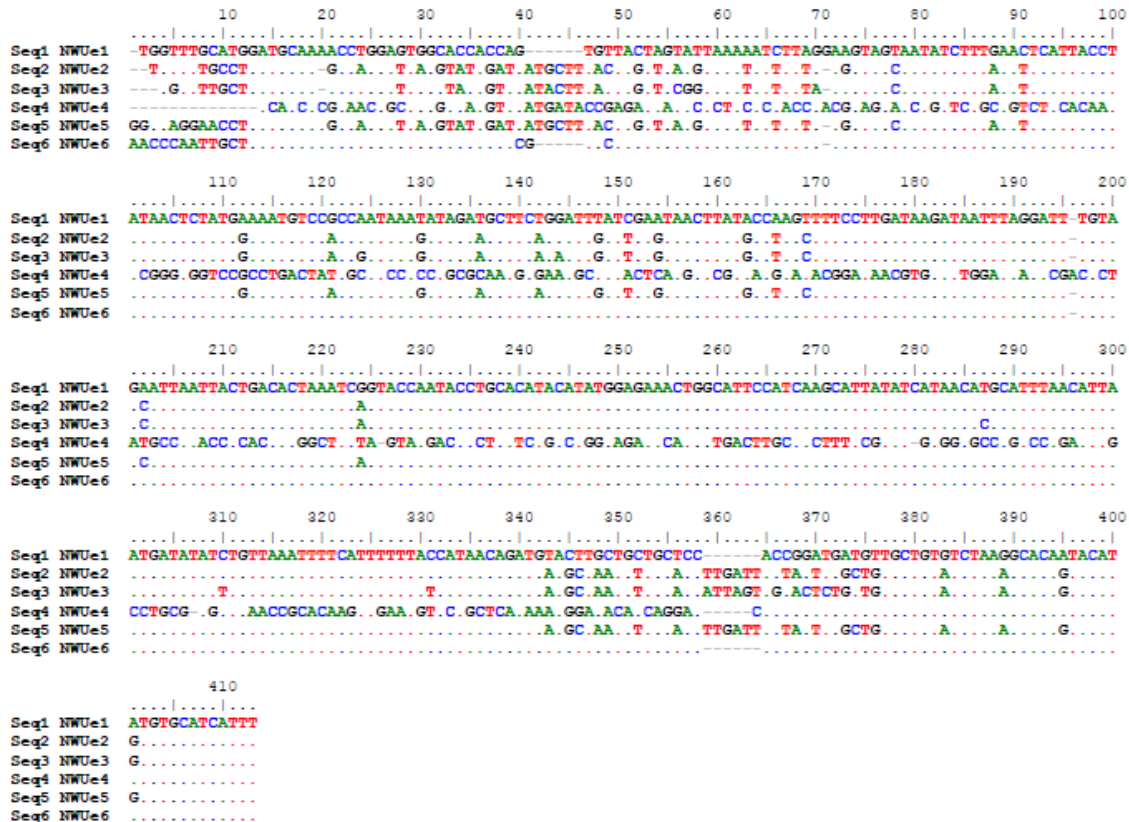


Figure S1: Sequence polymorphism among nucleotide sequences of *map-1* from South Africa *Amblyomma haebareum*

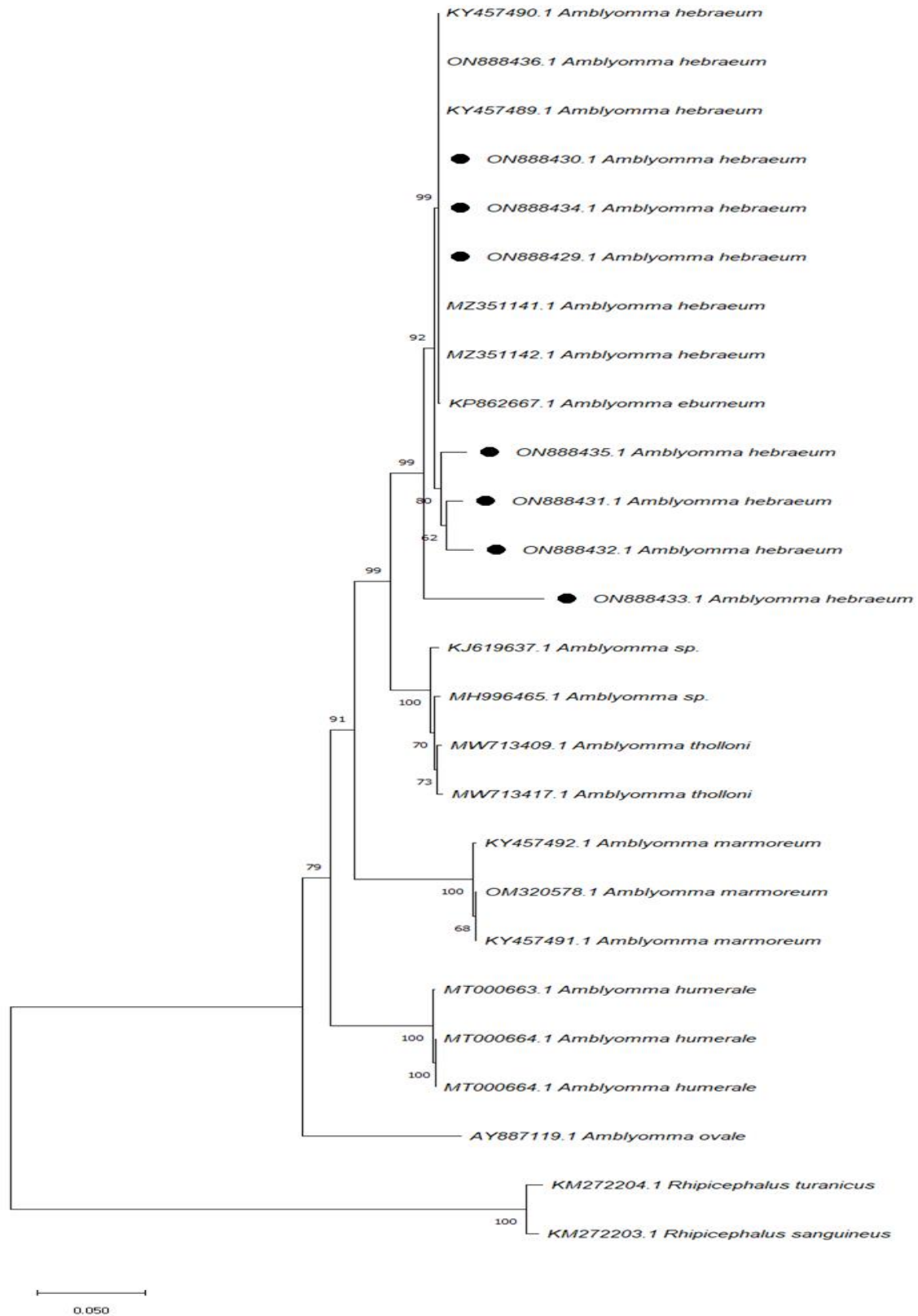


Figure S2: Phylogenetic analysis of tick *ITS2* gene using the Maximum Likelihood (ML) method.