

DETECTION OF THE STATUS OF ACARICIDE RESISTANCE IN *Hyalomma dromedarii* FROM NOMADIC CAMELS OF NORTH GUJARAT

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ABSTRACT

The present study was undertaken to evaluate the efficacy of commonly used acaricides *viz.* deltamethrin, cypermethrin, flumethrin and fipronil against ticks infesting camels of north Gujarat. Larval packet test was conducted using field isolates of *Hyalomma dromedarii* for determination of 50 and 95% lethal concentration of deltamethrin, cypermethrin, flumethrin and fipronil. LC₅₀ and LC₉₅ values of deltamethrin (3.82, 35.36 ppm) and cypermethrin (6.59, 140.01 ppm) indicated the susceptibility of *Hyalomma dromedarii* larvae to these chemicals. Flumethrin and fipronil were found to be highly toxic to the larvae and thus, the LC₅₀ and LC₉₅ values were as low as 2.92×10^{-8} , 0.02 and 0.06, 1.62 ppm, respectively. Resistance characterisation revealed very low resistance factor in the ticks studied, *i.e.* 0.33 for deltamethrin, 0.03 for both cypermethrin and fipronil, respectively. Flumethrin recorded more than 99% mortality even at its lowest concentration. Multi-host life cycle and tick management practices without the use of chemicals might have protected these ticks from development of resistance.

Key words: Acaricide resistance, camel, *hyalomma dromedarii*, pyrethroids