EFFECTS OF ETHANOLIC EXTRACT FROM PINEAPPLE (*ANANAS COMOSUS*) PEEL ON *RHIPICEPHALUS SANGUINEUS* S. L. (ACARI: IXODIDAE)

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Abstract. Canine hemoparasitic infections, such as anaplasmosis, babesiosis, ehrlichiosis, and hepatozoonosis, are worldwide life-threatening tick-borne diseases. Main tick species carrying the infective agents in Thailand is *Rhipicephalus sanguineus* s. l., or the brown dog tick. Various types of chemical substances, as well as plant ingredients, have been used for tick control, but development of resistance to anti-tick synthetic chemicals poses problems. Ethanolic extract of pineapple peel (PPEE) and a dog shampoo formulation composed of PPEE (DSPP) were tested against male and female (non- and engorged) *R. sanguineus*. Compared to 6% (w/v) flumethrin aqueous solution all three PPEE solutions [25%, 50% and 75% (w/v)] exhibited as good of better immobilization effect against engorged and non-engorged ticks, and the two higher PPEE concentrations were lethal (26-53%) to engorged ticks and all three concentrations to non-engorged ticks (33-53%) after 24 hours of immersion. DSPP preparations [1.5%, 2.5% and 3.5% (w/v)] were equally effective in immobilizing engorged and non-engorged ticks as a commercial permethrin [0.5% (w/v)] dog shampoo (DSP), but all dog shampoos were not lethal to engorged ticks, except DSPP at the highest concentration to a small extent (7%) while the three DSPP preparations were more lethal (18-28%) to non-engorged ticks than DSP (15%) after 24 hours of treatment. Thus, aqueous solutions and dog shampoo preparations of pineapple peel ethanol extract should be considered as alternative options to chemical acaricides for controlling brown dog ticks.

Keywords: *Ananas comosus*, *Rhipicephalus sanguineus* s. l., dog shampoo, ethanolic extract, pineapple peel

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