

RESEARCH COMMUNICATION

Cryopreservation of sheathed third-stage larvae of *Ancylostoma caninum* (hookworm of dogs) and *Ancylostoma tubaeforme* (hookworm of cats)

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ABSTRACT

TITTOY, G.A.P. & MALAN, F.S. 1996. Cryopreservation of sheathed third-stage larvae of *Ancylostoma caninum* (hookworm of dogs) and *Ancylostoma tubaeforme* (hookworm of cats). *Onderstepoort Journal of Veterinary Research*, 63:181

Sheathed infective third-stage larvae of *Ancylostoma caninum* and *Ancylostoma tubaeforme* were successfully cryopreserved in liquid nitrogen. The survival rates, as assessed by motility, were *A. caninum* 49,2% and *A. tubaeforme* 51,5% after 30 d of cryopreservation.

Keywords: *Ancylostoma caninum*, *Ancylostoma tubaeforme*, cryopreservation, sheathed third-stage larvae

Recently Tittoy (1995), using a high concentration of cryoprotectant mixture that was added in two steps, successfully cryopreserved sheathed third-stage larvae of *G. pachyscelis*. The present study describes the application of the same technique to *A. caninum* and *A. tubaeforme* larvae.

After 30 d, larvae were thawed and examined for motility. Judged by this criterium, the survival rates were 49,2% for *A. caninum* and 51,5% for *A. tubaeforme*.

Two 3-month-old male crossbreed dogs and two 4-month-old male cats were used for the trial. One of

each species was infected *subcutaneously*, and the other animals *per os*, with 150 motile cryopreserved third-stage larvae per kg.

Faecal worm egg counts were positive for all the animals on day 15 after infection. The average number of worms recovered at necropsy, on day 18 after infection, was 8,9% for *A. caninum* and 11,3% for *A. tubaeforme*.

This study has demonstrated for first time that sheathed third-stage larvae of *A. caninum* and *A. tubaeforme* can be cryopreserved in liquid nitrogen and that they retain their infectivity after thawing.

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REFERENCES

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