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DEMONSTRATION OF LARVAL FORMS OF *Baylisascaris tasmaniensis* IN THE WOMBAT *(Vombatus ursinus)*

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Abstract: When visceral granulomata from wombats were fed to ascarid-free Tasmanian devils the latter became infested with *Baylisascaris tasmaniensis.*

INTRODUCTION

During the investigation of the helminth fauna of wombats (*Vombatus ursinus*) from the north-eastern region of Tasmania the authors noted that many animals had visceral granulomata containing nematode larvae. These larvae were identified as being "ascarid-type", and therefore it was decided to investigate whether or not they could be larval forms of *Baylisascaris tasmaniensis* (*B. tasmaniensis*), the ascarid parasite of the Tasmanian devil (*Sarcophilus harrisi*).

MATERIALS AND METHODS

Both prior to and during this observation some 280 Tasmanian devils were collected and examined for helminths.

Approximately 50 wombats were collected and examined from each of two sites, one in the north-east and one in the north of Tasmania.

Seven live Tasmanian devils from an area of low *B. tasmaniensis* prevalence (less than 1%) were kept in individual cages and fed on frozen meat from domestic species. The faeces from these animals were collected and examined for ascarid ova by flotation in saturated salt solution. This procedure was undertaken twice at an interval of 5 days, and no ascarid ova were detected on either occasion. After the second examination the devils were dosed with "Nilverm Injection"* at the rate of 6.8 mg/kg. Three of the animals were then each fed four to six granulomata obtained from wombats, and were also fed on the viscera of these animals for 7 days. At 6 to 8 weeks after the date of dosing, the treated and control devils were killed and examined for intestinal nematodes.

RESULTS

It was found that *B. tasmaniensis* was relatively common in Tasmanian devils from the north-eastern corner of Tasmania (66%), but became progressively less frequent in animals collected to the west and south until less than 1% (1/160) infested animals were found in the central midlands.

Wombats from the north-eastern region of the State frequently had visceral granulomata 1-2 mm in diameter in the wall of the intestines, the mesentery, liver, spleen, kidney, heart and lungs. These lesions were found to contain ascarid-type larvae. No such granulomata were detected in wombats collected 64 km west of the above site.

It was found that each of the three devils fed granulomata and wombat meat were infested with *B. tasmaniensis,* but no ascarids were found in the four con-

* 7.5% W/V laevo-tetramisole hydrochloride, I.C.I.—shown to be effective against *B. tasmaniensis* (Gregory unpublished data).

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trol animals. The actual burdens found were; 2 mature males; 1 gravid female; 1 mature male and 1 gravid female, respectively.

DISCUSSION

The geographic distribution of *B. tasmaniensis* in Tasmanian devils and wombats corresponds to the importance of wombat material in the diet of devils. Guiler[1] reported that in the north-eastern study area wombat flesh constituted 25% of the diet, whereas in two other sites it was of minor importance (less than 1% of diet).

This finding, together with the experimental results, corroborates the suggestion of Sprent et al.[2] that *B. tasmaniensis* probably has a larval phase in an Australian native animal. In their paper they suggested that macropods could be paratenic hosts, but the authors have found no *B. tasmaniensis* larvae in macropods, including those infested with metacestodes of *Anoplotaenia dasyuri* (the tapeworm of the Tasmanian devil).

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