Journal of Veterinary Parasitology 5 (2) 1991 : 116-118

SHORT COMMUNICATION

SEASONAL CHANGES OF SOME NEMATODE INFECTIONS OF DOMESTIC PIGS IN A HIGH-RAINFALL AREA OF MEGHALAYA (INDIA).

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ABSTRACT

Yadav, A. K. and Tandon, V. 1991. Seasonal changes of some nematode infections ot domestic pigs in a high rainfall area of Meghalaya (India). J. Vet. Parasitol 5 :

A study on seasonal variations of commonly occurring nematode parasitic species of domestic pigs was carried out in high—rainfall area of Meghalaya, India. Higher peaks in the prevalence of *Ascaris suum* occurred during summer and autumn; a higher prevalence of *Bourgelatia diducta* was also noticeable in summer. *Oesophagostomum dentatum* registered a high prevalence from the start of summer with a peak during early autumn.

Introduction

Recent studies on the nematode infections of livestock in Meghalaya showed 12 nematode species infecting the domestic pigs in the region, a high-rainfall area of India (Yadav and Tandon. 1989a). The present communication reports the seasonal changes for major species of this parasitic spectrum, namely, *Ascaris suum*, *Oesophagostomum dentatum* and *Bourgelatia diducta*.

Materials and Methods

Pigs were autopsied at regular time intervals from March, 1986 to February, 1987 at slaughter houses in and aronnd the Shillong city. Seasonal prevalence of parasites was worked out on the basis of numbers of host infected with a particular nematode species monthwise. The meteorological data for the study period have previously been published (Yadav and Tandon, 1989 b).

Results and Discussion

The prevalence data for the 3 major nematode species are given in Table 1. A. *suum* was

the most predominant species with higher peaks in prevalence during the early summer and autumn. *B. diducta* also showed almost a similar pattern during summer, the prevalence declining gradually to a low level during winter. A rising trend of prevalence of *O. dentatum* was observed from the start of summer with its peak during the early autumn, and a declining trend reaching to its minimum value during the late summer.

The egg and/or larval development of these species is determined by extrinsic factors such as the temperature and humidity and the differences in the basic requirement for their development and survival, therefore, may influence their epidemiological pattern (Levine, 1978). In the case of *Oesophagostomum*, the development requirements include moisture and an optimum temperature between 10—25°C (Thomas and Ferber, 1985); the development would be limited between April and October in the study area, thus accounting for higher prevalence of its infection during summer and early autumn. Information on similar aspects is not available in literature regarding *B. diducta*. However, in view of the closeness of *Bourgelatia* and *Oesophagostomum* and the similarity of their prevalence pattern exhibited in the region it may be assumed that their pattern of egg development and the bionomics of the free stages would be somewhat similar. For *Ascaris* the moisture requirement is reportedly less vital but the optimum temperature required is 17—30°C (Jackson *et al*., 1977); hence the development of *Ascaris* eggs would be limited to a short period from June to August (i. e , the period when the ambient temperature remains within this range) leading to a comparatively high prevalence of infection from August onwards in this area.

Acknowledgement

Award of research grant to VT (Himalayan Eco-development Programme of DOEn, Govt. of India, in NEHU) and Senior Research Fellowship (CSIR, New Delhi) to AKY is acknowledged.

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Table—1 Seasonal prevalence of Major nematode infections of domestic pigs in a high-rainfall area of Meghalaya, India.

Month and Year		No. examined	Percent infected		
			Ascaris	*Oesophagostomum*	*Bourgelatia*
March	1986	134	29.8	22.4	15.7
April	1986	163	30.7	12.3	25.1
May	1986	121	64.5	28.1	37.2
June	1986	167	52.1	25.1	34.1
July	1986	98	33.6	32.6	28 6
August	1986	123	64.2	47.9	24.4
September	1986	133	67.7	35.3	16.5
October	1986	80	65.0	26.2	17.5
November	1986	91	59.3	24.2	18.7
December	1986	112	62.5	29.5	14.3
January	1987	143	53.8	22 4	11.9
February	1987	131	48.1	31.3	12.2