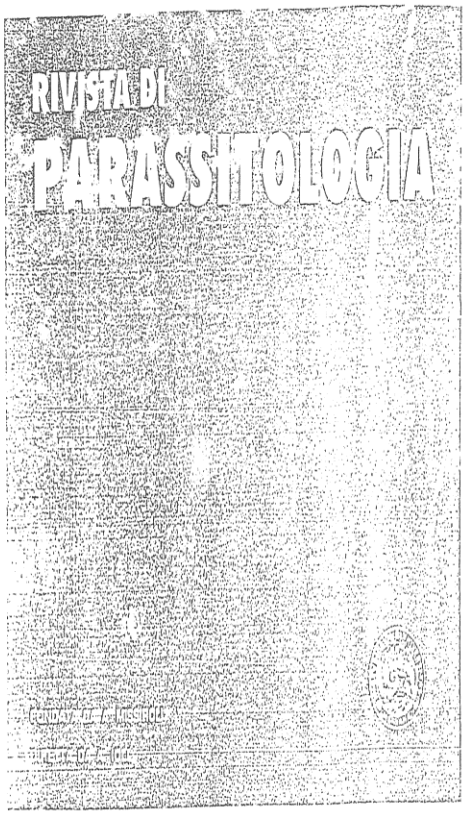

PUBBLICAZIONE QUADRIMESTRALE VOL. VIII (LII) - N. 2 - 1991

ISSN 0035 - 6387

RIVISTA DI PARASSITOLOGIA
VOL. VIII (LII) - N. 2 AGOSTO 1991

PREVALENCE OF *HAEMATOPINUS SUIS* LINNE (PHTHIRAPTERA: HAEMATOPINIDAE) ON SWINE BELONGING TO AN INDIAN LOCALITY

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Incidence as well as relative intensity of *Haematopinus suis* upon 200 pigs belonging to Dehradun (India) has been recorded. 38.5% of the examined animals have been found infested. Incidence rate was higher on youngs than the adults and nearly similar on two sexes. Infestation rate has been assessed by point system. Nearly half of infested hosts carried light infestation. The distribution of louse on host body has also been discussed.

INTRODUCTION

Haematopinus suis Linne, is a phthirapteran species infesting the swine. They do not only cause irritation, discomfort, hair loss, skin wound but are also convicted for reservoiring and transmitting pathogens causing diseases like cholera and eperythrozoonosis among the hosts (Williams, 1986). The loss due to lowered productivity and control cost amounts to $ 40 million per year (Anonymous, 1979).

Workers like Florence (1921) and Weber (1929) have provided basic information regarding the biology of this louse. Ineson (1954) studied the lice infestation on wild and domestic pigs of New Zealand while Melnikova (1960) recorded the incidence of *H. suis* on wild boars belonging to Tadjikistan. Stubbe (1966), Bennet (1975) and Bynum *et al.* (1978) have provided further knowledge about this louse. The effect of *H. suis* parasitism on the hide value, growth rate and blood chemistry of pigs has been recorded by Przeorska and Leja (1967), Nickel and Danner (1979) and Davis and Williams (1986) respectively. Recently, Wooten-Saadi *et al.* (1987) reported the incidence of *H. suis* on swine in Indiana. The present report furnishes information about incidence as well as relative intensity of phthirapteran infestation on pigs belonging to an Indian locality.

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MATERIALS AND METHOD

A total of 200 pigs belonging to Dehradun (India) have been examined during the period September, 1987 to February, 91. These street dwellars enjoyed free life before being caught by the sweepers (as a part of routine) for professional purpose. They were examined with the help of these persons by direct observation. Use of hand lense proved fruitful. The intensity of infestation has been ascertained by estimating lice population on host body, in a fixed time, and then placing in one of the following five categories - VL (≤ 10 lice), L (10-25 lice), M (26-50 lice), H (51-100 lice) and VH (≥ 100 lice). To study the distribution of *H. suis* on infested host, the body of 10 pigs was arbitrarily divided into 10 regions - the head (including ears), neck (along with skin folds), shoulders, forelegs, back (entire, from neck to rump), sides (entire, both sides), belly, thighs and tail (including the base). The number of lice present in each region was recorded and then averaged. Furthermore, entire louse load of two heavily infested pigs was taken out, separated sexwise and stagewise (Plate I, Figs 1-5) to record the adult nymph as well as sex ratio.

OBSERVATIONS

As many as 38.5% of the animals examined were found infested with *H. suis*. The incidence of infestation was higher on piglings (47.1%) than the sows and boars (36.1 and 31.6% respectively) (Table-1). Of the 200 pigs, 48 were examined during March to June (Summers), 73 from July to October and remaining 79 during November to February (winter days). The incidences of infestation on these three groups were 27, 26 and 57% respectively. Thus maximum incidence was recorded during winter months. Nearly half (46%) of infested pigs (total) bore light infestation (10-25 lice) (Table 1). Very light (≤ 10 lice) and medium infestation (26-50 lice) was present upon nearly 13% of hosts respectively (Table 1). Nearly 10% of infested hosts exhibited heavy infestation (51-100 lice) while 15.6% were very heavily infested (≥ 100 lice). Maximum numbers of lice observed on any heavily infested host was 536 while minimum being 108.

The data relating to distribution of lice on the body of 10 heavily infested pigs indicate maximum condensation of lice occur on head (including ears) and neck region (33 and 24% respectively). In the neck region they tend to occupy the skin folds. The back and belly are the next preferred areas (9 and 7% respectively) followed by thighs and forelegs (specially upper inside surface of legs) (6 and 5% respectively). The other areas contain less than 2% of lice. The eggs are normally laid on lower half of body.

Attempts were made to take out complete phthirapteran load from two very heavily infested pigs (in February). A total number of 820 lice were collected from two hosts. It was found that nymphal population (61%) dominated over adults (39%). On the other hand females (24%) outnumbered the male (15%).

Thus the male, female ratio was found to be 1 : 1.54 and the adult, nymph ratio 1 : 1.6.

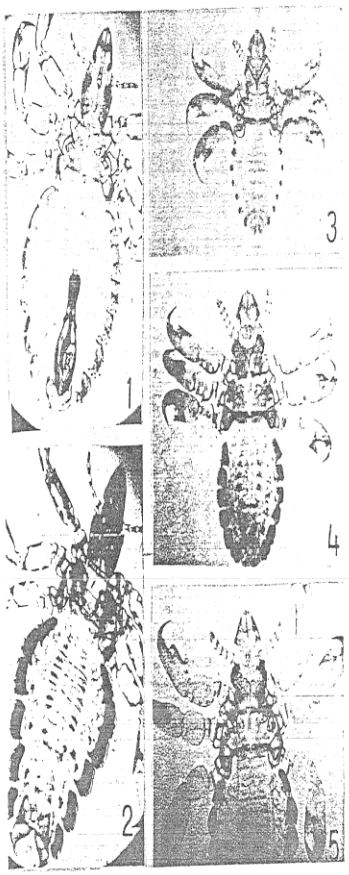

PLATE I

Figs.: 1. - Adult male, *H. suis*, W.M. x 20. 2. Adult female, *H. suis*, W.M. x 18. 3. First instar nymph of *H. suis*, W.M. x 22. 4. Second instar nymph of *H. suis*, W.M. x 22. 5. Third instar nymph of *H. suis*, W.M. x 20.

Table - 1: Incidence and intensity of *H. suis* infestation upon 200 swine belonging to Dehradun (India). Figures shown in Table have been rounded to nearest 1%.

Kind of swine	Total Nos. examined	Total Nos. infested	Indicence rate	Relative intensity (%)				
				VL	L	M	H	VH
Adult Boars	60	19	31.6%	–	66.4	–	10.5	21.0
Sows and Guilts	72	26	36.1%	15.2	46.1	15.2	7.7	7.7
Piglings (including Barrows and sprayed)	68	32	47.1%	15.6	37.5	15.6	12.5	18.7
TOTAL	200	77	38.5%	13.0	46.0	13.0	10.3	15.6

DISCUSSION

Melnikova (1960) found 76% of the 165 wild-boars infested with *H. suis* in Tadjikistan while Wooten-Saadi *et al.* (1987) recorded 18.1% incidence on swine in Indiana. The incidence on Indian swine has been found to 38.5% in the present studies. Present studies further support the observations of Melnikova (1968) that incidence of *H. suis* remains higher on youngs than the adults. Melnikova (1968) further noted higher incidence on sows and guilts than the adult boars and recorded maximum number of 342 lice from a sow in Tadjikistan. In the present studies also incidence rate was slightly higher on females and the maximum number of lice collected was 536. Wooten-Saadi *et al.* (1987) found eight of 361 infested hosts having more than 500 lice on their body in Indiana. Present studies further support the observations of Wooten-Saadi *et al.* (1987) that the *H. suis* incidence is higher in cooler months. The head (specially ears), skin folds on neck, back (including rump, base of tail) and upper inside surface of legs have been found to be the most preferred site of occurrence of *H. suis*. The present report furnishes information regarding natural population levels of Phthiraptera on the pigs belonging to an Indian locality.

ACKNOWLEDGEMENTS

Authors are thankful to the Principal, Pt. L.M.S. Govt. P.G. College, Rishikesh for laboratory facilities; to Prof. K.C. Kim, Pennsylvania State University for the confirmation of identification and to University Grants Commission, New Delhi for financial support to Dr. A.K. Saxena in form of project No. 3-51/87 (SR II).

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