

## PREVALENCE OF LICE SPECIES ON COWS AND BUFFALOES OF QUETTA, PAKISTAN

MAHRUKH N. KAKAR AND JUMA K. KAKARSULEMANKHEL

Department of Zoology, University of Balochistan, Quetta, Pakistan

### ABSTRACT

The prevalence of lice with species identification was studied during April to November 2006 in cows and buffaloes. During this period, various farm houses of Quetta city were randomly visited for the collection of lice. A total 909 cows and 671 buffaloes were examined for the presence of lice. Out of these, 38.3% cows and 41.2% buffaloes gave positive results for different lice species. Only one lice species i. e. *Bovicola bovis* (38.3%) was recorded from cows and two species belonging to genus *Haematopinus* i. e. *H. quadripertusis* (23.5%) and *H. eurysternus* (17.7%) were encountered in buffaloes. Lice seem to be host specific with *B. bovis* occur in cows, while both *H. quadripertusis* and *H. eurysternus* usually infest buffaloes.

### INTRODUCTION

Cows and buffaloes are not only the main source of animal proteins but also their products such as bones, skin and goods made from fetch are of great importance for man. But these economic benefits are badly affected by different diseases caused by various ecto-parasites. Lice is one of the most common parasites of domestic animals.

The impacts of lice have been associated with blood loss, reduced calf birth weight, behavioral changes such as excessive scratching and decreased weight gain, decrease milk production up to 15-25% per animal per year and discolored greasy hairs (Solusby, 1982; Otteret *et al.*, 2003). Louse infection in cattle is often a chronic condition and cattle may harbor low subclinical infestation for much of their lives showing few clinical signs. The present study was conducted to assess the prevalence of lice species in cows and buffaloes in Quetta city, Pakistan.

### MATERIALS AND METHODS

The present study was carried out from April to November, 2006 in cows (909) and buffaloes (671) maintained in and around Quetta city, Pakistan. The lice were collected from the skin and other parts of body (ear, legs, belly, under arms etc), ignoring the sex and age of the animals. They were preserved in the bottle containing 70% ethyl alcohol with few drops of glycerin.

Lice were put in 10% KOH and left until the specimen became translucent. They were removed from the KOH and passed through grades of ethanol (30, 50, 70, 80, 90, 95 and 100%). In each grade of ethanol, ticks were kept for 30 to 60 minutes. Lice were then transferred to clove oil for 15-30 minutes and washed with xylol. Finally, the permanent slides were prepared by mounting the specimens with Canada balsam. Lice were identified under microscope using the keys provided by Solusby

(1982). The data were analyzed by Z-test of significance of two proportions.

### RESULTS AND DISCUSSION

Among 909 cows, 349(38.3%) were found to be harboring lice, whereas in buffaloes out of 671, 277(41.2%) were positive for lice infestation (Table 1). Statistical analysis showed that the difference in prevalence of lice between cows and buffaloes were non significant. Azam *et al.* (2002) reported 34.7% prevalence of lice on buffalo calves. Hussain *et al.* (2006) reported 24% prevalence of lice in cattle and 18.8% in buffaloes in Pakistan. More recently, Kakar and Kakarsulemankhel (2008) recorded the prevalence of lice as 7.17 and 9.84% in cows and buffaloes, respectively.

In the present study, only one species of lice belonging to genus *Mallophaga* i. e. *Bovicola bovis* was recorded in cows and two species of *Anoplura* lice belonging to genus *Haematopinus* i. e. *H. quadripertusis* and *H. eurysternus* were encountered in buffaloes. The overall prevalence of *B. bovis* in cows was 38.3% (Table 1). In the literature, prevalence of this species has been reported as 26.7-38% (Colwell *et al.*, 2001), 91-97% (Milnes *et al.*, 2003) and 71-73% (Briggs *et al.*, 2006).

In buffaloes, the prevalence of *H. quadripertusis* was higher (23.5%), than that of *H. quadripertusis* (17.7%; Table 1), the difference was non significant. El-Metenawy *et al.* (1997) reported 0.3% and Yeruham *et al.* (2001) reported 15-47% prevalence of *H. quadripertusis* in cattle from various parts of the world. The prevalence of *H. eurysternus* has been reported to vary from 1.9 to 94% (El-Metenawy *et al.*, 1997; Milnes and Green, 1999; Colwell *et al.*, 2001; Yeruham *et al.*, 2001; Hussain *et al.*, 2006).

**Table 1: Prevalence of lice species in cows and buffaloes**

Animal host	Animals examined	Animals infected (%)	<i>Bovicola bovis</i> infection (%)	<i>H. quadripertusis</i> infection (%)	<i>H. eurysternus</i> infection (%)
Cows	909	349 (38.3)	349 (38.3)	- -	- -
Buffaloes	671	277 (41.2)	- -	158 (23.5)	119 (17.7)

In the light of above discussion, it is suggested that animals should be closely watched regularly and suitable insecticides should be used periodically.

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