Population characteristics of phthirapteran ectoparasites infesting cattle in Rampur district

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ABSTRACT: Three hundred cattle were sampled for the presence of phthirapteran ectoparasites in Rampur district. Three phthirapteran species (Damalinia bovis, Linognathus vituli, Haematopinus eurysternus) were recovered from the cattle. Solenopotes capillatus and Haematopinus quadripertusus were not noticed. As many as 16.3%, (n = 300) cattle were found infested with one or other species of Phthiraptera, during 2007, in Rampur district. Single species infestation was more common than double (16.3%) and triple species (14.2%) infestation. Prevalence of Phthiraptera on two sexes remained similar ($\chi^2 = 0.48, P = 0.05$). It was higher in younger cattle than adults and aged ones ($\chi^2 = 10.48, P = 0.05$). Correlation between mean monthly intensity and mean monthly relative humidity was significant. Out of the three species recovered, the biting louse, $D. bovis$ remained the most prevalent louse (11.3%), followed by anopluran, $L. vituli$ (11%). The other anopluran louse, $H. eurysternus$ was least prevalent (5.07%). Intensity of infestation (recorded by counting total number of lice noted on 20 anatomical sites measuring per square inch) remained 4.6 for $D. bovis$, 3.7 for $L. vituli$ and 2.8 for $H. eurysternus$. In case of all the three cattle lice, sex ratios were female biased (1:1.4 to 1:1.5). Nymphal population dominated over adults (A: N = 1:1.7 to 1:1.9).

INTRODUCTION

Survey of literature shows that basic information regarding different bio-ecological parameters of different phthirapteran species parasitizing cattle, has been provided by Craufurd-Benson (1941), Matthysse (1946), Ourmazdi and Baker (1974), Chalmers and Charleston (1980) and Milness et al. (2003). As far as population ecology of cattle lice is concerned, selected workers have indicated the population levels of different species of cattle lice in different parts of the world, from time to time (Chalmers and Charleston 1980; Titchener 1983; Kennedy and Karlka, 1986; El-Metenawy et al., 1997; Milnes and Green, 1999; Colwell et al., 2001; Kakar and Kakarsulemankhel, 2009). Geden et al. (1990) noted the effect of housing types on the population of cattle lice. Gibney et al. (1985) noted the effect of various infestation levels of lice on cattle feeding efficiency. Lewis and Christenson (1962) recorded the indices of the population of $D. bovis$. Watson et al. (1997) gave an indication of distribution patterns of cattle lice on their natural host. Nafstad (1998) also recorded the effect of various factors on the population of lice while talking of about their eradication measures. In India, Rawat et al. (1992) have noted the prevalence of lice on cattle in Dehradun. Seasonal variation in the population of cattle lice has been noted by Cumming and Graham (1982), De Vaney et al. (1992) and Geden et al. (1990).