

V. Summary

1. The material consisted of 2078 fleas collected from 501 field voles, which were live trapped in years 1968 and 1969 from a trapping area in southern Finland. The fleas belonged to 12 species, dominant species being Megabothris walkeri (44.2 % of all fleas) and Ctenophthalmus agyrtes fennicus (37.0 %).
2. The frequency distribution of fleas on hosts fitted with the log normal distribution. The infestation percent and the mean infestation per host were in linear correlation when plotted in log scale.
3. Seasonal changes in the infestation percentage and mean infestation^{tation} were studied. Two maxima in these values were observed: one in the spring and the other in the autumn. Seasonal changes in the flea species composition revealed species with a quite restricted occurrence time and others occurring throughout the year.
4. Sex ratios of fleas on hosts showed a surplus of females on C. a. fennicus and C. u. uncinatus. On M. walkeri the total sex ratio was nearly 1 : 1.
5. There were certain differences in the infestation of different host categories. Reproductive males were the most heavily infested host group. Infestation of reproductive females was less than that of reproductive males but greater than the infestation of subadult and juvenile hosts, both males and females. Among non-reproductive animals there appeared no clear difference between the sexes. Seasonal fluctuation of the infestations of the host categories is presented. Flea species composition of different host categories was quite similar.
6. The effect of size of hosts on the flea infestation was observed on the basis of weight classes of voles. Linear

positive correlation existed between the average flea number per host and the weight of reproductive male hosts and possibly juveniles and subadults, even if the variation of weight among these groups was too small to make sure of the correlation. On reproductive females no correlation appeared.

7. The infestation and species composition of two subpopulations of field voles were studied in two different biotopes of the trapping area. It was noted that in the drier biotope there was a slightly higher infestation upon the voles than in the moist biotope. A few differences in the species composition were also observed.

8. It is supposed that the moving activity and size of the host affect the flea numbers occurring on voles. The changes in the total flea population in terrain is sure to be seen in the numbers of fleas collected from voles, but about this factor we have very little information.