OBSERVATIONS ON SEASONAL DISTRIBUTION AND LONGEVITY OF SOME ACANTHOCEPHALA FROM FRESH-WATER HOSTS

ABSTRACT

H. J. VAN CLEAVE, UNIVERSITY OF ILLINOIS

In collecting fresh-water Acanthocephala the writer has been impressed by the varying degrees of infestation of certain vertebrate hosts at different times of the year. A search of the literature has furnished no accurate information on this subject, so it seemed worth while to investigate the question, especially since Linton in a recent paper has rather summarily dismissed the topic with a brief generalization. Records of the occurence of three species belonging to the genus Neoechinorhynchus have been studied with the following results:

1. Seasonal distribution of fresh-water Acanthocephala varies in different species. No general statement can be made to apply to the entire group.

2. *N. emydis* occurs in turtles from some localities at all seasons of the year. The same individual host bears a mixture of mature and immature parasites. This indicates that the host is constantly exposed to sources of infestation. There is no cyclic change in the degree of infestation from month to month.

3. *N. gracilisentis* enters the intestine of the gizzard-shad in early fall and continues to develop until April or May, when it attains sexual maturity and is finally expelled. During the summer months the host is not parasitized by this species.

4. *N. longirostris* infests the intestine of the gizzard-shad in the summer, reaches full sexual maturity in mid-winter, and disappears entirely in spring and early summer.

5. The demonstrable presence of a seasonal cycle in the life history of a parasite involving two or more hosts is dependent upon: (a) longevity of the parasite in the final host; (b) extent of the time in which infestation of the final host

may occur; (c) length of time required for development of the larva in the intermediate host; (d) seasonal changes in the food habits of the final host, or active migrations of the host to and from sources of infestation.