

RELATIONSHIP OF SOME INSECT PESTS WITH WILDLIFE

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Combining some contradictory qualities as adaptability and specialization, insects hold a key position in economy of most living things. There is scarcely a plant that does not contribute to needs of one or more kinds of bugs and a considerable segment of the insect world has become adapted to making a living off the large form of animal life. Wildlife supports these pests in great variety.

Insects and their close relatives differ markedly in their relationship to wildlife. Some depend on the host during their entire span of life while others, including many ticks, experience intervals away from the host, and in the course of development a given individual may infect many species. In case of many lice and mites, some have reached a level of specialization that restricts them to a single species of animal. Still other, such as adults of many of the biting flies and mosquitoes, are even less discriminating in the selection of hosts and are essentially free-living except for periodic visits for the purpose of obtaining a blood meal.

Additional differences are to be found in the way in which these pests attack wildlife and in the importance of such attacks to the welfare of the individual. These relationship between insects and wildlife define logical classification. A few considerations of the characteristics and habits of the more important parasite groups will provide an insight into the nature of the problem. A number of insect-borne diseases of wildlife are capable of transmission by species of widely different parasite groups.

Ticks, which are closely related to insects, are distributed widely, and practically all mammals are attacked by one or more kinds. The habits of most wild birds are such that opportunities for infestation with ticks are not great. However, even among this group, many that nest or feed on the ground become

parasitized by the soft-bodied ticks (*Argasidae*). Ticks hold a special significance for wildlife in their capacity for disease transmission. The effect of their feeding can be an important factor in predisposing animals to other pests and diseases. Through sheer numbers they frequently reduce the vitality of the host even to the point of occasionally being the direct cause of death. Various degrees of blindness in birds are known to result from attachment and feeding by this pest in the region of the eyes, and occasional mortalities are reported wherein unusual infestations appeared to be the direct cause. Many adult flies, such as black flies, horseflies, and deer flies are vicious biter and are more than a moderate annoyance practically to large forms of wildlife.

The Hippoboscidae flies are full-time residents on many species of wildlife. They occur on numerous song birds and are frequently found on predatory birds as well as on a number of game species. Members of this family also infest mammals, and at times are found on deer and other ruminants in considerable numbers. Species on mammals, which are commonly called ked flies, emerge from the quiescent pupal stage with wings, but these are shed a few days later.

Myiasis is the term used for the disease condition in animals or man caused by the attack of the larvae of flies on the flesh. The screw-worm is one of the most important species causing myiasis. The screw worm fly lays its eggs on any wound or broken skin of warm-blooded animals. The eggs hatch in a matter of hours, and the tiny larvae burrow into the flesh, creating holes or pockets. As the larvae grow, the suppurating wound enlarges and become more attractive to flies. Usually more and more eggs are deposited in the wound, and the large number of larvae soon cause the death of animal unless the wound is treated.

Flesh flies belonging to the family Sarcophagidae are known to attack wildlife. Adult flies apparently deposit their living larvae on nestling rabbits at the time of birth or shortly thereafter. Bot flies of genus *Cephenomyia* are large, gray-brown, bee like creatures with the most rapid flight among the insects. Several species of these flies are parasitic on rodents. The larvae of these flies are called simply bots and cause a skin myiasis. These bots have been collected from rabbits, squirrels, mice and other rodents. They are probably of minor importance as far as wildlife is concerned.

The biting lice (**Mallophaga**) are among the commonest parasite of birds. The effects of the lice on wild birds are not considered to be of real consequence. Heavy infestation cause damage to the plumage. Superficial feeding may cause some reduction in vigor. They are not known to be important from the standpoint of disease transmission. Although both the biting and sucking lice infest mammals, it has been found that a wild host species seldom supports representatives of both

groups regularly. Infestations of biting lice occur rather commonly on deer and other species, but their effects, as in the case of birds, is not of real consequence. The sucking lice, in addition to being potentially important in the transmission of disease also constitute a more serious parasitic load than do the Mallophaga. Although biting lice hold significance for their transmission of disease in humans, this relationship in wildlife seems mainly to involve their role in the transmission of endemic typhus.

Mites, which are relatives of ticks, make up to a large group of diverse habits. Some like as the mange mites and feather mites, are full time parasites of wildlife and spend all stages of their life history on the host.

The transmission of disease by insects has a significance towards management of wildlife. Over and above, most of these insect-borne ailments are also infectious to humans & domestic animals.



I advocate welfare of the Insects