

P R E F A C E

Insects play a vital role as intermediate hosts and vectors of parasites creating distress to mankind and animals. Study of such problems is very important both from applied and theoretical points of view.

The present work deals with the studies on some haematophagous Nematocera and because many flies exist under this group. The scope of the present work is restricted to two Families only, viz. Simuliidae and Culicidae, considering their parasitological importance in transmitting diseases and creating annoyances to animals and man through their blood-sucking habit in female sex.

Simulium, i.e., black fly (Simuliidae, Diptera) is an important insect pest annoying to animals and human beings. Female black flies of most species are haematophagous and some of these act as efficient vectors of various parasites and pathogens. These flies are known to transfer some human and non-human filarial nematodes (e.g., Onchocerca volvulus) (Leyckart) and also act as vectors of avian trypanosomiasis and leucocytozoonosis in various regions of the world (viz Tropical Africa, Central America, Brazil, Great Britain, USSR and Central Asia). Together with mosquitoes, the flies are supposed to produce myxomatosis of rabbits.

The insects of the Family Culicidae, i.e. the mosquitoes, another blood-sucking insect pest, transmit some human diseases, viz. malaria, yellow fever, dengue, filariasis and various types of encephalomyelitis, and many viral and parasitic disease of animals including fowl pox of poultry, rabbit myxomatosis, Rift valley fever of sheep, encephalitis of horse and birds, and heart worm of dogs etc.

In India, the black flies are known to be troublesome pests for their wide-spread blood-sucking habit in female sex, but nothing is known about their role as effective vectors of parasites. In comparison, mosquitoes have been studied extensively. In view of the parasitological importance of these flies it is useful to investigate their anatomy and histology.

The present work deals with the anatomy, histology and histochemical studies of haemocytes and the alimentary canal of mature larvae and adult females of simuliid flies and mosquitoes.