S Y N O P S I S

Occurrence and distribution of flies (Calliphoridae, Muscidae and Sarcophagidae) have been studied at 28 different places of Jalpaiguri District, West Bengal, by using fish-baited traps. It is observed that Calliphorid, Muscid and Sarcophagid flies are more or less uniformly distributed throughout the District, but their relative abundance varies in different localities. Within the District the population of *Hemipyrellia ligurriens*, *Musca lucens*, *Parasarcophaga ruficornis*, and *Parasarcophaga albiceps* increases towards north but decreases towards south, while the population of *Musca pattoni*, *Musca domestica* and *Parasarcophaga brevicornis* decreases towards north but increases towards south. It is also found that *Chrysomya megacephala*, *Hemipyrellia ligurriens*, *Parasarcophaga knabi*, *Parasarcophaga brevicornis*, *Parasarcophaga albiceps*, *Parasarcophaga orchidea*, *Parasarcophaga hirtipes* and *Boettcherisca perigrina* are more abundant in the northern latitudes than in southern latitudes of the State of West Bengal, though the population of *Chrysomya rufifacies* was less abundant in the northern parts than in the southern parts of the State.

Chrysomya megacephala and *Chrysomya rufifacies* are the dominant flies in the markets, while *Hemipyrellia ligurriens* dominates the catch in garbage dump of Jalpaiguri Town.

Altitudinal distribution of flies reveal that the abundance of all flies are much greater between 25 to 35m than on the ground level. Sarcophagid flies are caught in the traps at 50m, though Calliphorid and Muscid flies do not occur at that altitude.

Calliphorid and Muscid flies exhibit bimodal peaks while Sarcophagid flies show unimodal peak in their annual population curve. The number of generations produced by a species in a year varies from species to species and the density of population of a species not only depends on the number of generations produced in a year but also on eco-climatic factors of the study area. Population of Calliphorid and Muscid flies increasesin summer while that of Sarcophagids increasesin spring. The noxious species of the study area are *Chrysomya megacephala*, *Chrysomya rufifacies*, *Hemipyrellia ligurriens*, *Musca domestica*, *Ophyra chalcogaster*, *Parasarcophaga brevicornis*, *Parasarcophaga albiceps* and *Parasarcophaga knabi*.

Studies on the photophilic behaviour of flies reveal that most of the species are either heliophilic or ~~xxx~~ scotophilic, but there is another group of flies (including *Musca domestica*, *Musca sorbens* and *Parasarcophaga albiceps*) which are equally available in the sun as well as in the shade.

Flies in general are attracted to fish-bait than to any other [redacted] bait. Calliphorid and Sarcophagid flies show preference to proteinaceous baits more than the Muscids.

Chrysomya megacephala, Chrysomya rufifacies, Musca domestica, Musca sorbens and Musca lugens exhibit bimodal dial periodicity curve in May and in early September but their activity curves become unimodal in late September. Calliphorids and Muscids are active throughout the day-light period, but the activity of Chrysomya megacephala and Chrysomya rufifacies diminish in and around noon hours when their ambient temperature rises above their thermal preferendum level. The inactivity of Muscid flies in the same hours is due to rainfall or due to rise of atmospheric temperature beyond the level of their thermal preferendum. Under experimental conditions Chrysomya megacephala, Musca domestica, Musca sorbens and Musca lugens are found to exhibit bimodal feeding and mating activity curves while those flies exhibit unimodal curves of activity in respect of oviposition and pupal emergence.

Hemipyrellia ligurriens, Hemipyrellia pulchra, Chrysomya megacephala and Musca domestica exhibit greater degree of domestication, while higher danger indices were recorded in cases of Hemipyrellia ligurriens, Parasarcophaga misera, Parasarcophaga ruficornis, Boettcherisca perigrina, Hemipyrellia pulchra, Parasarcophaga knabi and Parasarcophaga albiceps.

It is concluded that the dangerousness of a fly species depends not only on the degree of its dangerousness or danger index but also on its abundance.