

Introduction. Phoresy is a dispersal phenomenon whereby one animal utilises another for transportation. This method of dispersal is used by pseudoscorpions, which usually attach themselves to flies - but occasionally beetles and harvestmen - by grasping the legs of the vehicle with one or both of their pedipalps.

The occurrence of pseudoscorpions attached to flies' legs has been reported from various parts of the world besides Great Britain; including Austria, Hungary, Germany, Switzerland, Belgium, France, Africa, America, Australia and the Malay Archipelago. In nearly all these cases the species concerned belong to the genus Lamprochernes. Cloudsley-Thompson (1956) and Beier (1967) record that only in a few cases has phoresy been confirmed in other genera, e.g. Allochernes.

A more intensive study of phoresy has been made since Kew's day and his view on the association of pseudoscorpions with other Arthropoda is no longer valid. Kew (1901) stated - "...from the facts now in our possession it seems impossible to avoid the conclusion that pseudoscorpions found on the legs of other Arthropoda - often relatively gigantic - are attacking the creature for food, and that notwithstanding their diminutiveness they are to be regarded, not as parasites, but as animals of prey". He does however point out in the same article that "The subject will bear further investigation...". The fact that the phoretic habit has been evolved to colonise new habitats is shown by Vachon (1947) who observed that most phoretic individuals are females, whilst in the habitats themselves males are often the more numerous sex. He also points out that the species that are commonly phoretic are inhabitants of vegetable detritus, manure heaps and tide-line debris, while those that live under the bark of trees and under stones are not phoretic. The former habitats are only temporary ones, whereas the latter are more permanent, and therefore there is this vital need for dispersal. Beier (1967) suggests a reason why only females are phoretic - "This is obviously connected with the fact that females at a certain stage of pregnancy are very restless and will cling with their pedipalps to any insect within reach, and will be transported some distance by them, thus ensuring the dispersal of the species" (trans.).

Lamprochernes nodosus (Schrank) is widely distributed over England, and has been recorded from a number of habitats - vegetable detritus, manure heaps, grass lawn cuttings, oak and beech litter, under the bark of birch trees - but most of the records are of specimens being found attached to the legs of the common house fly, Musca domestica L. Individuals have been seen carrying as many as four Lamprochernes on a single leg!

Maturity in L. nodosus is reached by the beginning of June, as indicated by the sudden appearance of large numbers of adults. There is an extensive breeding season from June to October, during which time

peak numbers of adults occur. Many of these adults are potentially phoretic females. This extensive breeding season can be correlated with that of M.domestica, which covers roughly the same period. A mature female house fly may lay six or more batches of eggs, selecting decomposing organic matter such as manure heaps or faeces as a breeding ground. Thus it is possible that a female Lamprochernes will come into contact with a female house fly when the fly settles to lay her eggs. Experiments carried out on flies, by marking their abdomens with a drop of paint when they emerged from their breeding ground, suggest that they can normally travel up to one mile from their breeding ground. Thus a female Lamprochernes, having attached herself to a house fly, could be transported a relatively great distance away from the existing colony to colonise a new habitat.

Conclusions. Most house flies die in October and November, although a few of them hibernate in order to commence the life-cycle again the following year. The lack of records for L.nodosus during the winter months suggests that this species also hibernates during this period. The various stages in the life-cycles of the pseudoscorpion L.nodosus and the fly M.domestica occur at the same time. It would seem then that, since M.domestica moves from one manure heap to another, and being an excellent means of transportation, Lamprochernes has adapted to utilise this method of dispersal.

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