

Fletcher, T. B.—Ent. Mo. Mag., 1909, p. 168.

He exhibited at meeting of Ent. Soc. Lond. 2 June, 1909, an example of *Scarabaeus gangeticus* taken on wing, carrying small Borborid flies.

The habit of certain Borborid flies in attaching to coprophagous beetles is evidently world wide, and undoubtedly aids them in locating suitable breeding places. The habit of certain Hymenopterous egg-parasites of clinging to parents of the eggs is quite possibly confined to certain groups. The other cases are difficult of classification, and some may be accidental.

### Cases of Phoresie.

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The cases where insects are transported by other insects are comparatively few. Among the mites, there are long series of forms in which it is the rule that the mite is in some of its stages transported by insects. The well-known case of the triungulins of Meloidae, being carried by bees, is found in all text-books. But there is a considerable number of records of other insects being transported by larger insects. Some years ago Mrs. Slosson sent me some Chrysopids from Mt. Washington that had, clinging to their wings, some small flies.

Phoresie, Melophoridism

Banks, 1911

Since then I have been interested in listing articles on this subject, and the titles, with comment, are herewith presented, recognizing, of course, that the list is not complete.

*Meigen, J. W.*—Systematische Beschreibung der europäischen zweiflügeligen Insekten VII, p. 409, 1838.

Describes *Limosina sacra*, a Borborid fly found on the under surface of the sacred Scarabæus (*Ateuchus sacer*).

*Xambeu, P.*—Bull. Soc. Ent., France, 1877, p. lxix. Records finding a specimen of a Chalcidid.

*Podagrion pachymerus* Dalm., attached to the under wings of a *Mantis religiosa* L.; it waits till the female makes an egg-mass, and then deposits its eggs therein.

*Moulton, J. T.*—Flies riding on a tumble-bug. Amer. Entom., vol. III, p. 226, 1880.

Noticed in Missouri, a small fly (possibly *Limosina*, from the brief description), riding on a tumble bug.

*Sharp, D.*—Proc. Ent. Soc., London, 1890, p. xxx.

Exhibited a specimen of one of the bird flies, *Ornithomyia avicularia*, to which were attached by their mandibles several specimens of Mallophaga.

*Eaton, A. E.*—Flies riding on beetle back.—Ent. Mo. Mag., 1896, p. 139.  
Borborid fly on back of a coprophagous beetle in England.

*Walker, J. J.*—Flies riding on beetle back.—Ent. Mo. Mag., 1896, p. 161.

Notes *Ateuchus variolosus* at Gibraltar with Borborid flies upon them.

*Lesne, P.*—Moeurs du *Limosina sacra*. Phénomènes de transport mutuel chez les animaux articulés; origine du parasitisme chez les insectes Diptères.—Bull. Soc. Ent., France, 1896, p. 162-165.

Gives account of *Limosina sacra* on specimens of *Ateuchus laticollis*; also notes that larvae of *Antherophagus* (Cryptophagid beetles), ride on bees like triungulins of Meloids. Lesne proposes the term "phorésie" for this transportation of one insect by another.

*Chobaut, A.*—Observations sur un Diptère vivant sur les Ateuchus.—Bull. Soc. Ent., France, 1896, p. 166.

Confirms the observations of Lesne.

*Bloesch, Ch.*—Physapodes se sont transporter par les guepes.—Feuille Jeun. Natur. (3) vol. XXV, p. 75-76, (1896).

*Slosson, Mrs. A. T.*—Singular habit of a Cecidomyid—Ent. News, 1896, p. 238.

A Cecidomyiid attached to *Chrysopa*; suggested that the cecidomyiid is predaceous on plant lice, that are also preyed upon by the *Chrysopa* larvae.

*Cummings, H. A.*—Parasites of the house-fly. Science Gossip, 1899.—(Amer. Mo. Micr. Journ., Oct., 1899, p. 318.)

Notes that in Bermuda a small red ant is carried by the fly.

*Kertész, K.*—Dipterologisches aus New Guinea. Termes. Füzetek. XX, p. 611-613, 1897.

Small flies riding on a large one. (*Agromyza minutissima* n. sp. or *Ommatius minor* D. qu. 13. 1896)

*Biro, L.*—Commensalismus bei Fliegen.—Termes. Füzetek. XXII, p. 200, 1899. (Also Rovartani Lapok, 1897, p. 129).

Two *Agromyza minutissima* carried by an *Ommatius minor*, in New Guinea. Yin hairs

*Mik, J.*—Merkwürdige Beziehung zwischen *Desmometopa m.-atrum* Meig. aus Europa und *Agromyza minutissima* V. d. Wulp. aus New Guinea.—Wien. Ent. Zeit., 1898, p. 146-151.

Found 13 specimens of a small fly (*Desmometopa (Agromyza) m-atrum*) attached to a dead worker bee, that was still fresh. Reviews papers by Biro and Kertész. , vol. 17,

*Warner, W. V.*—Proc. Ent. Soc. Wash., V. p. 308-309, 1903.

Exhibited specimen of *Scelio (Serphidae)* clinging by jaws to the side of a grasshopper, *Dichromorpha viridis*. The genus *Scelio* is parasitic on the eggs of grasshoppers.

*Schulz, W. A.*—Dipteren als Ektoparasiten an südamerikanischer Tagfaltern.—Zool. Anzeiger, XXVIII, p. 42-43, 1904.

Notes Phoridae attached to butterflies of genera *Morpho* and *Helicopsis* in Brazil.