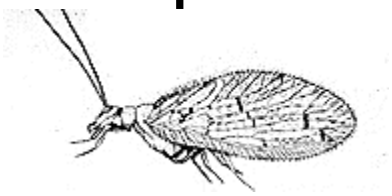
Chapter XI —Aquatic Neuroptera



(Spongillaflies)

- (Williams & Feltmate, 1992)
  - Superphylum Arthropoda
    - (jointed-legged metazoan animals [Gr, *arthron* = joint; *pous* = foot])
  - Phylum Entoma
  - Subphylum Uniramia
    - (L, *unus* = one; *ramus* = branch, referring to the unbranched nature of the appendages)
  - Superclass Hexapoda
    - (Gr, *hex* = six, *pous* = foot)
  - Class Insecta
    - (L, *insectum* meaning cut into sections)
  - Subclass Ptilota
  - Infraclass Neopterygota

The order Neuroptera is closely related to the order Megaloptera (alderflies, fishflies and dobsonflies) in the infraclass Neoptera, division Endopterygota. Only 1 of 40 families of this order--Sisyridae-- has aquatic larvae. Two genera of the Sisyridae occur in North America, both having terrestrial eggs, pupae, and adults. Larvae are highly specialized predators on freshwater sponges; thus they are called spongillaflies.

Life History

They are holometabolous. Adults live about 2 weeks. Sisyrids may go through 2 to 5 generations each year depending on ambient temperature and food conditions. They overwinter as third-instar larvae or prepupae. The larvae pass through 3 instars before swimming to the shore and crawling out onto the bank.

Habitat and Ecological preference

Sisyrid larvae live exclusively in association with freshwater sponges, either on the surface or in the body cavities of their hosts. They are classified as climbers, clingers, or burrowers.
While the habitat of freshwater sponges and, thus, of sisyrids, ranges from cool, clean lakes and streams to relatively polluted ponds, the former is more typical.

Feeding

Larval sisyrid mouthparts are highly modified for piercing the tissues and sucking the contents of sponges. Adult spongillaflies feed on nectar and pollen.

References

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