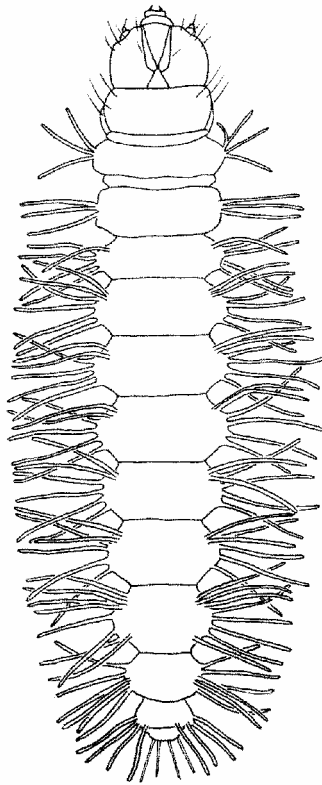


CHAPTER 11

LEPIDOPTERA (Aquatic Moths)



Citation:

Bouchard, R.W., Jr. 2004. Guide to aquatic macroinvertebrates of the Upper Midwest. Water Resources Center, University of Minnesota, St. Paul, MN. 208 pp.

11

ORDER LEPIDOPTERA

Aquatic Moths

The order Lepidoptera (butterflies and moths) is primarily terrestrial, but there are a few species with aquatic larvae. Moth larvae considered aquatic feed above the water surface on aquatic vegetation, mine aquatic vegetation, or feed externally on submerged aquatic algae and macrophytes. Some species construct portable retreats similar to those of Trichoptera. The majority of truly aquatic moths that feed externally on submerged vegetation are in the family Pyralidae, the only family treated in this guide. All lepidopterans will key out in the Insect Order Key (Chapter 3) of this guide, including terrestrial taxa that can sometimes be inadvertently collected in aquatic samples. The only way to identify a caterpillar as truly aquatic is by the presence of filamentous gills on the body (Fig. 11.1) or the presence of a portable case or retreat. In addition, most truly aquatic Lepidoptera larvae possess small abdominal prolegs with crochets in an oval pattern. Most terrestrial and semiaquatic Lepidoptera have well-defined prolegs with the crochets in a circular pattern.

Lepidoptera Morphology

Lepidopteran larvae can be recognized by the combination of two characters: 1) three pairs of segmented thoracic legs and 2) leg-like protuberances ending in tiny hooks (ventral prolegs) on abdominal segments three to seven (Fig. 11-2). Some aquatic species possess filamentous gills on the body (Fig. 11.1), but this character is absent in other species.

Lepidoptera Family Descriptions

Pyralidae

- Common Name:** Aquatic Moths
Feeding Group: Shredders
Tolerance Value: 5 (Moderate)
Habitat: Aquatic moths most commonly live in ponds and marshes, but some groups are found in streams.
Size: Small to Large (3-35 mm)
Characteristics: Appearance similar to terrestrial caterpillars although some species have elongate lateral gills; sclerotized head capsule; three pairs of segmented legs; abdomen with pairs of leg-like protuberances (ventral prolegs) ending in tiny hooks (crochets).
Notes: These larvae are most commonly associated with aquatic vegetation, although some species feed on diatoms from the surfaces of rocks. Some species build cases as Trichoptera do, while others are free-living.

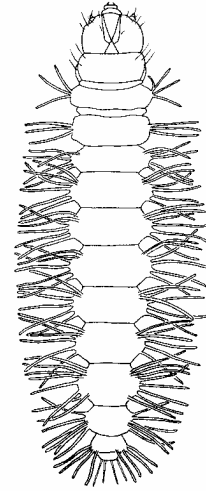


Figure 11.1:
Nymphulinae
(Pyralidae) larva,
Dorsal View.

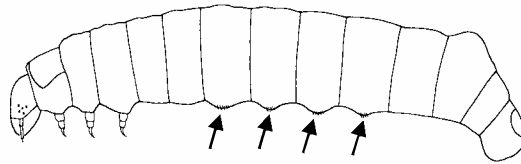


Figure 11.2:
Nymphula sp.
(Pyralidae) larva,
Lateral View.