



Mayfly Identification

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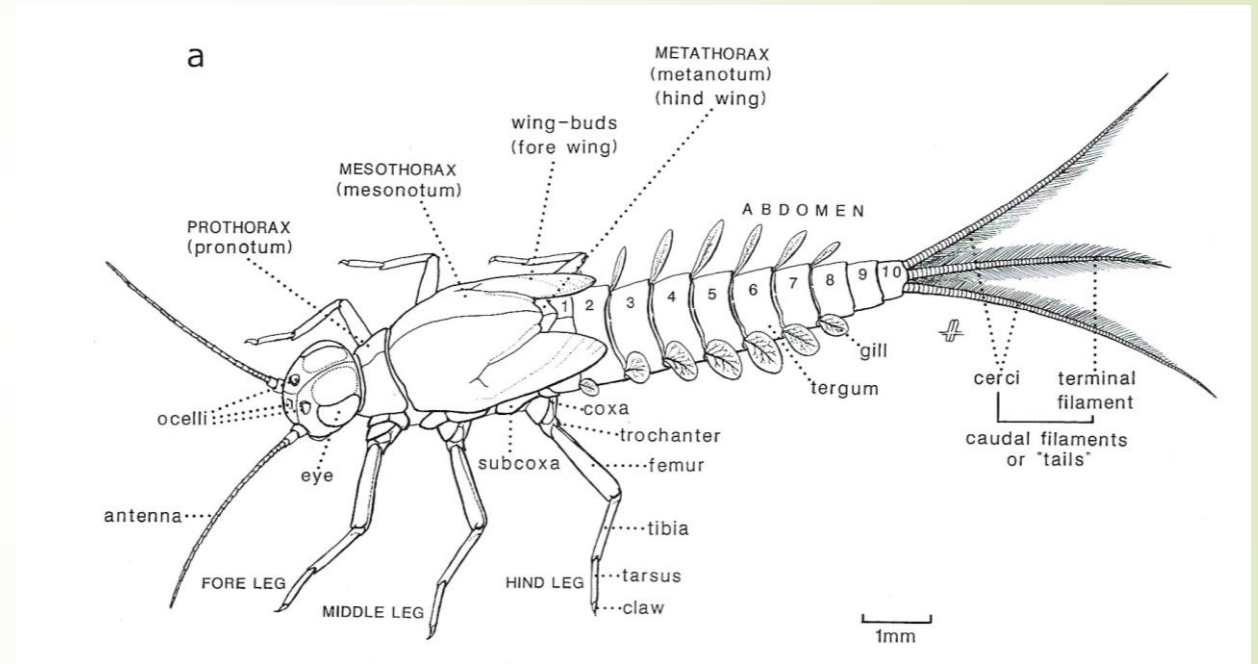


Mayfly Basics

- ▶ Mayflies are insects of the Order Ephemeroptera.
- ▶ Eggs laid become NYMPHS. They are similar to adults, but without wings and sexually immature.
- ▶ The nymph is aquatic generally living for up to a year. In the UK there is usually 1 generation per year.
- ▶ Adults emerge (hatch) throughout the year not just May. The sub-imago (dun) moults into an imago (spinner).
- ▶ Mayflies are sensitive to pollution; 4 families are part of the Riverfly list.

Identification to Family Level

- ▶ Mayfly nymphs are recognised by 3 tails (cerci) compared to Stoneflies with 2.
- ▶ Up to 7 pairs of gills are found along the abdomen. Their number, shape and position identify mayflies to Family level along with body shape.
- ▶ Useful words...
 - ▶ Sections: head, thorax & abdomen
 - ▶ Legs: femur, tibia, tarsus, claw
 - ▶ Position: pro- (front), meso- (middle) & meta- (back)



- ▶ © Freshwater Biological Association publication FBA 66.

Family: Caenidae

Identification

- Gills under covers. Tails long.
- Nymphs have a squat body up to 9mm long.
- Easy hits...
 - Abdominal segments 3-7 with flat blade-like, backwardly pointing projections + 3 distinct tubercles on the head (*Brachycercus harrisellus*)
 - All others are in the genus *Caenis*.



Family: Ephemeridae

Identification

- Each gill 2-branched with fine filaments down the sides, held over back, and extend over first half of abdomen.
- Easy hits...
 - Only one genus (*Ephemer*)



Family: Heptageniidae

Identification (1)

- Body and femora (of legs) markedly flattened; tails very long.
- Gills are a combination of a plate and tufts, NOT feathery.
- 5 genera – check the pronotum (behind head) and markings on legs.
- This is *Ecdyonurus* sp. It is identified by the round backward-pointing projections on the sides of the pronotum.



Family: Heptageniidae

Identification (2)

- Body and femora (of legs) markedly flattened; tails very long.
- Gills are a combination of a plate and tufts, NOT feathery.
- 5 genera – check the pronotum (behind head) and markings on legs.
- This is *Rhithrogena* sp. It has no pronotal extension. A dark red spot is found on each femur.



Family: EphemereUidae

Identification

- 4 pairs of plate-like gills held over the back of the abdomen.
- 2 species, one common across UK. One rare – Scotland, Wales & Northern England.
- Easy hits...
 - *Serratella ignita* has distinctly striped legs and tails.



Family: Leptophlebiidae

Identification (1)

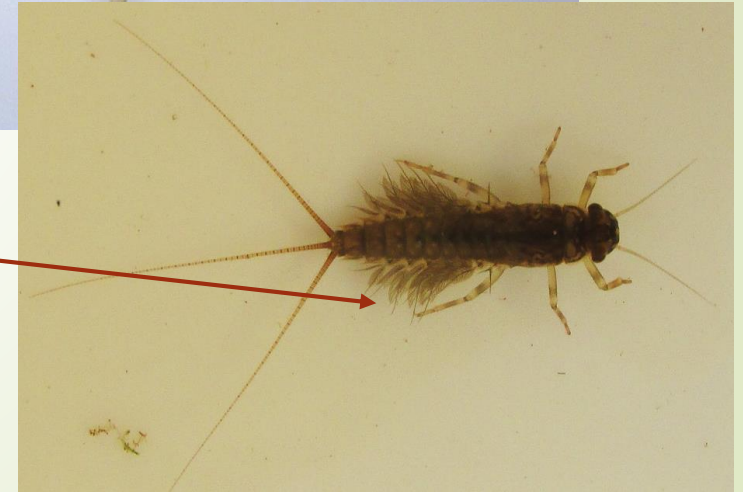
- 6 or 7 pairs of filamentous gills held out sideways.
- Tail lengths > body length.
- Easy hits...
 - *Habrophlebia fusca* has all 7 pairs of gills, each gill with several filaments.



Family: Leptophlebiidae

Identification (2)

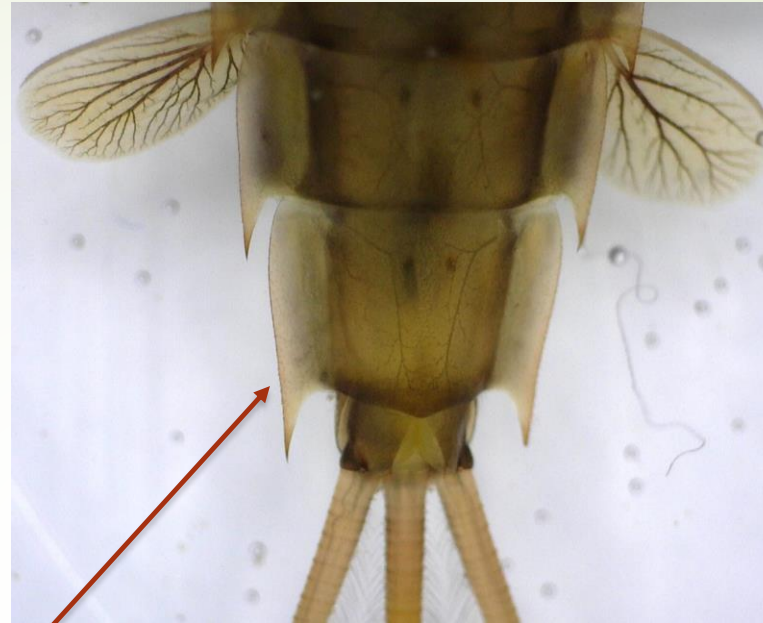
- 6 or 7 pairs of filamentous gills held out sideways.
- Tail lengths > body length.
- Easy hits...
 - *Paraleptophlebia submarginata* has all 7 pairs of gills, each gill with a pair of filaments; first pair half size.
 - This leaves *Leptophlebia* spp. with two plates tapering to a fine filament.



Family: Siphonuridae

Identification

- Tails of equal length with thick black band centrally.
- First two gill plates are double.
- Hind corners of final 3 abdominal segments with **large** spines.
- Easy hits...
 - One genus *Siphonurus*.



Family: Ameletidae

Identification

- Tails of equal length with thick black band centrally.
- 7 pairs of single gills oval in shape.
- Hind corners of final 3 abdominal segments with **small** spines.
- Easy hits...
 - One species *Ameletus inopinatus*.



Family: Baetidae

Identification

- 7 pairs of simple gills positioned laterally; gills may be single or paired.
- Possible confusion with *Ameletus inopinatus*.
- Easy hits...
 - **Genera:** *Baetis* has a shortened middle tail.
- Location...
 - Adapted to still water (*Cloeon spp.*)
 - Require flowing stream (*Procloeon*)

