

Caddis Training Course

Supplementary larval identification notes

Reminder of the two main groups of Caddis

- The (true)
Cased Caddis
- The (true)
Caseless Caddis

... and the third group the Primitive Caddis

Family List (alphabetical)

FAMILY	Type
Beraeidae	Cased
Brachycentridae	Cased)
Ecnomidae	Caseless
Glossosomatidae	Cased (Primitive type)
Goeridae	Cased
Hydropsychidae	Caseless
Hydroptilidae	Cased & Caseless (Primitive type)
Lepidostomatidae	Cased
Leptoceridae	Cased
Limnephilidae	Cased
Molannidae	Cased

Family list (alphabetical) concluded

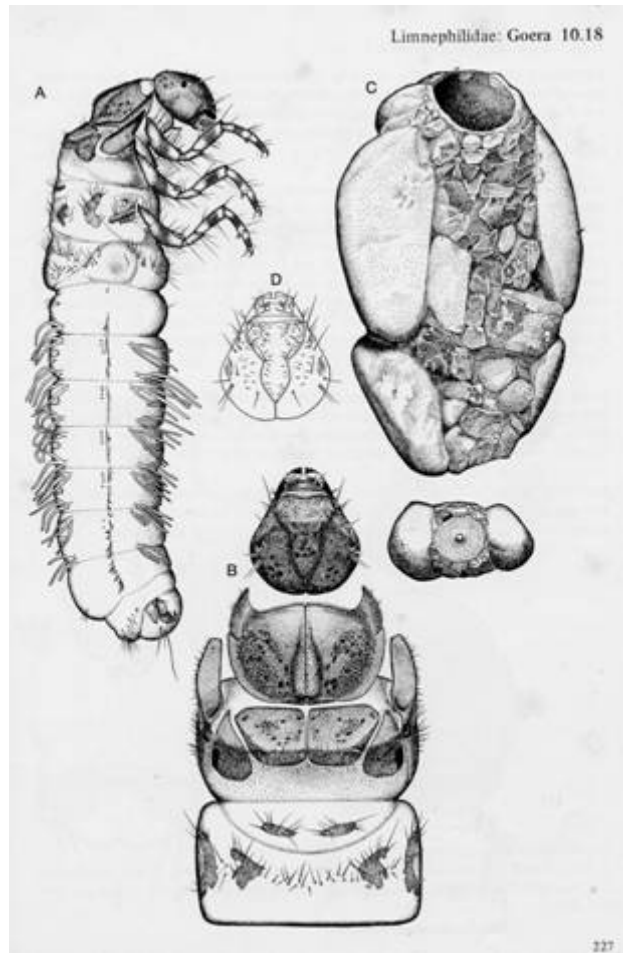
Odontoceridae	Cased
Philopotamidae	Caseless
Phryganeidae	Cased
Polycentropodidae	Caseless
Psychomyiidae	Caseless
Rhyacophilidae	Caseless (Primitive type)
Sericostomatidae	Cased

In the following list, the families have been grouped on basic similarity

Group 1

Families that have larval cases only ever made of sand grains

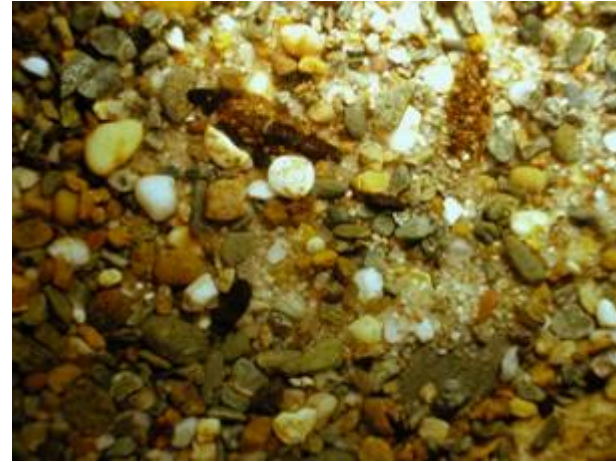
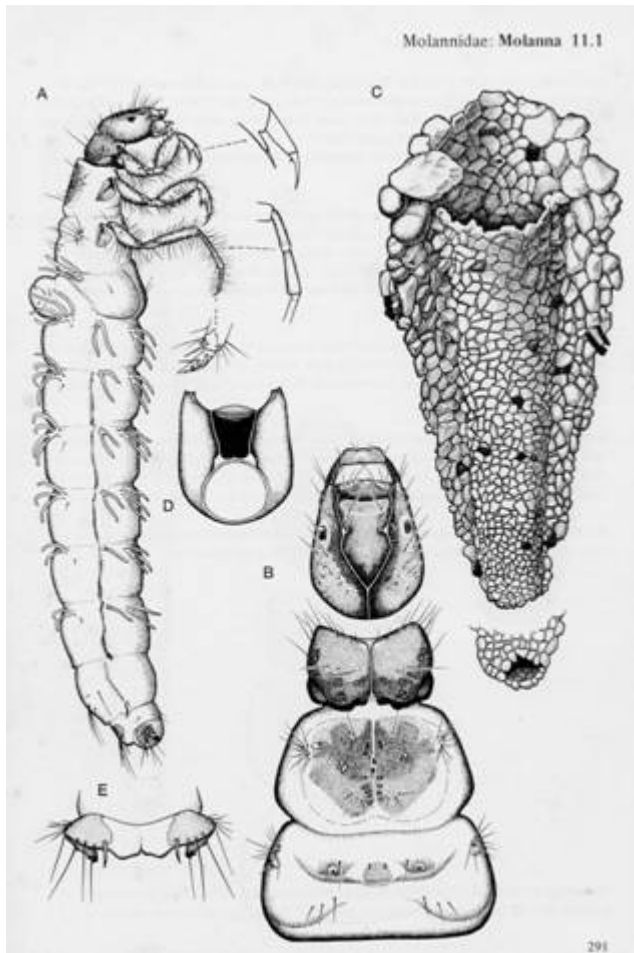
Goeridae



Goeridae

- large ballast stones integrally incorporated into case and could not be removed without case being destroyed; no other family has such large or well incorporated stones
- Larva with scalloped head that acts as a plug to close the front of the case
- BEWARE 1. that larvae are often very dirty and need crud scraped off to enable species identification.
- BEWARE 2. the cases can persist for years after the adult has emerged so in counts of numbers it is easy to include empty cases AND it is not easy to see if the case is occupied as the larva may have a dirty head and not come out of its case easily.
- Otherwise not a problematical family

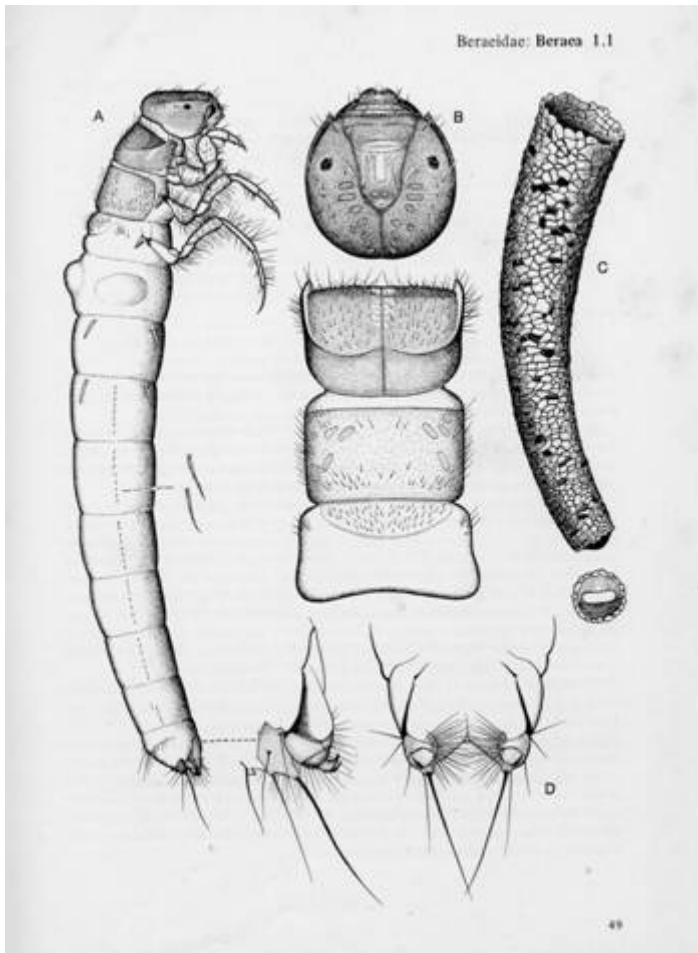
Molannidae (Shield-cased Caddis)



Molannidae

- Unmistakeable case but BEWARE that the wings are usually damaged to some extent in sampling leading to a larva in a fragile tube of and silk, or out of a case completely.
- Various features on the legs make larvae easily recognisable (see proper key)
- Larvae most similar to Leptoceridae in head shape, antenna length and position, relative leg length between middle and hind

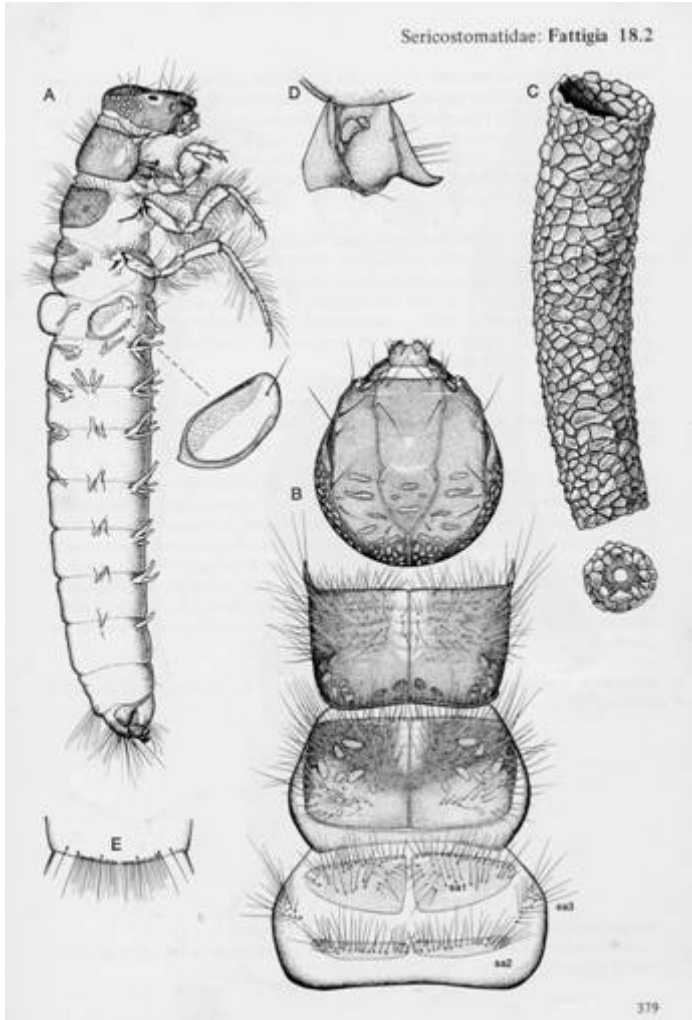
Beraeidae



Beraeidae

- Small larvae cases up to max of 1cm long.
- Most species with orange heads
- Most live in trickles and flowing grassy marshes. THEREFORE rarely encountered in normal sampling
- Confusable only with very small *Sericostoma personatum* that can live in trickles – see Sericostomatidae account for guidance.
- *Beraeodes minutus* that lives amongst the roots of marginal vegetation in all sorts of waters is unlike any other Beraeid but is recognisable by its speckly pronotum and black head and the hind legs being much longer than the middle legs. May be encountered at certain sampling sites on a regular basis.

Sericostomatidae

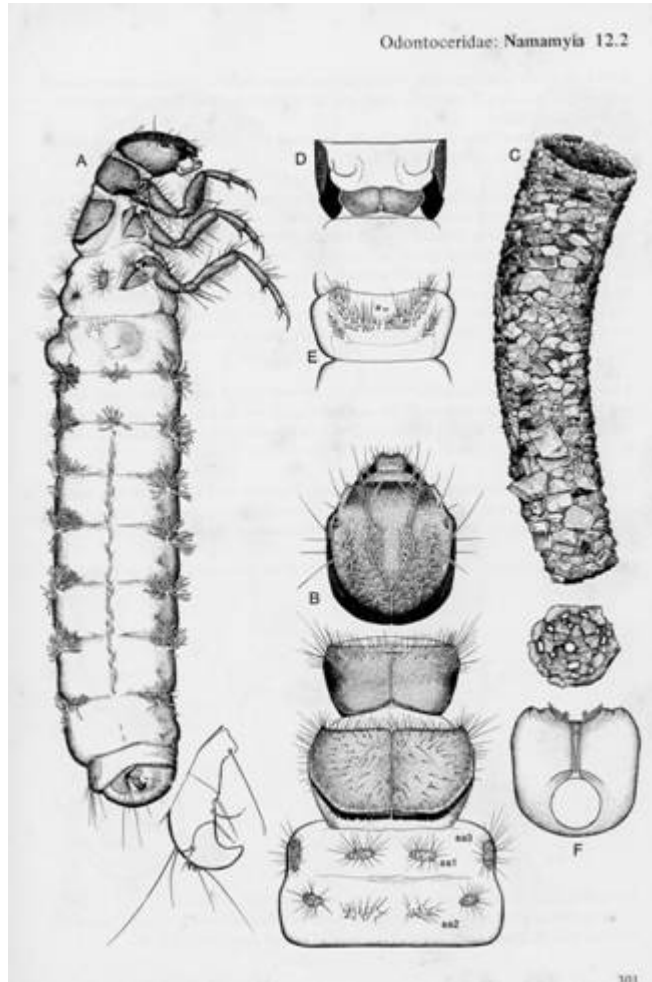


Sericostomatidae

- Curved sand grain case
- Flat dark brown head
- Fat membrane with round central hole closes posterior end of case; hole is a slit in the pupal case.
- BEWARE small larvae, cases circa 4mm or less may have pale heads and be difficult to distinguish from similar sized and patterned odontocerids and beraeids; anal proleg with extra claws will help versus odontocerids and the lack of a single very much stronger seta on anal prolegs, unlike beraids.
- It is almost always *Sericostoma* that is encountered as the other *Notidobia* lives in root crowns of marginal grasses in slow rivers and canals.

Odontoceridae

1 species “Anchor Head”



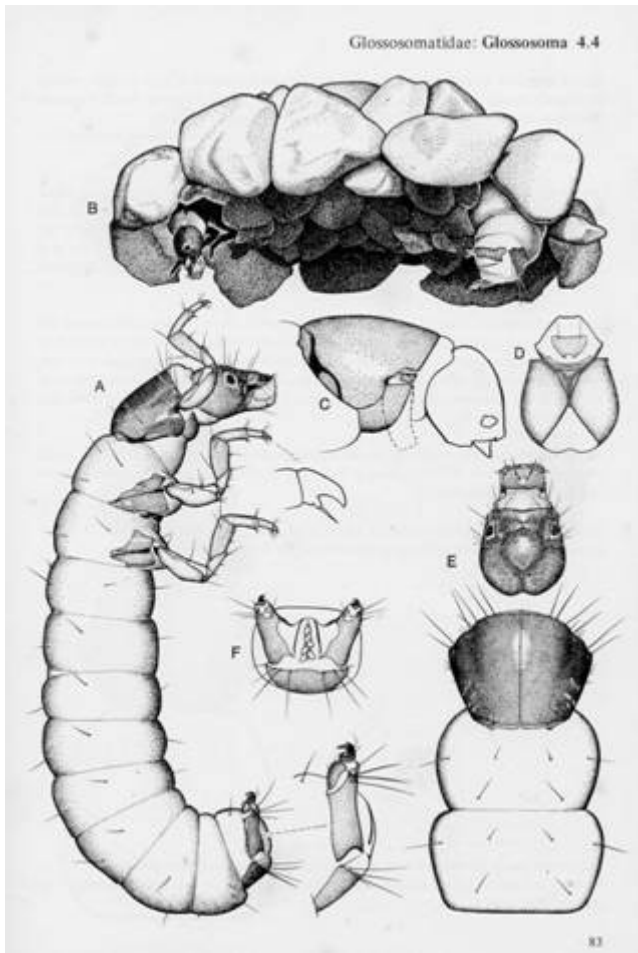
Odontoceridae

- One species
- Running water only on a substratum of stones and gravel
- Characteristic anchor head mark when large
- Case closed by larger sand grain at posterior end, and pupal case anterior end closed by larger grain too but BEWARE these closing stones can be knocked off during kick sampling
- Small larvae similar to sericostomatids but the simple anal proleg claw with no extra hooks and few hairs at the rear end will distinguish *Odontocerum*

Glossosomatidae

(Saddle Case Makers or Tortoise Caddis)

One of the primitive caddis)



Glossosomatidae

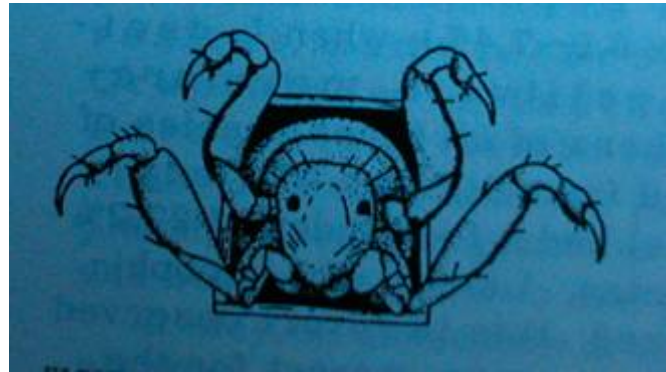
- Unmistakable larval and pupal cases
- BEWARE larvae often found free in samples as they bale out of the case
- Running water, but also lake shores near inflows
- Easy to get to genus; pretty horrible to get to species; *Agapetus fuscipes* is abundant and only species in most small streams

Group 2

Families with larvae that make cases
using vegetable material

Brachycentridae

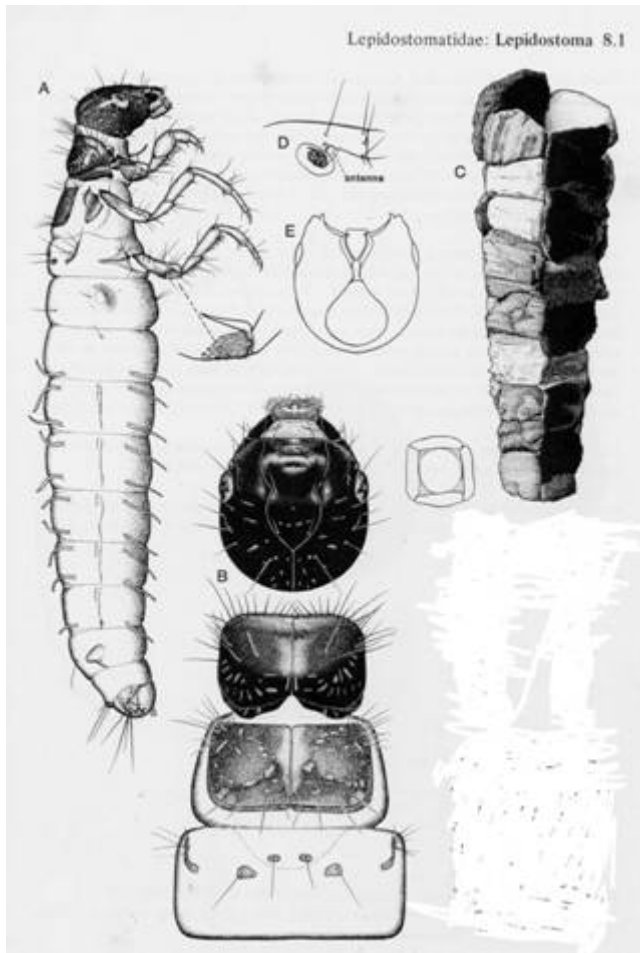
(Grannom) (1 usually unmistakable species)



Brachycentridae

- One species in moderate to fast rivers and large streams
- Patchy distribution, absent from many apparently suitable sites
- Larva with powerful middle and hind legs held in a praying mantid pose
- Brown bands on head
- Rounded bendable case mainly of secreted material when large but BEWARE when small larva lives in case of square section of plant material and looks very like that of *Lepidostoma hirtum* with which it often lives but that has normal legs, and a dark brown head with pale spots.
- Many other distinguishing feature, see proper key.

Lepidostomatidae

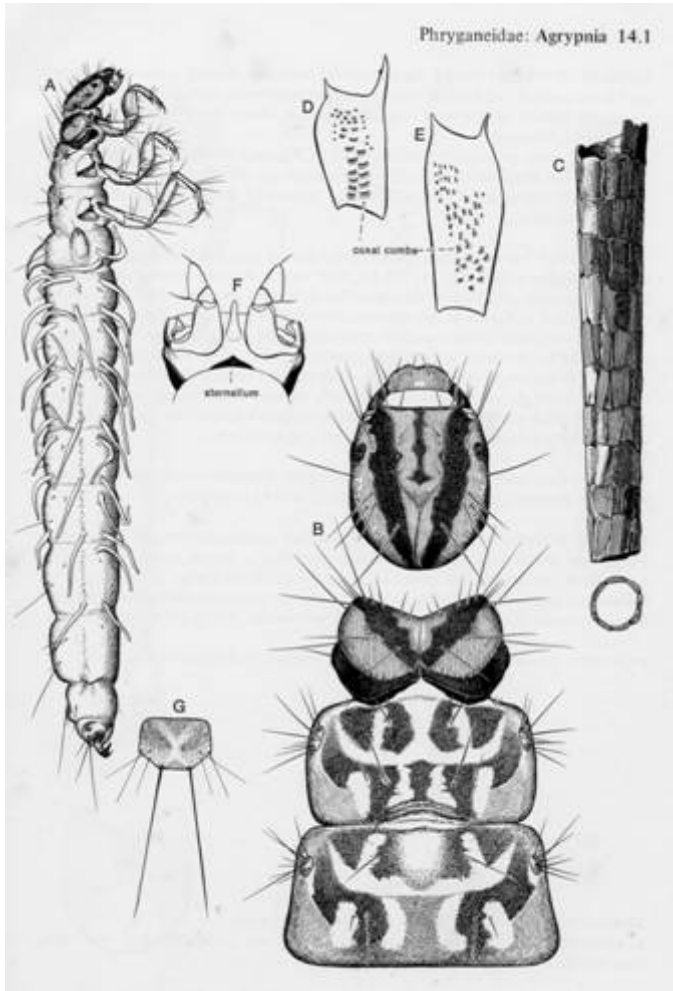


Lepidostomatidae

- 3 species
- *Crunoecia* and *Lepidostoma* usually live in cases with some or all of square construction made from plant material; if there is no plant material the case is straight not slightly curved, which is unusual for caddis
- Only confusable when young with *Brachycentrus*
- larva “limnephilid” like with short legs

- *Lasiocephala* with its small curved case of sand grains is not so immediately recognisable but few limnephilids in its stream and river habitats are in such slender cases
- It too has a brown head with pale spots

Phryganeidae



Phryganeidae

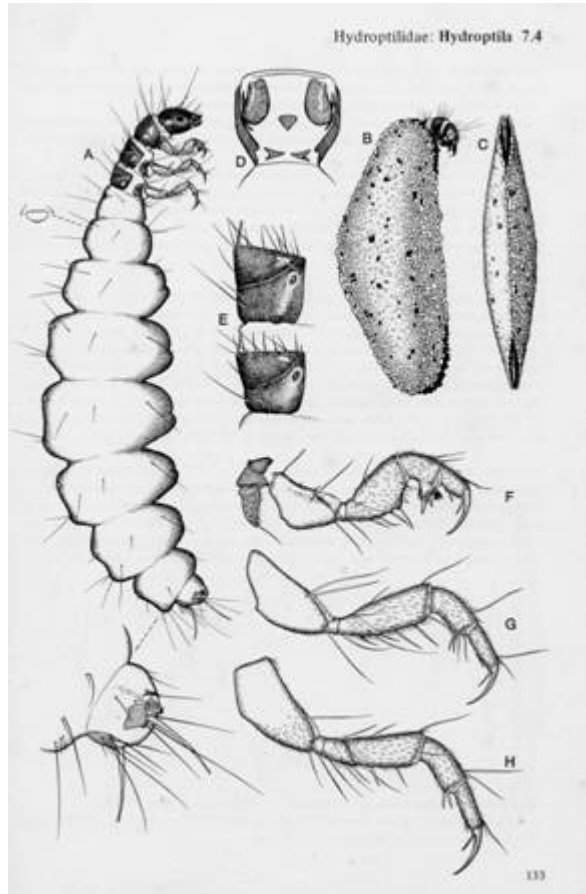
- Most species encountered in sampling typical still or slow-moving water-bodies have cases made of cut plant pieces arranged in a spiral
- Most species encountered have conspicuously banded heads and pronotum

Group 3

The micro caddis

Hydroptilidae

(Purse-cased or Micro-caddis)
one of the primitive caddis



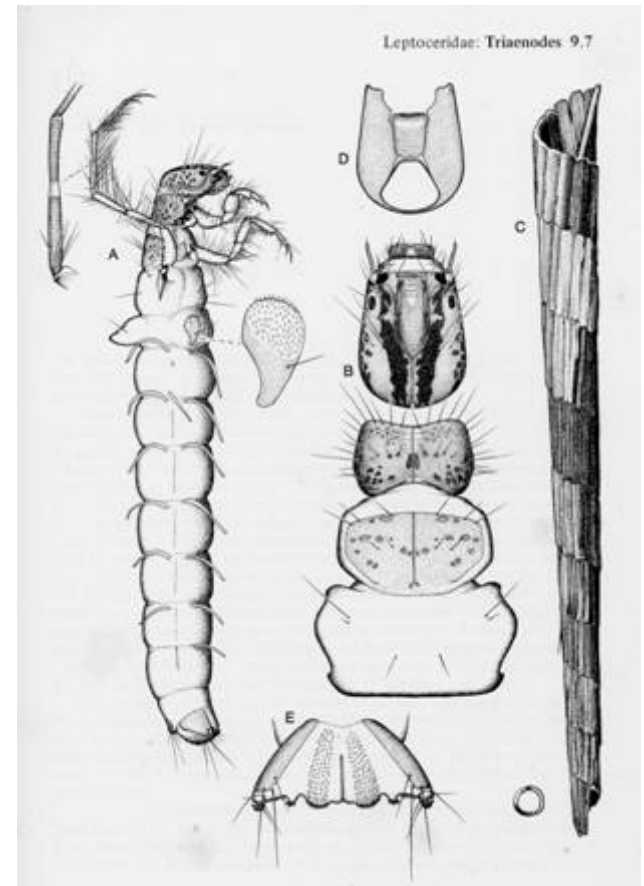
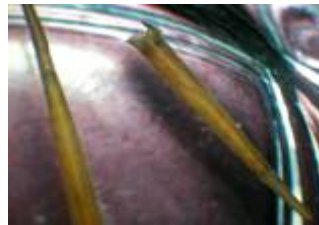
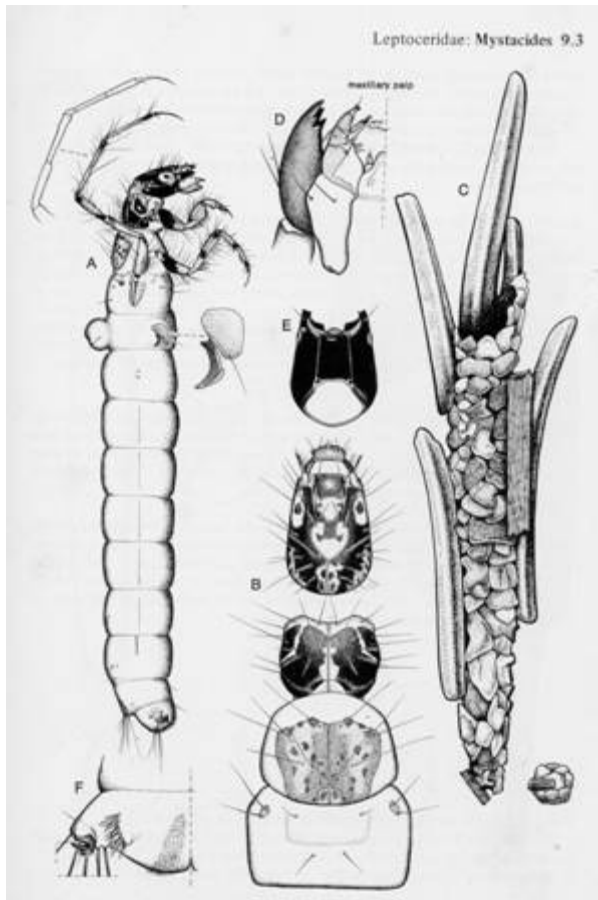
Hydroptilidae

- Unmistakable small flattened cases.
- Most genera easy to tell apart by the cases, but species identification only possible for a few

Group 4

Long-legged larvae

Leptoceridae (The Longhorn Caddis)



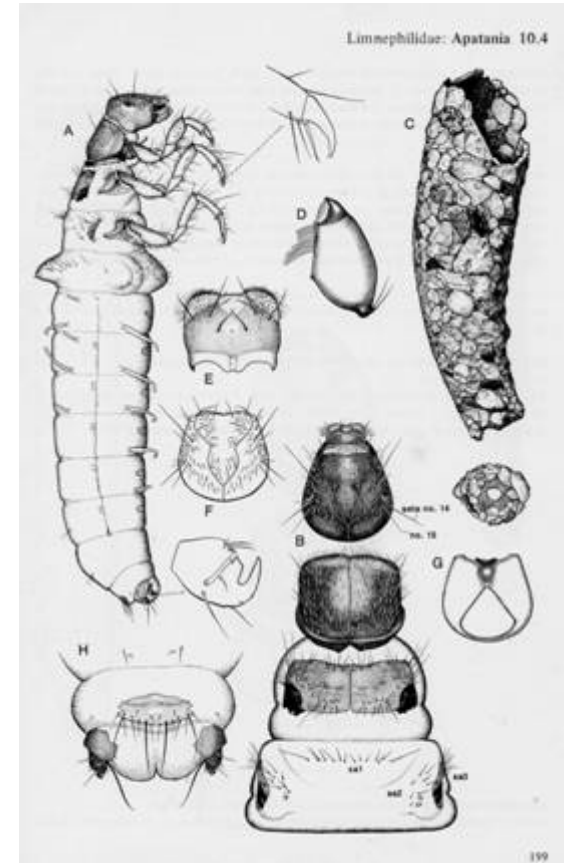
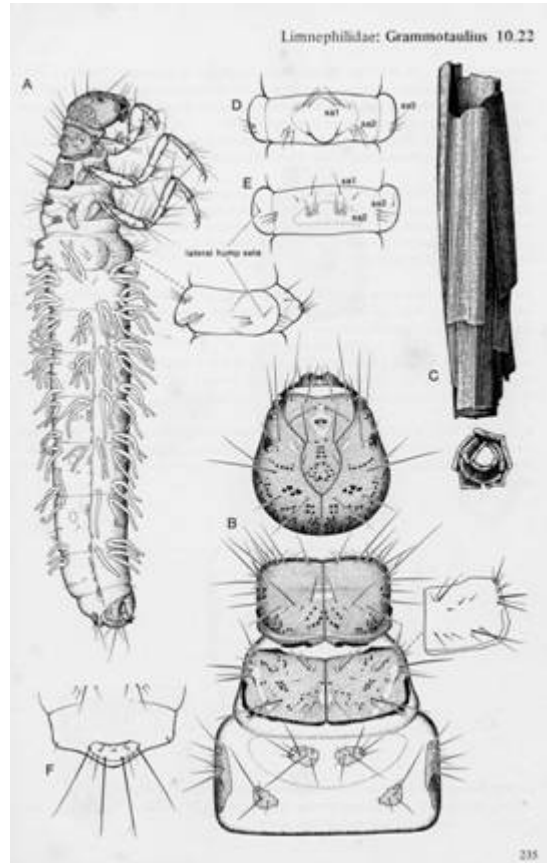
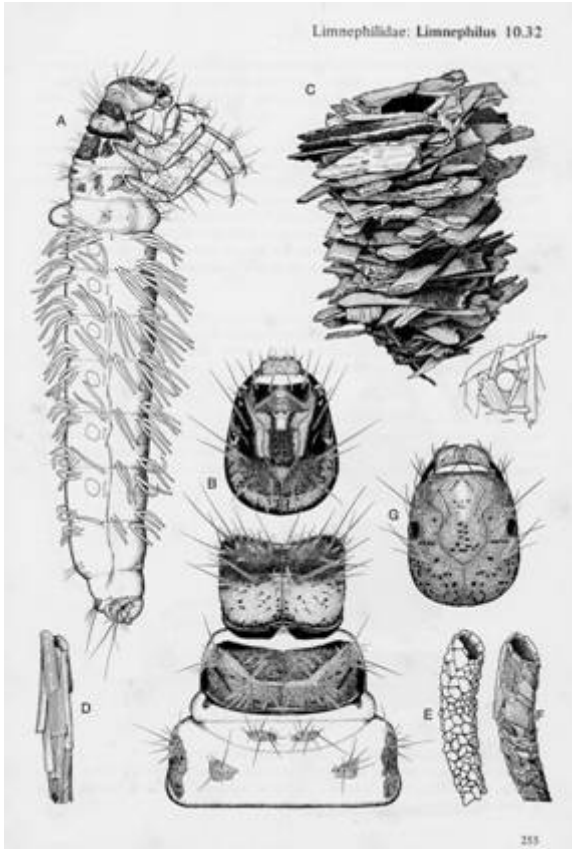
Leptoceridae

- Small larvae, with narrow cases only a few millimetres wide
- Very long hind legs compared with the middle legs, and held pointing forwards
- Cases of many genera characteristic allowing many species to be identified by a combination of case shape and habitat
- Most species found in larger water-bodies
- Most species grow in spring so are very small overwinter

Group 5

Often big larvae, all sort of types of sand grain and vegetable and mixture cases

Limnephilidae



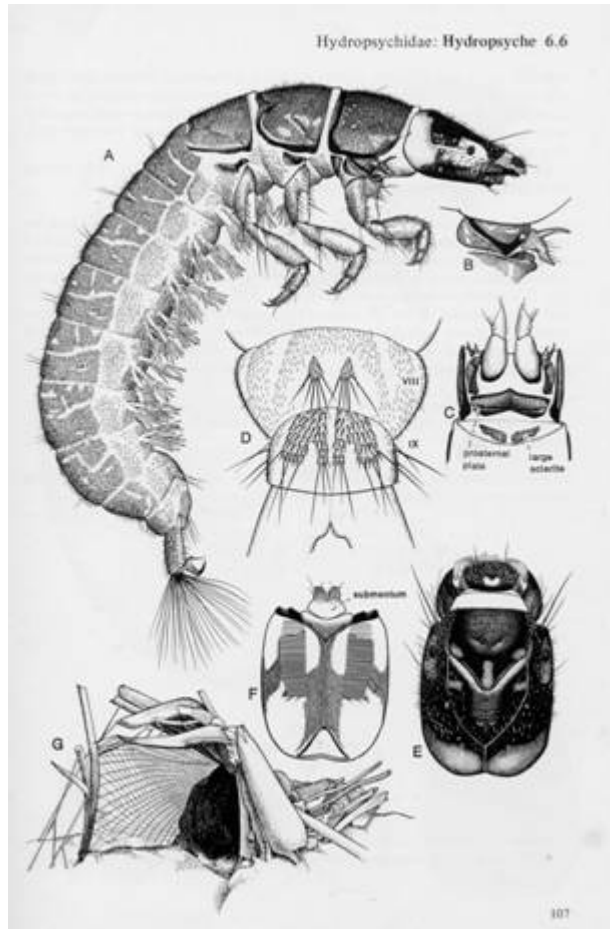
Limnephilidae

- Largest caddis family in Britain
- Most commonly encountered cased caddis in smaller water-bodies
- Can be very large caddis larvae
- Untidy cases made of odds and sods will usually be limnephilids, with only the leptocerid genus *Mystacides* which has extremely slender legs being found in similar cases. Most species and even many genera cannot be told by the case alone
- Robust and easily recognisable as limnephilids by a combination of characters, see proper key
- Hind legs and middle legs of a similar length

Group 6

The caseless caddis larvae

Hydropsychidae (Net makers)



Hydropsychidae

- Unmistakeable at family level
- Pretty easy at generic level
- Genus *Hydropsyche* not easy to identify to species, apart from the fortunately very common *siltalai*
- BEWARE small larvae, i.e. any that are less than the general final instar headwidth given in caseless key, page 107 i.e. over 1.3mm; some might be ok but watch it

Ecnomidae

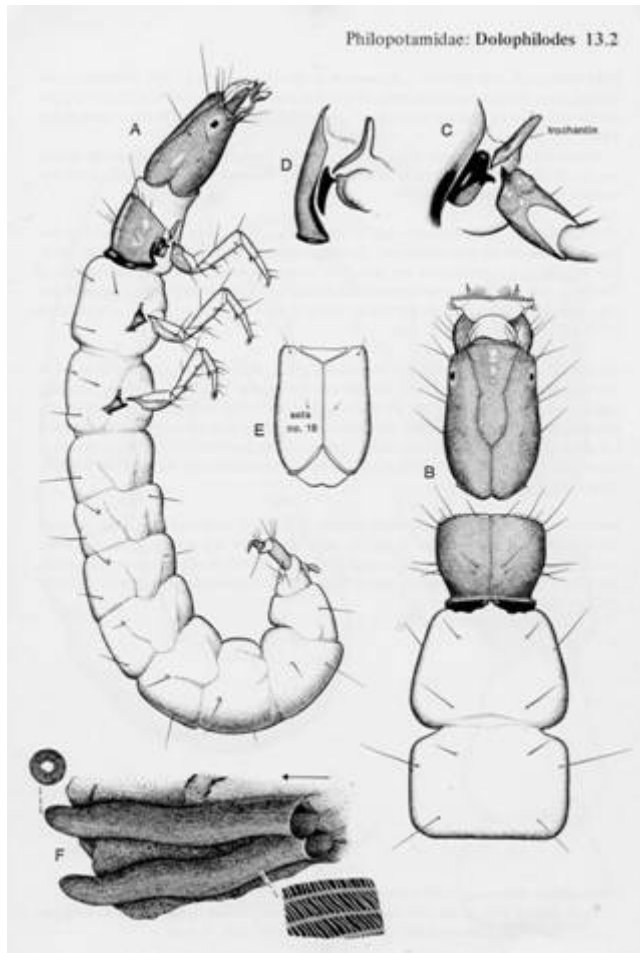
(1 species, but rarely found)
open ended tube maker



Ecnomidae

- Not often encountered but occasionally, often in newish water bodies, or from deep-water samples, can be numerous.
- Still and slowly-flowing waters
- Fortunately the thoracic plates of meso and metanota are outlined at sides and back in black, which distinguishes them from the polycentropodids

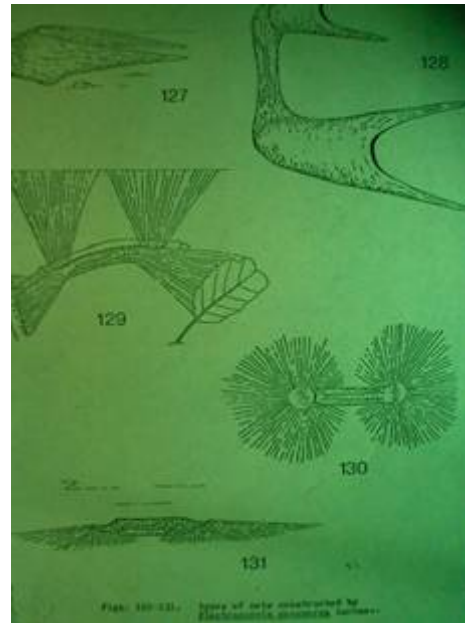
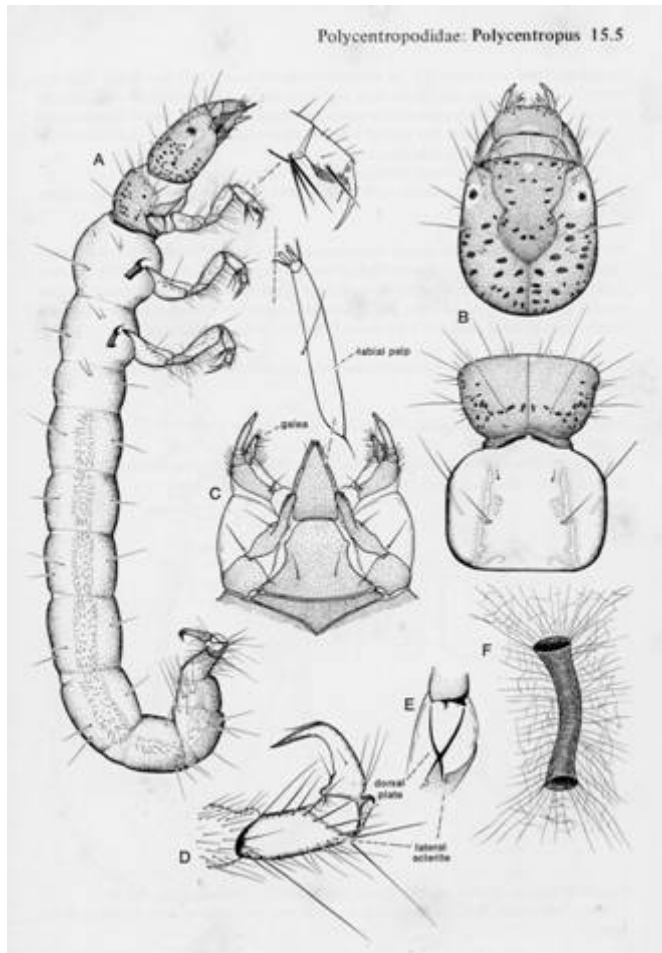
Philopotamidae (Bag-making Caddis)



Philopotamidae

- All larvae are the same with white or bright yellow bodies and orange head and pronotum
- Swiftly flowing water only, but that can be a small trickle in the case of *Wormaldia occipitalis*

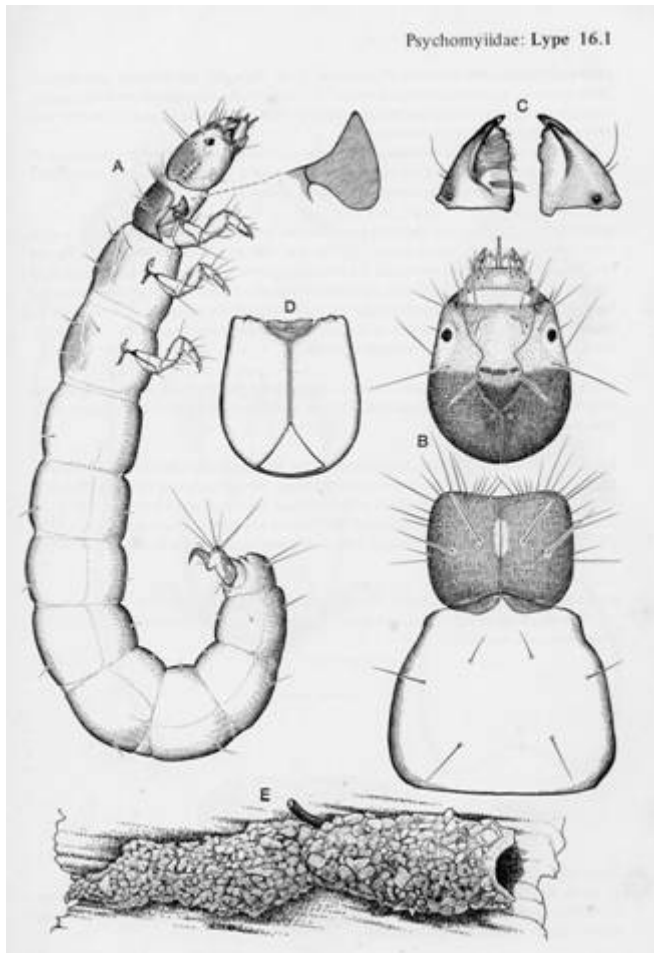
Polycentropidae (Snare-making Caddis)



Polycentropodidae

- Easily recognisable at family level
- Head markings are very useful but BEWARE early instars; use headwidth table on page 107 of caseless key to decide if your lava is not final instar and if so, watch out, as it may be unidentifiable

Psychomyiidae (Gallery-making Caddis)

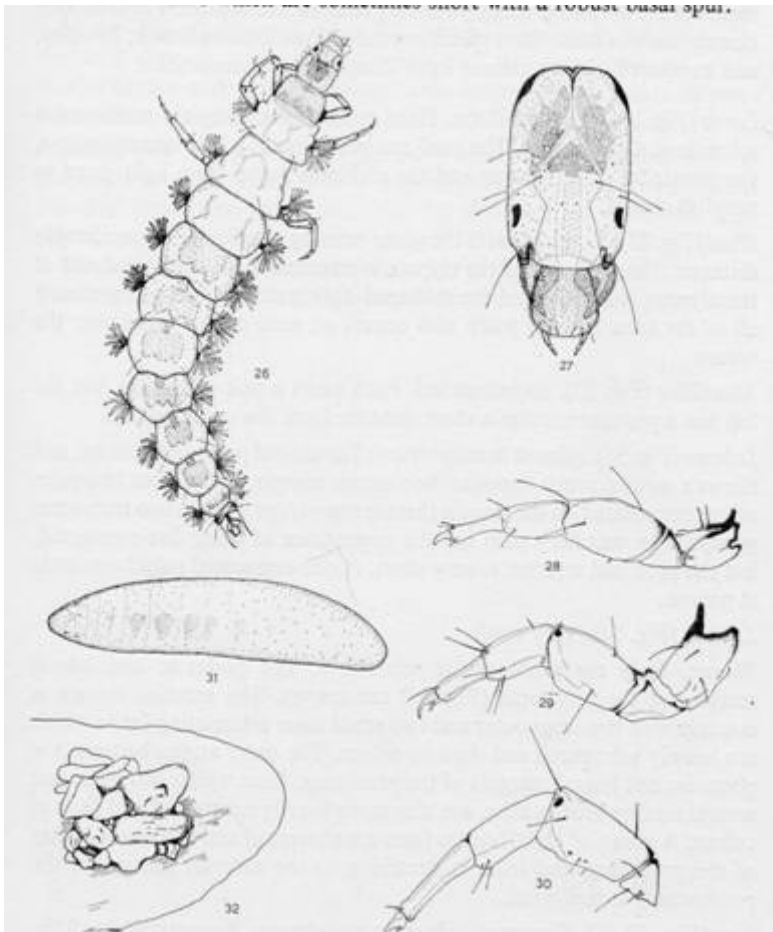


Psychomyiidae

- Galleries usually need scraping from rocks or logs to collect larvae
- Larvae small and some characters are subtle. BEWARE all of them except *Tinodes waeneri* when it is fully grown.
- Use headwidth table on page 107 of caseless key to check you are not trying to identify an earlier instar. Consider taking early instars only to genus.

Rhyacophilidae

(Free-living Caddis) one of the primitive caddis



Rhyacophilidae

- Unmistakeable at family and genus level
- *Rhyacophila munda* easily recognisable
- Others can be awful.
- Use headwidth table to only try to identify final and penultimate instar larvae and regard the latter with caution even then
- Particular problem with *dorsalis* and *septentrionis* as far as the pronotum bands and head spots are concerned; only accept *septentrionis* if there is a clear band on each side of the pronotum and really clear large brown spots; regard as *dorsalis* if there is just a lighter brown band on each side of the pronotum and a few faint small brown spots at the back of the head