

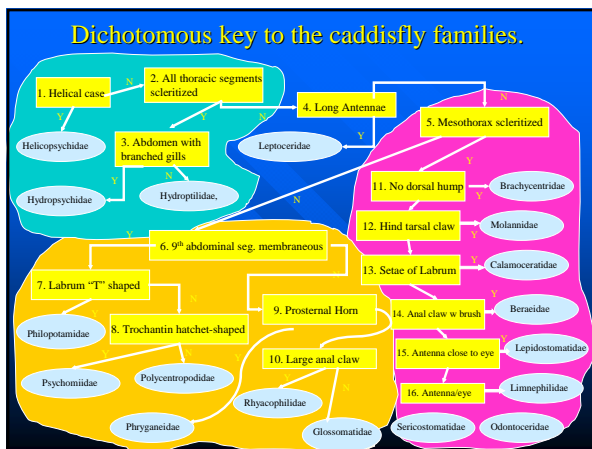
Caddisfly families in North America

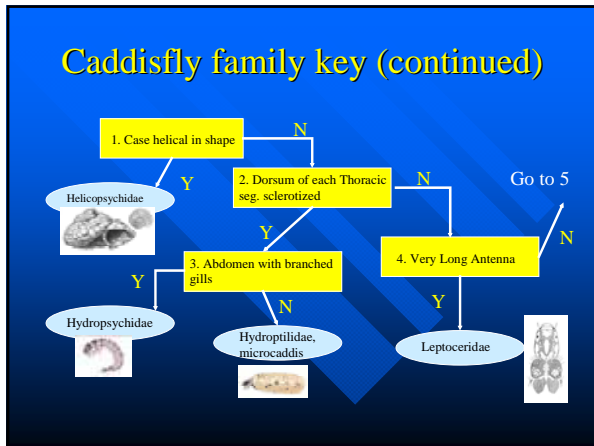
- *Hydropsychidae – Cheumatopsyche
- Philopotamidae – Chimarra
- Polycentropodidae – Polycentropus
- Psychomyiidae – Lype
- Glossosomatidae – Glossosoma
- Hydroptilidae – Leucotrichia
- Rhyacophilidae – Rhyacophila
- Brachycentridae – Brachycentrus
- Lepidostomatidae – Lepidostoma

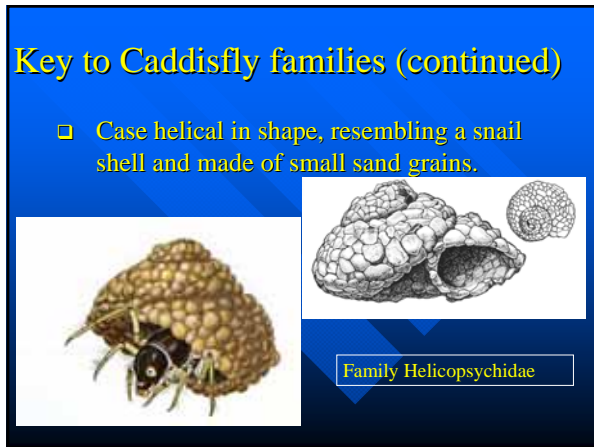
As of Brigham et. al. 1982, *common families in piedmont and mountain streams

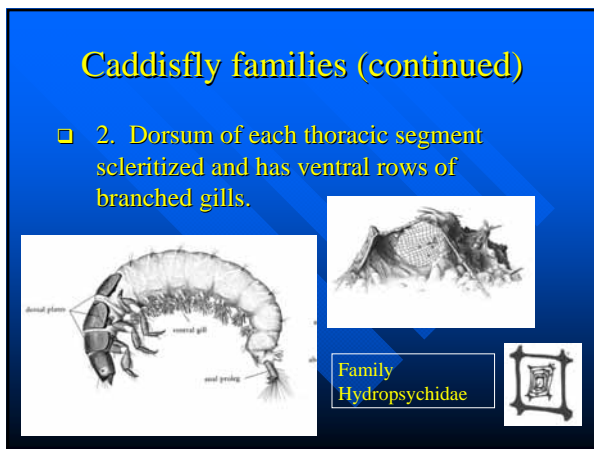
Caddisflies (continued)

- *Limnephilidae – Pycnopsyche
- Phryganeidae – Ptilostomis
- Beraeidae – Beraea
- Calamoceratidae – Heteroplectron
- Helicopsychidae – Helicopsyche
- Leptoceridae – Triaenodes
- Molannidae – Molanna
- Odontoceridae – Psilotreta
- Sericostomatidae – Fattigia

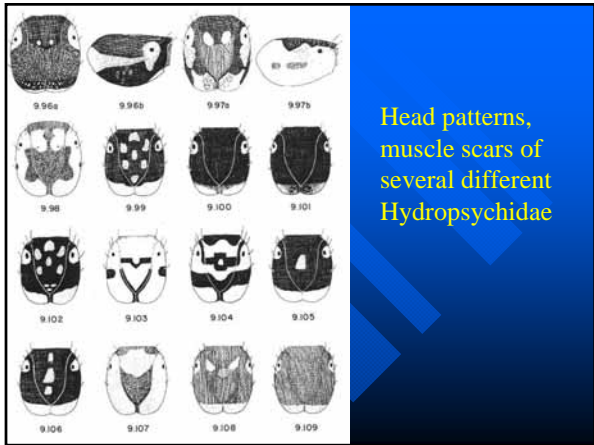












Head patterns,
muscle scars of
several different
Hydropsychidae

Caddisfly families (continued)



- ❑ Each thoracic notum is sclerotized
- ❑ Very small (microcaddis), 2.5 – 6 mm.
- ❑ Case is laterally compressed and elliptical




Family Hydroptilidae

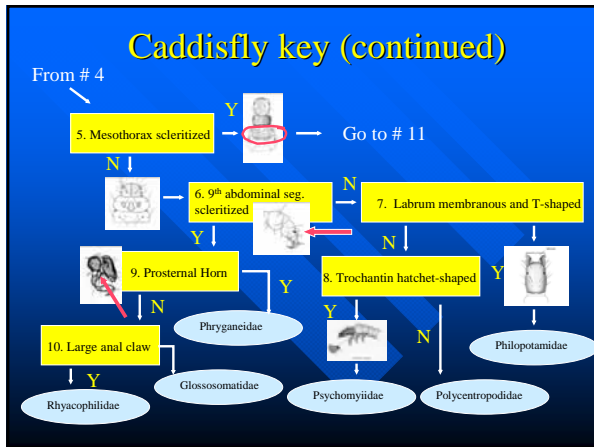
Caddisfly families (continued)

- ❑ Look for long antennae
- ❑ Variety of case shapes, but cornucopia-style are common
- ❑ This family is difficult to find





Family Leptoceridae



Caddisfly families (continued)

- 9th abdominal segment with a sclerotized plate
- Large anal claw
- Larvae of these caddisfly are free-living and predacious (can often find them feeding in pupal cases of other caddisflies)

Family Rhyacophilidae

Caddisfly families (continued)

- 9th abdominal segment sclerotized (dorsal plate below).
- Construct portable, saddle-like, rock cases. The larvae protrude from the anterior and posterior end.



Family Glossosomatidae

Caddisfly families (continued)

- Very large larvae (21-43 mm), the head and pronotum are usually marked with distinctive bands.
- Cases are constructed primarily of plant material.
- Has prosternal horn.

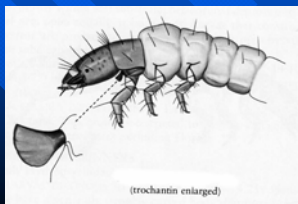
Family Phryganeidae



Caddisfly families (continued)

- Trochantin (projection near the area where the first pairs of legs join the thorax) is large and hatchet-shaped.
- Pronotum is sclerotized, but Mesonotum is membranous.
- Larvae live in fixed silken tubes.



Family Psychomyiidae



Caddisfly families (continued)

- Protonotum is sclerotized, mesonotum is membranous.
- Larvae construct slime-like tubes and are most frequently captured during "visuals".
- Larvae usually have a yellow head and cream colored body.

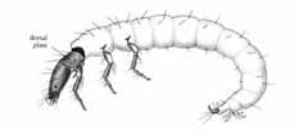
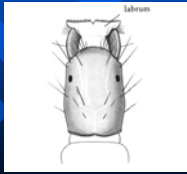
Family Polycentropodidae

Caddisfly families (continued)


- Larvae have membranous "T" shaped labrum.
- Larvae generally have distinctive yellow to orange heads.
- They may construct sac-like capture nets.

Family Philopotamidae


From # 5 Caddisfly key continued

11. First abd w/o dorsal hump




Brachycentridae

12. Tarsal claw of hind leg




Molamidae

13. Labrum with 16-20 long setae




Calamoceratidae

14. Anal claw with brush




Beraeidae

15. Antennae close to eye



Lepidostomatidae


16. Antenna midway to head



Limnephilidae


In some keys this family is further broken into Goeridae and Uenodae

17. Trochantin of front leg large



Sericotomatidae

N



Odontoceridae

Caddisfly families (continued)

- Meso (middle) thorax is sclerotized.
- Abdominal gills are single filaments.
- Typically the case is 4-sided and tapered ("log cabin" case).



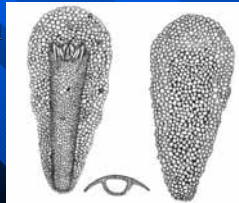
Family Brachycentridae



Caddisfly families (continued)

- Tarsal claw of hind leg much smaller than other two.
- Larvae construct a tubular case of sand grains and rock fragments that has lateral flanges and a dorsal hood over the anterior end.
- Larvae can be found in small spring seeps.

Family Molannidae

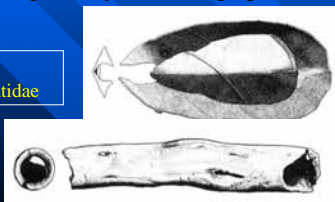


Caddisfly families (continued)

- Labrum with a row of long setae (16-20).
- Cases are either two ovate pieces of leaves (dorsal larger than ventral) or a hollowed out stick. Very distinctive cases and primarily found clinging to logs.

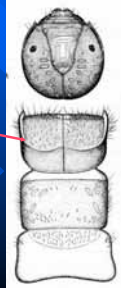


Family Calamoceratidae



Caddisfly families (continued)

- Extremely rare family, but found in small streams and springs.
- Prothorax (anterior segment of thorax) has a sharp carina which extends across its dorsal surface.
- Case is constructed of sand grains and is tapered.



Family Beraeidae

Caddisfly families (continued)

- Antennae is very close to the eye.
- Early instars of this family will build curved sand cases and later instars will build four-sided cases of pieces of leaves or bark.
- Frequently found in small streams or in larger streams with low current.



Family Lepidostomatidae

Caddisfly families (continued)

- Very large family with over 250 species.
- Pro- and mesonotum are sclerotized, metanotum is mostly membranous.
- Larvae construct a variety of cases utilizing mineral and/or plant material.
- In some keys this family has been divided into two others; Uenodiidae and/or Goeridae.



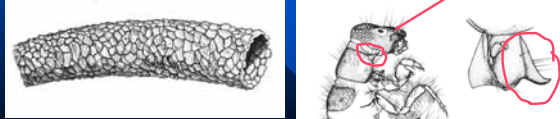
Family Limnephilidae



Caddisfly families (continued)

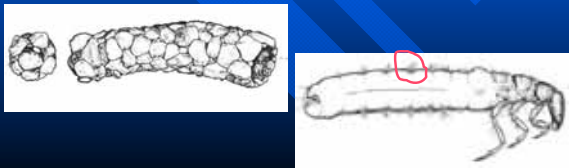
- Antennae located near anterior margin of head.
- Dorsum of pro- and mesothorax completely sclerotized, prothorax sharply pointed.
- Cases are cylindrical, and slightly curved in appearance.

Family Sericostomatidae



Caddisfly families (continued)

- Antennae located close to anterior part of head.
- Gills are always in tufts.
- Case construction is unusual in that larger rock pieces are mortared with smaller rocks which makes them very resistant to crushing. This probably aids in burrowing.



Adult Caddisflies



Caddisfly functional feeding groups

General Category	Feeding Mechanisms	Dominant Foods
Shredders	Chewer	Herbivore – living plant tissue
		Detritivore – decomposing tissue or CPOM.
Collectors	Filter or suspension feeder	Detritivore: decomposing fine particulate organic matter.
	Gatherer or Deposit feeder	
Scrapers	Herbivore	Feeds on periphyton or attached algae
Piercers	Herbivore	Living plant tissue and cell fluids
Predators	Swallower or Engulfer	Carnivore – whole animals or parts.

Biotic Index Values (RBP) and feeding types* for Caddisfly families

■ Hydropsychidae	4.0	Collector (filterer)
■ Philopotamidae	3.0	Collector (filterer)
■ Polycentropodidae	6.0	Collector/Shredder/Predator
■ Psychomyiidae	2.0	Collector (gatherer)
■ Glossosomatidae	0.0	Scraper/Collector (gatherer)
■ Hydroptilidae	4.0	Piercer/Scraper/Shredder
■ Rhyacophilidae	0.0	Predator/Scraper
■ Brachycentridae	1.0	Collector (filter & gather)
■ Lepidostomatidae	1.0	Shredder

*Feeding types are extremely variable, but the first category listed here should be considered primary for our exercises.

Biotic Index Values (RBP) and feeding types for Caddisfly families (continued)

■ Limnephilidae	4.0	Scraper/Shredder
■ Phryganeidae	4.0	Shredders
■ Beraeidae	1.0	Collector (gatherer)
■ Calamoceratidae	-	Shredders
■ Helicopsychidae	3.0	Scrapers
■ Leptoceridae	4.0	Shredder/Collector/Predator
■ Molannidae	6.0	Scraper/Predator
■ Odontoceridae	0.0	Collector (gather)/Shredder
■ Sericostomatidae	3.0	Shredder/Collector (gather)

*Feeding types are extremely variable, but the first category listed here should be considered primary for our exercises.