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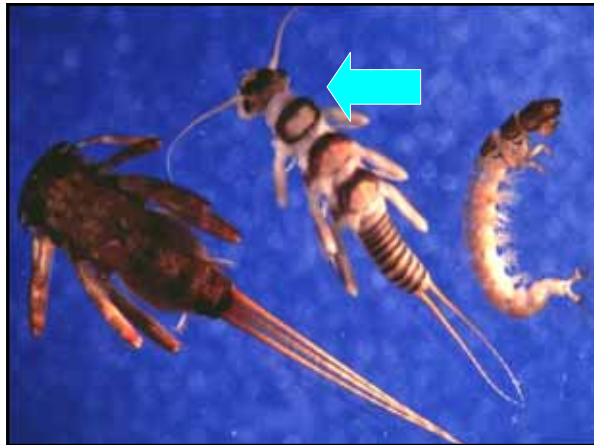
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### Stonefly families in North America

- Nemouridae – Prostoia
- Taeniopterygidae – Strophopteryx
- \*Capniidae – Allocapnia
- Leuctridae – Leuctra
- Pteronarcyidae – Pteronarcys
- Peltoperlidae – Tallaperla
- \*Perlodidae – Isoperla
- Chloroperlidae – Suwallia
- \*Perlidae – Acroneuria

As of Brigham et. al. 1982. \*common families in piedmont and mountain streams. Many stonefly families are seasonally abundant.

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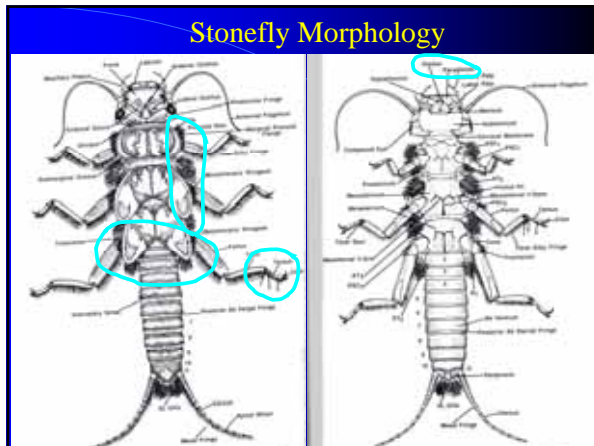
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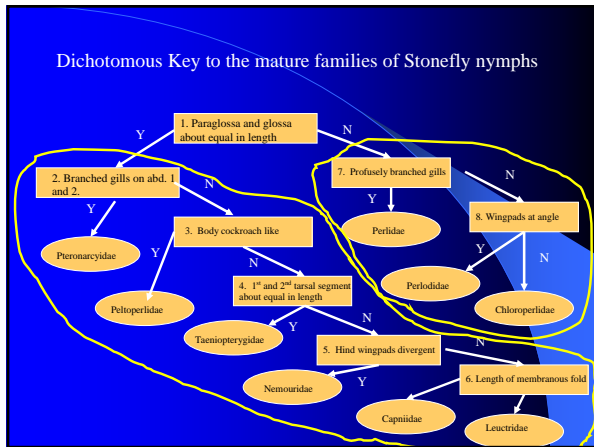
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### Key to families of mature Stonefly nymphs of Eastern North America

- 1. Paraglossa and glossa of labium are about equal in length go to couplet 2.

Paraglossa of labium is longer than glossa go to couplet 7

Paraglossa and glossa are mouthparts and are used to distinguish between those stoneflies that are predatory or are herbivores/detritivores. This text follows the key in the Aquatic Insects and Oligochaetes of North and South Carolina.

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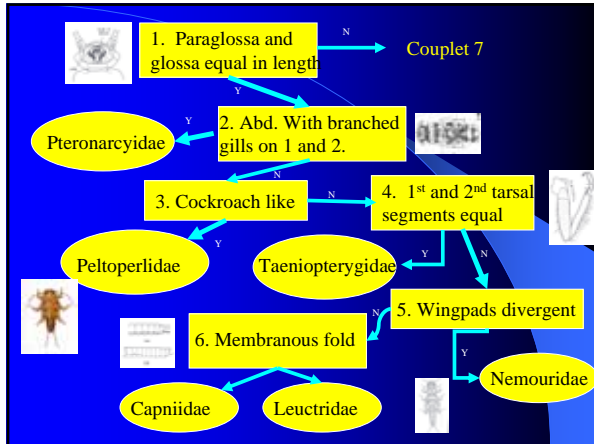
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### Stonefly key continued

2. Does your specimen have branched gills on abdominal segments 1 and 2?

Family Pteronarcyidae

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### Stonefly key continued

3. Does your stonefly look like a cockroach? - Peltoperlidae

Very common in leaf pack samples

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### Stonefly key continued

4. Second tarsal segment about as long as the first (tough to see), but you can also look to see if the midline of the hind wing pad is strongly divergent from the body.



Family Taeniopterygidae



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### Stonefly key continued

5. Second tarsal segment shorter than first. These insects have stout bodies, divergent wing pads and their hind legs reach past the end of the abdomen. Less common than other stoneflies.



Family Nemouridae



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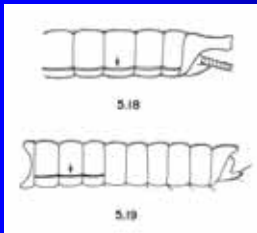
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### Stonefly key continued

6. Perhaps the toughest separation. Lateral folds along the abdomen (need a good light source).



Family Capniidae

Family Leuctridae

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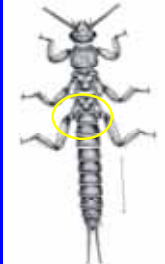
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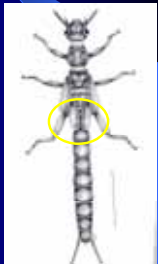
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### Stonefly key continued

- 6. But you can also look at the length and shape of the of the metathoracic wingpad



Capniidae – about as long as wide, or



Leuctridae – usually longer than wide

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From 1

7. Profusely branched gills




Perlidae

N



Perlodidae

N



Chloroperlidae

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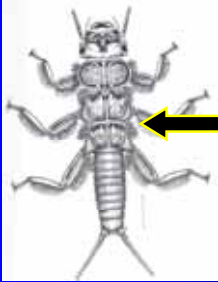
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### Stonefly key continued

- Profusely branched gills at corners of thoracic sterna





Family Perlidae

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### Stonefly key continued

8. Colorful insects with hind wingpads set at angle to body, or set at angle to body, or

Family Perlodidae

Some specimen will have obvious submental gills



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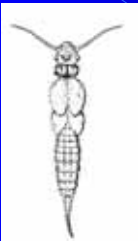

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### Stonefly key continued

8. Blah looking insects with hind wingpads parallel to body.



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### Adult Stonefly



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### Stonefly Feeding Types\*

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

\* From Brigham, et. al., 1982

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### Biotic Index Values (RBP) and feeding types for Stonefly families

• Nemouridae	2.0	Shredders/Collectors
• Taeniopterygidae	2.0	Represents all groups
• Capniidae	1.0	Shredders
• Leuctridae	0.0	Shredders
• Pteronarcyidae	0.0	Shredders/Scrapers
• Peltoperlidae	1.0	Shredders
• Perlodidae	2.0	Collectors/Predators
• Chloroperlidae	1.0	Predators/Collectors
• Perlidae	2.0	Predators

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### Practice Stonefly Identification

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