

Aquatic Invertebrates of the Kissimmee River

Water Scorpion



Order: Hemiptera **Family:** Nepidae **Genus:** *Ranatra*

Identification:

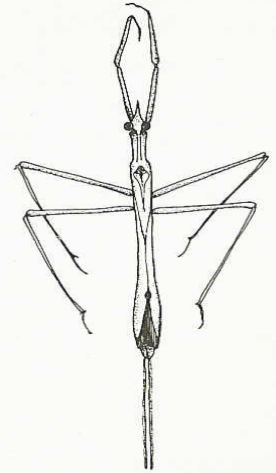
- Sticklike and wiry
- Long, tail-like breathing tube (siphon)
- Poor swimmers, generally crawl and climb in shoreline vegetation

Habitat/Diet:

- Can be found near the shore among the vegetation
- **Predators;** ambush prey (other insects, or small aquatic organisms) which they capture in mantis-like front legs
- Hang by their tails from the surface of the water awaiting prey

Fun Fact:

- To keep from straying into deeper waters, they have pressure sensors on the underside of their abdomen that inform them of the depth.



Water Boatman



Order: Hemiptera **Family:** Corixidae **Genus:** *Trichocorixa*

Identification:

- Back legs are extremely long, flattened and oar-like, with hairy fringes to generate friction with the water as they swim
- When submerged, air is held beneath the wing covers (elytra) and in a film around the body, allowing the organism to remain submerged for long periods of time.

Habitat/Diet:

- Found in intertidal, brackish, and ponds
- **Herbivores;** grind or pierce plant cells (usually filamentous algae) with their beaks (rostrum) and feed on the juices

Fun Fact:

- Uses the air bubble kept on their body to breathe underwater just like a scuba diver.



Giant Water Bug



Order: Hemiptera **Family:** Belostomatidae **Genus:** *Lethocerus*

Identification:

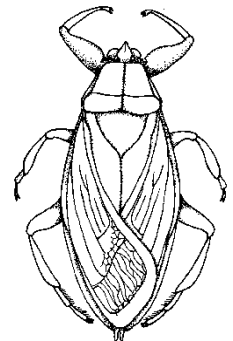
- Have flattened, oval shape with hooked, raptorial front legs for capturing prey
- Strong swimmers and flyers
- Can deliver a painful bite to humans if mishandled
- They can fly!

Habitat/Diet:

- Found in shorelines of ponds, lakes, etc
- **Predator,** are known to feed on other insects, tadpoles, and fish

Fun Fact:

- Crawls out of the water and walks perpendicularly to the bank until it reaches shelter away from the stream. After the flood passes through, it crawls back into the water and carries on with its regular activities.



Livingstone © BIODIDAC

Sky/99

Special thanks to the North American Benthological Society (www.benthos.org), the University of Wisconsin Extension Environmental Resource Center (UWEX), BIODIDAC, and Carlos L. de la Rosa for the use of line drawings, text and some photos. Produced by the Florida Center for Environmental Studies at Riverwoods Field Lab. Contact 863/462-0025 or <http://www.ces.fau.edu/riverwoods>

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Crawling Water Beetle

Order: Coleoptera **Family:** Haliplidae **Genus:** *Peltodytes*



Carlos L. de la Rosa

Identification:

(a) Larvae

- Very hard to find on bottom of substrate; Hairy appearance

(b) Adults

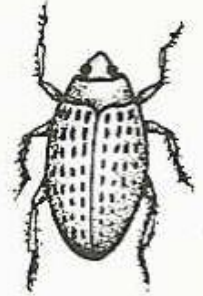
- Yellow head and black spots on oval shaped body
- Crawl and cling to submerged plants
- Very fast swimmers

Habitat/Diet:

- Found in areas with no shade in ponds, lakes
- **Predator;** Feed on plant and animal matter

Fun Fact:

- The larvae of crawling water beetles breathe through their skin instead of through gills. Adults carry oxygen in a water bubble under the forewings and a second bubble beneath the hind legs.



Creeping Water Bug

Order: Hemiptera **Family:** Naucoridae **Genus:** *Pelocoris*



Carlos L. de la Rosa

Identification:

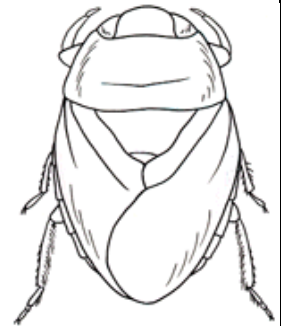
- Usually dull brown or greenish
- Creep and swim awkwardly over submerged vegetation
- Air supply is carried under the wings
- Will sting painfully if handled carelessly!

Habitat/Diet:

- Found in lakes and ponds in calmer areas
- **Predator;** feed mainly on Diptera (fly larvae) and other water bugs

Fun Fact:

- Uses a plastron, a permanent air bubble that allows them to extract oxygen from the water, to breathe as nymphs.



Predaceous Diving Beetle

Order: Coleoptera **Family:** Dytiscidae **Genus:** *Coptotomus*



Identification:

- Brownish black in color, sometimes marked with yellow or green
- Flattened, oar-like hind legs with swimming hairs
- Can leave the water and fly from pond to pond

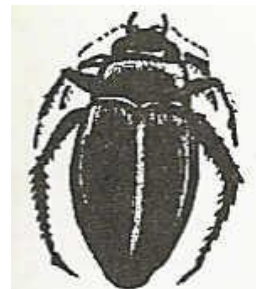
Habitat/Diet:

- Found in clean, slow moving waters with abundant vegetation; indicators of a healthy aquatic ecosystem

• **Predator**

Fun Fact:

- Larval predaceous diving beetles are such voracious predators, they have earned the nickname "water tigers."



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Grass Shrimp



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Order: Decapoda **Family:** Palaemonidae **Genus:** *Palaemonetes*

Identification:

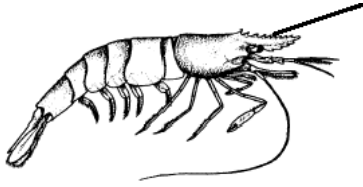
- Very tough exoskeleton
- Translucent
- Crawl and climb in waters with heavy vegetation
- When threatened, will dart backward quickly with a strong down stroke of the tail

Habitat/Diet:

- Found in ponds, lakes, rivers and in grassy areas in shallow water
- **Gathering Collector;** eats plant and animal decaying material

Fun Fact:

- Pollution tolerant and found in brackish water too.



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Mike Higgins

Amphipod or Scud

Order: Amphipoda **Family:** Hyalellidae **Genus:** *Hyalella*

Identification :

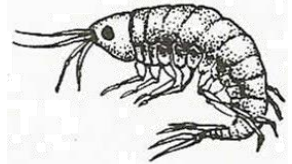
- Laterally compressed body
- Important food for many fish, amphibians, insects and birds
- During mating, males carry females on their backs
- Females carry fertilized eggs in a “marsupium” or compartment in their abdomens
- Remain paired often for more than a week

Habitat/Diet:

- Live among roots of aquatic plants, feeding on algae and detritus
- **Scavenger;** feed on decaying plants and animals

Fun Fact:

- The word scud means to move or run quickly. Scuds are also called sideswimmers for the way they roll on their side to swim, or amphipods, which means two kinds of feet.



Crayfish

Order: Decapoda **Family:** Cambaridae **Genus:** *Procambarus*

Identification :

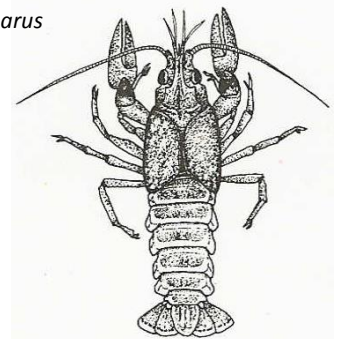
- Brown-black to orangish in color
- Front legs are strong with modified pinching claws used for protection and feeding
- Are usually hidden during daylight hours
- When threatened, will dart away with a strong kick of the tail
- Walk, climb and crawl

Habitat/Diet:

- Found in freshwater lakes, ponds, ditches, and streams
- **Gathering Collector;** feeds on detritus and dead animals

Fun Fact:

- These are called a “Florida Lobster – *Procambarus allenii*”.



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Damselfly

Order: Odonata **Sub-Order:** Zygoptera **Family:** Lestidae **Genus:** *Lestes*

Description:

(a) Larvae

- Large caudal gills
- Slender body

(b) Adults

- Marked with metallic green, blue, or bronze
- Large size for damselflies
- Unlike most other species of damselfly, their wings are partly spread while perching

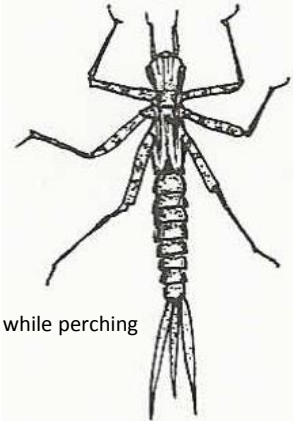
Habitat/Diet:

- Found in ponds or streams in vegetation

• **Predator**

Fun Fact:

- Damselflies were flying 300 million years ago!



Nymph stage



Dragonfly

Order: Odonata (Anisoptera) **Family:** Aeshnidae **Genus:** *Anax*

Description:

(a) Larvae

- Large and elongated
- Green or dark green in color
- Feed on insects, tadpoles and small fish
- Usually found clinging to stalks of emergent vegetation

(b) Adults

- Males have green thorax; abdomen has wide blue lateral stripes
- Females have green thorax; purple-gray abdomen

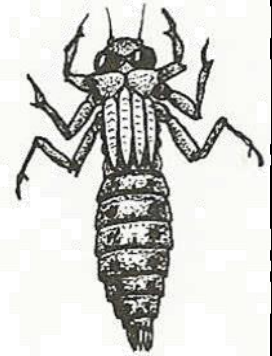
Habitat/Diet:

- Found flying and landing around lakes, ponds

• **Predator;** feeds on insects captured in flight

Fun Fact:

- The largest living dragonfly lived over 250 million years ago (before the dinosaurs) and had a wingspan of over three feet! A dragonfly needs warmth to fly and you will notice they will often land when the sun goes behind a cloud.



Nymph stage



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Caddisfly

Order: Trichoptera **Family:** Hydroptilidae **Genus:** *Oxyethira*

Lives in stone house

Description:

(a) Larvae

- Encapsulate themselves in open-ended cases which they make from silk and very fine foreign material, such as silt, sand, and algae
- Fasten cases to sedentary objects in slow moving water, like rocks and logs
- Legs of the larvae are directed forward, second and third pair are almost three times as long as the first
- Wide, bulky abdomen

(b) Adults

- Adults are small and moth-like

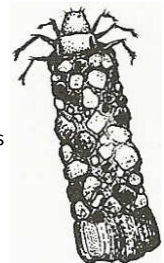
Habitat/Diet:

- Found in sticks, stone, etc.

• **Filter Feeder**

Fun Fact:

- They live only a few weeks to a month after hatching!



Lives in a stick house



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Small Squaregill Mayfly

Order: Ephemeroptera **Family:** Caenidae **Genus:** *Caenis*

Identification:

(a) Larvae

- Flattened bodies, with two dark square-like gill covers on the abdomen
- Found in submerging grasses and in shoreline detritus
- Mostly climb and crawl or hide in silt, but can swim if disturbed

(b) Adults

- Smallest among mayflies
- Have no hind wings
- Yellowish in color
- Three long tails

Habitat/Diet:

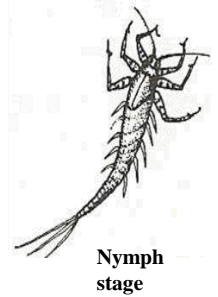
- Found in vegetation of ponds, lakes
- Gathering Collector

Fun Fact:

- Mayflies have been around since before dinosaurs even existed.



Carlos L. de la Rosa



Nymph stage

Non-biting Midges

Order: Diptera **Family:** Chironomidae **Genus:** (many genera)

Identification:

(a) Larvae

- Many species, most commonly found on rotting vegetation and in the bottom muck
- Larvae generally build tubes

(b) Adults

- Short lived; emerge at dawn or dusk, mate and die
- Males swarm over fixed objects near the shore or in large swarms; females enter swarm to mate
- They don't bite

Habitat/Diet:

- Found in vegetation of ponds, lakes
- Feed on detritus, algae or other midges



Larvae

Adult male

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Florida Applesnail

Order: Ampullariidae **Family:** Pomacea **Genus:** *Paludosa*

Identification:

It is much easier to distinguish native and non-native applesnails by the color and size of their eggs. The Florida applesnail has white relatively large eggs, typically deposited on aquatic vegetation; clutch size is <100.

Habitat/Diet:

- Aquatic plants
- Predators in Florida include limpkins, Everglades (snail) kites, raccoons, turtles and alligators. In addition, redear sunfish and certain ducks most likely consume smaller immature snails.

