ENA or ELPA? BY RICH WOOD

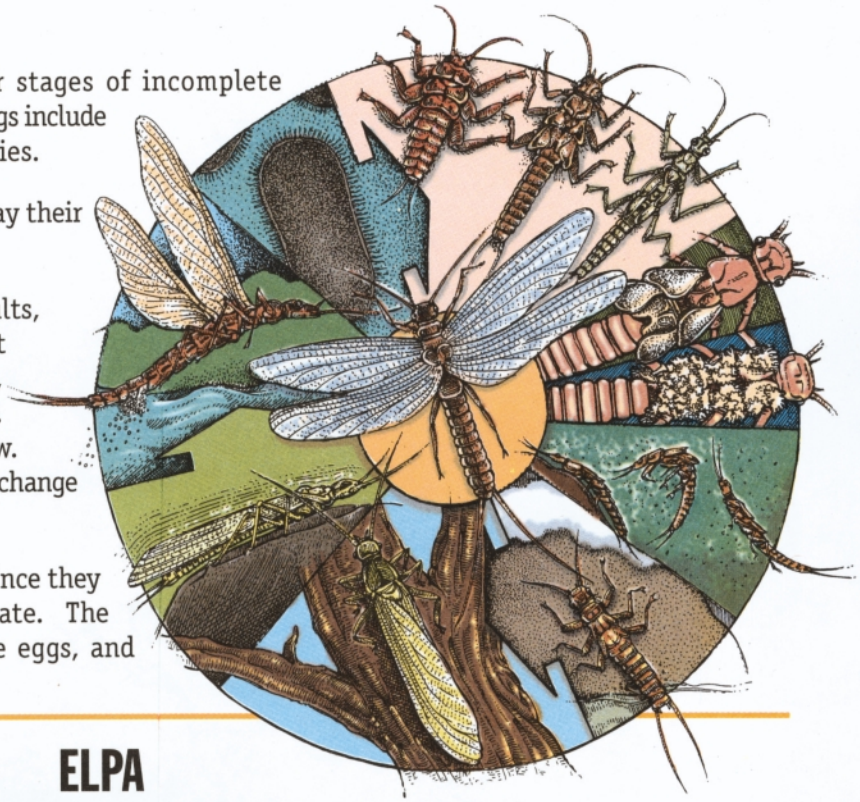
illustration-Ted Walke

As kids grow, their bodies begin to change. Their bones strengthen, they grow taller, and they usually have to wear larger clothes. Insects grow the same way.

These changes are called metamorphosis (met-a-morph-o-sis). Aquatic bugs are no different. Many insects begin their lives underwater, and then live the rest of their lives out of the water flying! These critters may go through three changes, called incomplete metamorphosis, or four changes, called complete metamorphosis. An easier way to remember the difference is ENA or ELPA.

ENA

ENA are the three letters that stand for stages of incomplete metamorphosis: **E**gg, **N**ymph, and **A**dult. ENA bugs include stoneflies, mayflies, dragonflies, and damselflies.



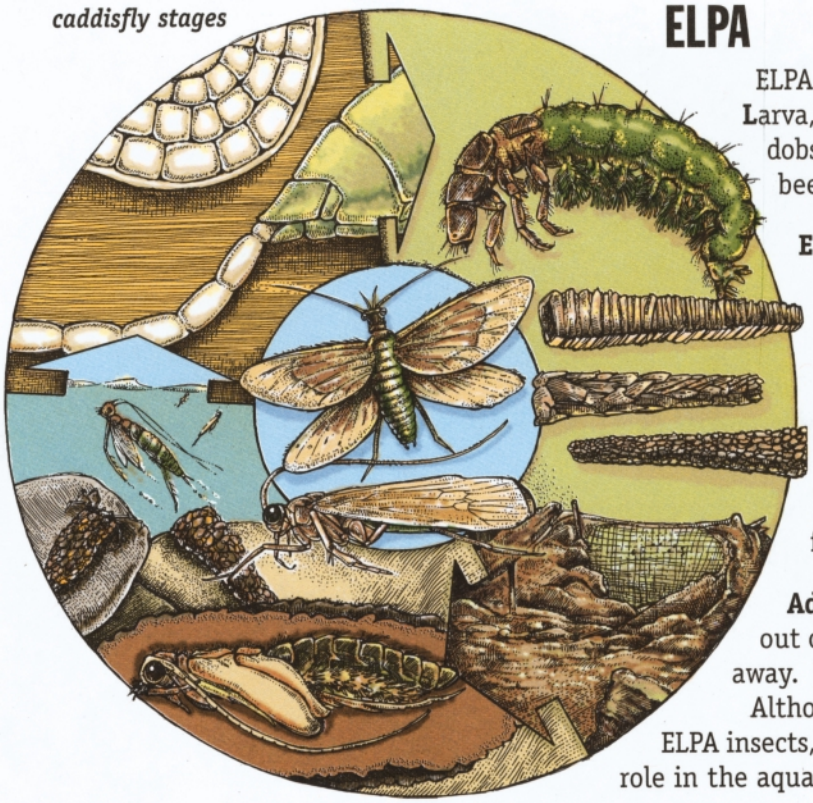
Eggs: Insects with incomplete metamorphosis lay their eggs in water.

Nymphs: Some nymphs look just like the adults, but without wings. Some look very different from the adult. They live on rocks, sticks, leaves, algae, or anything else that may be underwater.

Nymphs may shed their skin as they grow. This is called molting. When mature, the nymphs change into adults.

Adults: The adults emerge from the nymphs. Once they become adults, they fly from the water to mate. The females then return to the water to lay more eggs, and the cycle begins again.

caddisfly stages



ELPA

ELPA are the stages of complete metamorphosis: **E**gg, **L**arva, **P**upa, and **A**dult. ELPA bugs include caddisflies, dobsonflies, craneflies, midges, mosquitoes, and water beetles.

Eggs: ELPA bugs hatch from eggs laid in the water.

Larva: Larvae hatch from eggs. Many larvae have soft bodies. Caddisfly larvae build cases of small pebbles or sticks around their bodies.

Pupa: Some pupa may look just like a cocoon. They may be inactive and not feed on anything. During the pupal stage, the critter is preparing for its final change into an adult.

Adult: Once changed into an adult, the pupa comes out of its "cocoon." It swims to the surface and flies away. The adults mate, and eggs are laid in the water.

Although there are many differences between ENA and ELPA insects, one thing is certain: They all play an important role in the aquatic food chain.