PENNSYLVANIA FISH & BOAT COMMISSION

# SMART Angler's Notebook

by Carl Richardson

## Mayflies

*Mayflies are important food items for many fish, especially trout. There are more than 700 kinds of mayflies in North America. Pennsylvania is home to some 300 different species. Mayflies go through a change called metamorphosis. Unlike butterflies that have four stages (egg, larva, pupa, adult), mayflies go through three stages. This is incomplete metamorphosis. Use the letters ENA to remember each step: Egg, nymph and adult.*

### EGG

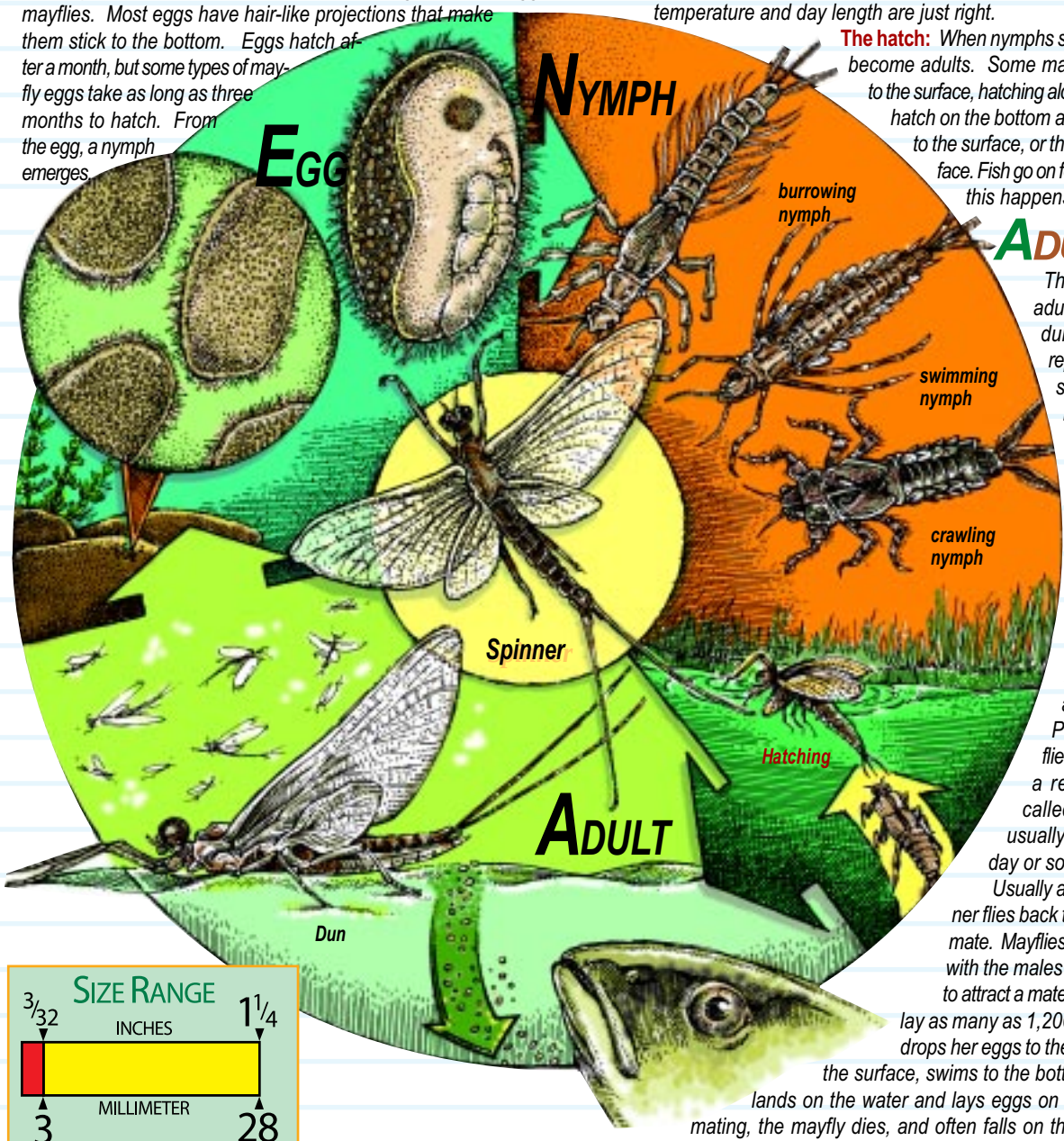
*The period at the end of this sentence is larger than the eggs of most mayflies. Most eggs have hair-like projections that make them stick to the bottom. Eggs hatch after a month, but some types of mayfly eggs take as long as three months to hatch. From the egg, a nymph emerges.*

### NYMPH

*The nymphs of some mayflies burrow into the bottom. Others swim about freely, cling on rocks or crawl around on the bottom. Some are predators; others eat live or decaying plants. As they eat and grow, nymphs shed their skins. One mayfly sheds some 45 times. Most mayflies live in streams and some rivers, but there are a few that live in lakes and ponds.*

*Nearly all Pennsylvania mayflies live as nymphs for one year. At the end of the this stage the mature nymph changes into an adult. This happens at the same time every year for each species when water temperature and day length are just right.*

**The hatch:** *When nymphs shed their skins and become adults. Some mayfly nymphs swim to the surface, hatching along the way. Others hatch on the bottom and the adult swims to the surface, or they hatch at the surface. Fish go on feeding binges when this happens.*




### ADULT

*The first stage in an adult mayfly is called a dun. The dun cannot reproduce. Duns that survive hatching and reach the surface aren't safe, yet. Fish often feast on the duns as they rest on the surface. Bats, birds and other insects eat them as they fly away from the water. The duns fly to streamside trees and brush. Most Pennsylvania mayflies change again into a reproducing stage called a spinner. This usually happens within a day or so of hatching.*

*Usually at nightfall, the spinner flies back toward the water to mate. Mayflies mate in big clouds, with the males diving and dipping to attract a mate. Each female may lay as many as 1,200 eggs. She either drops her eggs to the water from above the surface, swims to the bottom to lay eggs, or lands on the water and lays eggs on the surface. After mating, the mayfly dies, and often falls on the water's surface. These dead mayflies are also eaten by fish.*




*Illustration-Ted Walke*

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