

# Mayflies

Order Ephemeroptera

BY TOM DICKSON

**H**ang around fly anglers long enough and you'll think you're with a bunch of entomologists. They talk about mayfly species and life forms as much as they do trout. That's because mayflies are the primary reason trout rise to the water surface. And to many anglers, seeing a trout take a floating mayfly imitation is the ultimate fulfillment of their sport. As much as they like fighting big, strong fish, what dry fly anglers like most is to see the "take."

## IDENTIFICATION

Montana contains 109 species of the aquatic insects known as mayflies. Among the most well known are *Ephemera inermis* (pale morning dun to anglers), *Drunella grandis* (green drake), *Baetis tricaudatus* (blue-winged olive), and *Tricorythodes minutus* (trico). Generally all adult forms can be poetically described as looking like miniature angels when flying and, with their delicate upturned wings, tiny sailboats when floating on the water. (Another common aquatic insect, the caddis fly, looks more like a drunken moth when it flutters past.)

According to Dave Stagliano, an entomol-

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ogist with the Montana Natural Heritage Program, Montana is home to seven mayfly species classified by the state as "of concern," including the Lolo mayfly, found only in Montana and Idaho.

## NYMPHS

Mayflies are aquatic invertebrates (insects) that lay their eggs atop rivers and streams. After sinking to the bottom, the eggs hatch into naiads, or nymphs. The brown or dark green nymphs have long legs and seven pairs of platelike gills below or alongside their bare abdomen, which is usually tipped with three long filaments. Nymphs feed mainly on algae, diatoms, and decayed plants. Most species avoid predators by clinging to the underside of submerged rocks and logs.

As they grow, nymphs shed their exoskeleton a dozen times or more. The last "molting" occurs on the water surface when the nymph metamorphoses into the first of two winged stages. Anglers call mayflies in this stage emergers. The insects are vulnerable to trout because they are trying to swim while shucking off their cumbersome outer nymph skin.

## SUBIMAGOS

With its exoskeleton now completely gone, the mayfly floats in the water film, then breaks through the surface to dry its newly formed wings. For a few moments, the mayfly is again vulnerable to trout, for it can no longer swim and can't yet fly away. When you see someone casting a dry fly, it's usually to imitate this subadult stage, known as a

subimago, or dun to fly anglers.

Though no one is certain why, apparently changes in water temperature, barometric pressure, light levels, or other environmental conditions cause thousands of mayfly nymphs to drift to the surface over a period of several hours and become duns. This is known as a hatch. When it occurs, the river surface can become blanketed with countless floating duns.

## IMAGOS

After only a few moments, its wings dry and the dun takes flight. The mayfly flutters in the air then alights on a nearby tree or bush and—unique among insects—molts into a second winged form, this one with two pairs of wings. In this stage, known as imago, or spinner to anglers, the mayfly looks similar to when it was a dun, though slightly smaller and with clear wings rather than opaque.

Spinners wait anywhere from a few hours to two days before flying back to the water, where they mate in great swarms over the surface. As the males die and fall into the water, the females hover over the river, dabbing the surface with their abdomen while releasing fertilized eggs. Then they too die. Once again trout come up to feed, this time on what anglers call spent wing spinners.

The mayfly's brief adult life is over nearly before it begins. The scientific order name is Ephemeroptera, Greek for what could roughly be translated as "brief adult life." The French call the aquatic insects *éphémères*, or "one-day flies." 🐛