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AN EARLY-SEASON MAYFLY

by

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When, as frequently happens, Michigan's trout season opens to the accompaniment of a snowstorm, many an angler resignedly shoves his fly-box to the bottom of the duffle bag and starts searching for a likely spot to dig worms. Surely, he reasons, no natural fly can be so demented as to leave the comparative warmth of the stream bed where it has lived happily for the past ten or eleven months, only to "hatch" and complete its life cycle in a flurry of snowflakes nearly as large as itself.

Some of our mayflies, however, are rugged specimens. Nature, in her infinite wisdom and with her well known abhorrence of a vacuum, has fostered such a wide range of specialized behavior among the stream insects that it is a rare day, from spring break-up to fall freeze-up, that does not witness the hatch of at least a few insects that rate high on a trout's bill of fare.

One of the mayflies that can be counted on to appear during the early days of the trout season is a fragile little thing whose

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entomological name, Paraleptophlebia adoptiva, is longer than the insect itself. This horrific cognomen, however, need not repel the angler whose interest in Latin ceased the moment he closed his high school copy of Caesar's Gallic Wars, for the first winged stage of this mayfly to emerge from its nymphal skin has a comfortable, descriptive, common name -- Iron Blue Dun.

The mayfly is the only one of all our insects that molts -- sheds its outer skin -- after it has developed functional wings. The first winged stage, the form that hatches from the aquatic nymph, is known as a "dun." The dun stage may last several hours, at least overnight; then the insect sheds its skin again and becomes what fishermen call a "spinner." The spinner is the final stage in the mayfly's life cycle, during which mating occurs and the females lay their eggs. The name "Iron Blue Dun," therefore properly applies only to the first winged stage of P. adoptiva; after it molts and becomes a spinner, its appearance is considerably changed.

When the females of P. adoptiva lay their eggs, the eggs settle to the bottom of the stream and adhere to stones and other objects in the stream bed. Several weeks may elapse before they hatch into tiny nymphs, near the limit of naked-eye visibility. During the late summer, fall and winter the nymphs feed and grow. Algae, sessile diatoms, and tissues of aquatic plants appear to be their chief food. Although they spend most of their time under stones in the stream bottom, they may also clamber over other bottom materials and through submerged plants and mosses. Despite their secretive habits, they are eaten frequently by fish. In early spring, when the nymphs are nearing maturity (Figure 1), they are about five-eighths of an inch long, with about one-third of

the length made up by the three slender, thread-like tails. They are dark brown, almost black, in color with a smooth, polished body surface. The narrow, deeply-cleft gills (Figure 1a) on the sides of the first seven abdominal segments are gray with black centers, and contrast with the dark body. The wing pads on the back, in which the wings of the adult fly are developing, increase in size until they extend well back over the third abdominal segment. A short time before the nymph transforms into the dun stage, a narrow pale line may appear down the middle of the back of the thorax -- the part of the body to which the legs and wings are attached -- for it is along this line that the nymphal skin will split to permit emergence of the winged insect.

The Iron Blue Dun may be expected to hatch almost any time after the middle of April from Michigan trout streams north of Town Line 16. Although weather conditions may influence the hatching period for a few days, one way or the other, P. adoptiva will usually be seen on the wing from the middle of April until the first week of June, with the peak of the emergence occurring during the fore part of May. Hatching may take place at almost any time of day -- morning, afternoon or evening. A second or two may suffice for the dun to struggle from its nymphal skin, but once free it generally floats on the water for a considerable interval of time, perhaps a minute or longer, before flying to the protective cover of streamside trees or shrubs. Therefore, if the dun emerges in a swift-flowing section of stream it may float down for sixty yards or more before taking to the air, unless its career is arrested by a hungry trout. The Iron Blue Dun as represented by adoptiva (Figure 2) has a dull grayish-mahogany colored body about 3/8 inch long, terminating in three slender, smoky-amber tails of about the same length.

The legs are drab and the wings, which account for the common name, are cloudy slate blue. Flytiers who wish to imitate the dun stage of adoptiva should use a No. 16 hook; almost any plain slate blue feather can be used for the wings; a mixture of olive and gray hackle, tied rather sparse, may be used, with a small wisp of olive hackle for the tails.

The length of time spent in the dun stage by this insect varies somewhat with the weather. If the air is warm and dry, it may be only 24 hours or so, but if cool, rainy weather prevails it may extend for several days. Once the dun leaves the stream, it seeks a protected resting place and seldom moves about much, unless disturbed, until it transforms into the final or spinner stage.

In its final winged form (Figure 3) P. adoptiva has clear, transparent wings with faint yellowish-brown veins; the legs and tails are longer and more slender than in the dun; the body appears somewhat trimmer, darker in color, and with a smooth, polished surface texture. In the male the front legs, especially, are disproportionately elongated, and the mahogany color of the abdomen is relieved by indistinct dark gray bands on the middle segments. The spinner stage is of short duration. The males leave their resting places and dance in a swarm over the stream. From time to time females join the swarm, mate, then leave the swarm to lay their eggs, usually dropping them in rather swift water. Shortly thereafter both sexes die. It should be remembered that mayflies in the dun and spinner stages cannot feed. Their jaws and alimentary tracts are atrophied and functionless, and they can exist only so long as the nutrients stored in their tissues while in the nymphal stage endure.

As the trout season progresses, other species of Paraleptophlebia emerge from our streams. P. mollis usually appears in June, and may continue into early July. It is somewhat smaller than adoptiva, and in the dun stage its wings are gray rather than slate blue. In the spinner stage the middle abdominal segments of mollis males are semi-transparent white, and might be imitated by a quill body tipped with black or dark brown. On some of our streams a larger species, P. praepedita, hatches during July and August; and during August and September, especially on the smaller creeks and brooks, a fourth species, P. debilis appears. In size and color it closely resembles adoptiva, the species illustrated here. While all species of this group are valuable as fish food, it is adoptiva, the first to hatch in the spring, that is the fly-fisherman's friend, because of its hardy habit of appearing at a time when few other stream insects are on the water to stimulate a "rise."

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