

# Ten Basic Nymphs

Biologist-angler Gilford surveys some of the more common stream nymphs across the U.S. and adds a fine set of color photographs for easier identification

JAMES GILFORD

TO THE PRACTICAL FISHERMAN, "nymph" means any one of a variety of aquatic organisms on which trout feed. When it's used in this sense, the word takes in a greater variety of underwater life than the professional biologist includes under his more limited meaning of the word. Nevertheless, the fisherman's broader application of the term satisfies the practical need for a single name for this important group of aquatic organisms—and it's understood by other fly fishermen.

Most, but not all, nymphs are larval forms of land-dwelling insects. They hatch from eggs laid in the water by a winged adult. The nymph as it comes out of the egg is small at first. It begins to feed, periodically shedding its skin (or molting) and becoming larger each time it does. Most nymphs feed on microscopic plant life, algae and diatoms, while the diet of others includes smaller aquatic animals as well.

## Growth to Maturity

Alternately molting and eating, the nymph grows continuously until, at maturity, it has reached a size many times larger than it was at hatching. When mature, most nymphs leave their aquatic habitat. In preparation for this event, the nymph transforms, within its own skin, into an adult form ready to hatch as a flying insect. While still underwater, its wings, which have been developing, lay tightly folded in wing cases borne on its back. A day or so before it leaves the water, the wing cases turn black and thus signal the impending emergence of the nymph.

## The Emergence Stage

Once the nymph moves to the surface of the water, emergence begins. A split forms in the skin along the back and the adult insect squeezes out, leaving the nymphal shuck behind as it flies from the water. Exact

details about the length of time it takes a nymph to mature, and how, when, and where it emerges vary from one form to another. Most nymphs, however, spend all but a few days or weeks of their lives under water. And because of this prolonged aquatic existence, nymphs are a continuous source of food for trout.

Normally the nymph will remain hidden among the stones and rubble on the stream bottom, in burrows between the stones or in the clay base of the stream, within piles of sunken leaves, or among aquatic plants. As they move around, or are swept about by water currents, nymphs are exposed and often taken by trout before they can reach shelter again. But it is when the nymph reaches maturity and must move to the surface to hatch that it becomes most vulnerable to the trout. And while trout may feed on nymphs indiscriminately whenever the chance occurs, the movement of large numbers of nymphs to the surface to emerge may bring on a period of heavy feeding activity during which, more often than not, streambred trout begin feeding selectively on the emerging nymphs.

Because different nymphs emerge at different times of the year, most trout streams typically produce a seasonal succession of different insect hatches which reoccur each year at the same time, give or take a week, and in the same sequence. Unseasonable weather conditions can upset the normal emergence dates, and even scramble them on occasion, colder days delaying and warmer days hurrying the emergence dates.

Some nymphs require two years or more before they're ready to leave the water, and these forms usually are the largest of all nymph life. The slow-maturing forms, along with those that complete their development in a single year, provide a constant supply of food and it is the continual presence of nymph life and the feeding of trout on these aquatic forms which makes the use of nymphal imitations so effective in the hands of an alert angler.

## The Blue Dun Nymph

The Blue Dun (*Paraleptophlebia adoptiva*), a small, early-season mayfly abundant in many Eastern and Midwestern trout streams, is one of the first aquatic insects to emerge each year. The nymph of this form is slender and streamlined, but very small. Only a quarter-of-an-inch long when fully grown, the mature nymph is dark brown, while its legs are slim and pale yellow in color. The gills along the sides of its body are distinctly V-shaped, have a grayish cast and are delicate in appearance.

A weak crawler, it tends to inhabit slower-flowing streams or the quieter runs and margins of faster streams. It frequents the rubble and debris of the stream bottom and usually is abundant among the leaf litter trapped between the rocks.

Nymphs of the Blue Dun begin emergence in early April in the Appalachian area but appear later in streams farther north, waiting until mid- to late May, or even early June, to emerge in trout streams of northern Michigan and the north-central states. Once the water temperature goes over 50°F. for a few days in a row, Blue Dun nymphs will begin emerging. In any given area, the hatch will last for a week or slightly longer,



Blue Dun Nymph

with the daily emergence starting sporadically in mid-morning and peaking around noon time, usually the warmest part of the day in that season of the year.

The nymphs, which are weak swimmers, wiggle to the surface with a slow undulating movement and, once there, drift feebly in the slow currents while the adult insect slips out of the nymphal shuck. Schwiebert's *Lep-tophlebia* Nymph on a #16 hook is an effective imitator of the mature Blue Dun nymph.

## The Quill Gordon Nymph

Overlapping the emergence of the Blue Dun on Eastern and Midwestern trout streams is the Quill Gordon (*Epeorus pleuralis*). This mayfly and a few of its relatives that, to the average fisherman, look just like it, are the only North American mayfly nymphs with two tails rather than the usual three. These aquatic forms reach nearly a half-inch in length just before emergence. They're a dark olive-green in color, their bodies are conspicuously compressed, and sets of leaf-like gills line both sides of the abdomen.

These nymphs require extremely cold water, rich in dissolved oxygen. Usually, they cling to the underside of rocks in the swiftest current, but frequently, especially right before they emerge, they will take a position on the upper surface of the rock, facing directly into the heaviest flow. If disturbed, they will scamper nimbly in any direction to escape.

Mature Quill Gordon nymphs begin to hatch when stream temperatures reach and hold at 50°F. or slightly above for two or three days. American angling literature credits the Quill Gordon with leaving the nymphal shuck while the latter is still attached to a rock on the stream bottom. Thus freed, the emergent adult struggles to the surface of the stream and flies away. It is for this reason that wet flies such as the Hare's Ear are believed to be so productive during a Quill Gordon hatch.

Whether or not angling writers are correct about the stream-bottom emergence of the Quill Gordon (and



Quill Gordon Nymph

there is some doubt about the accuracy of the claim), on warm spring days the duns nevertheless leave the water as soon as they appear on the surface. Colder temperatures cause them to ride the water rather than fly and the longer they remain on the surface, the greater is the risk that the current will carry them to a feeding fish.

In the Appalachian region and in Maryland, the emergence of the Quill Gordon generally begins in mid-April, while in more-northern areas—northern Pennsylvania, New York, Michigan—emergence is delayed into mid-May. Daily hatches of the Quill Gordon usually peak around one or two in the afternoon. Conventional Quill Gordon patterns such as those recommended by Flick and Schwiebert in sizes 14 and 16 are good imitators of this nymph.

### The Hendrickson Nymph

Crowding the Quill Gordon hatches on the calendar is the Hendrickson (*Ephemerella subvaria*), perhaps the best known and most cherished of all the early-season mayflies. The aquatic form of the Hendrickson is a robust nymph: the male dark in color to almost black with red eyes, the female considerably lighter and with pale eyes, and both bearing a light band across the middle of the abdomen.

At maturity, the nymphs measure nearly a half-inch in length. Their favorite habitats are gravelly riffles and shallow slicks with heavily rubbled bottoms. Emergence of the Hendrickson is expected anytime after stream temperatures reach 50-55°F., mid to late April in the Appalachians and as late as the end of May in the northern states of the Midwest.

A few days before the Hendrickson hatch begins, the mature nymphs become hyperactive and, as the time of emergence draws near, they swim enticingly to the surface, continuously flexing the back half of the body as they wiggle upwards. Some nymphs may make several attempts before they reach the top; others reach the surface and hang there, drifting with the current while the emerging dun lifts itself from the shuck.



Hendrickson Nymph

The hatch peaks about mid-afternoon, although the first emergers may appear several hours before. And on warmer days, some late stragglers may still be coming off the water at dusk. The dark *Ephemerella* nymph imitation in sizes 12 and 14 takes trout both before and during this hatch.

### March Brown Nymph

The nymph of the American March Brown (*Stenonema vicarium*), which emerges soon after the end of the Hendrickson hatches, is typical of a number of sprawling mayfly juveniles that inhabit fast water in both Eastern and Midwestern trout streams. The mature nymph of the March Brown is large, nearly three-quarters-of-an-inch long, flattened, dark reddish-brown in color on the back and light-colored underneath.

At hatching time, the nymphs of this form, which normally cling to rocks in fast water, leave the heavier flows and move into quieter, shallow areas. Swimming upward, they hang rocking just under the surface while the large, gray-winged duns labor slowly to leave the shuck.

The March Brown emergence normally begins in early May in Maryland, becoming progressively later as it moves north; mid-May to early June in the Poconos, early June in the Catskills and mid-June in the Adirondacks. And in the Midwest, in the southern streams in Michigan and Wisconsin, March Brown hatches occur between mid-May and mid-June, while emergences are



March Brown Nymph

delayed a week or more in trout streams farther north.

During a typical March Brown hatch, nymphs emerge sporadically throughout the day from midmorning on. A dark *Stenonema* nymph in size 10 or 12 is a good match for the aquatic stage of this mayfly.

### Green Drake Nymph

Emergence of the Green Drake (*Ephemera guttulata*) is an exciting time for the fish as well as the fishermen. When the large, grayish-brown nymphs leave their burrows and snake their way to the surface, they attract the

attention of large trout, although perhaps not to the same extent the awkward, fluttering duns do as they attempt to lift from the surface.

Nymphs of the Green Drake are found in both free-stone and limestone water throughout the Northeast and the Mid-Atlantic states. They find conditions suit-

able for burrowing in the mud and clay of slow-flowing streams and amid the rubble or in the shelter of large rocks in faster-flowing water.

The end of May in Maryland and Pennsylvania marks the beginning of the Green Drake emergence. It's also the climax in the succession of insect hatches which began on the same trout streams early in April. The full-grown Green Drake nymphs, thick, round-bodied, and close to an inch in length, emerge sporadically throughout the day once the hatch starts, moving to the surface quickly and then rapidly lifting from the nymphal skin. From Maryland north to the Poconos, the Green Drake usually hatches between May 28 and June 6. In the Catskills, the hatch normally comes on between June 3 and 12 and appears in northern New York waters between June 14 and July 14.

A pair of close relatives of the Green Drake, the Yellow Drake (*Ephemera varia*) and the Brown Drake (*Ephemera simulans*) are found in trout streams east of the Mississippi as well, but the latter in far fewer numbers. The nymphs of these two large mayflies are similar in appearance but lighter in color than the Green Drake. Both are early-evening emergers, coming off the water near dusk. The emergence period for the Yellow Drake is mid-June in the Poconos to early August in Adirondack streams. The best hatches on Midwest waters come in July.

The Brown Drake, which may produce important



Green Drake Nymph.  
Nymphs of the Yellow and Brown Drakes  
are slightly lighter in color.

hatches in some localities in the West, also comes off Michigan's Au Sable River in a brief but heavy hatch which usually peaks sometime during the first few days of June. Schwiebert's dark *Ephemera* nymph in a size 8 or 10 is a reasonable imitation of the Green Drake nymph. A slightly lighter tie in the same pattern satisfies as an imitator for the nymphs of the Brown and Yellow Drake.

### White-Gloved Howdy Nymph

The nymph of the White-Gloved Howdy (*Isonychia bicolor*) represents still another type of mayfly juvenile found widely distributed in trout waters east of the Mississippi. This form, which is for all practical purposes indistinguishable from a number of other very close relatives, is a strong swimmer. Streamlined, five-eighths of an inch long when full grown, and nearly black but with a white stripe down the middle of its back, this nymph moves about in minnow-like fashion, darting into the lighter currents. Its plate-like gills stick out from the sides of the body, resembling paddles.

Nymphs of the *Isonychia* type begin emerging in Maryland and Pennsylvania early in June, with hatches starting on Catskill streams and farther north into the New England states in the last half of the month. Although the emergence of *Isonychia* nymphs peaks during June in southern waters and sometime in July in northern trout streams, small numbers of these nymphs continue to hatch sporadically as late as August. Hatches of these nymphs are heaviest in Michigan, Wisconsin and Minnesota waters right around mid-June.

During the hatch, which is a late afternoon to early evening affair, the *Isonychia* nymphs congregate in the shallower water near the banks of the stream. Frequently, they cluster around protruding rocks, pulling



White-Gloved Howdy Nymph

themselves above the waterline before splitting the nymphal skin and escaping. In spite of this behavior, they also are able to leave the nymphal shuck while floating adrift in quiet water. Once out of the juvenile coat, the duns are capable of leaving the water immediately.

A classic imitation of the emerging nymph is a wet fly, the Leadwing Coachman. Schwiebert's *Isonychia* nymph pattern is a good match of the living larval form.

### The Stonefly Nymphs

Stonefly nymphs are food for trout in both Eastern and Western waters, but the hatches of these insects are heavier in the West and, therefore, much more important to fishermen there. No matter what locality they're found in, the aquatic forms prefer cold, fast-flowing water. The different kinds of stonefly nymphs vary greatly in size, ranging in length from a quarter of an inch in the case of the Yellow Sally (*Isoperla*) to nearly three inches in such forms as the Salmon Fly and Giant Black Stonefly (*Pteronarcys*).

Hatches of the large Salmon Fly occur in late April along the Pacific Coast and during the early summer at higher altitudes from Colorado to Montana. Nymphs of this form are found in large numbers in the fast riffles of some stretches of rivers such as the Madison and the Firehole. Known as hellgrammites by Western fishermen, these large stonefly nymphs develop over a period of two or three years, so they're present in large numbers throughout each fishing season. The mature nymphs move to shallow water and climb up on stream-bank vegetation to emerge.

The nymphs of a second member of this group, the Giant Black Stonefly, which in size and general appearance closely resembles those of the Salmon Fly, are found in many Eastern streams as well as some of the eastern-flowing rivers of the Rocky Mountains such as the South Platte. These, too, when mature, are large nymphs, dark in color and residents of fast water. Seldom are nymphs of the Black Stonefly found in great numbers in Eastern streams and much less attention is paid to the emergence of this insect. In Maryland, Pennsylvania and New York waters, hatches of this fly begin to appear toward the end of May and the beginning of June.

More important to Eastern fly fishermen is the



Brown Stonefly Nymph

nymph of the Big Brown Stonefly (*Acroncuria*). It is more numerous and more widely spread throughout trout streams from the Adirondacks to the Appalachians. Mature nymphs are about an inch-and-a-quarter long with a distinctive W-shaped band on the head and mottled brown and yellow on the back. Although they're commonly found secluded among the rocks in faster water, nymphs of this form will crawl into quieter water to forage among the leaf debris which accumulates in the eddies and between the rocks.

They begin to emerge slightly ahead of (or overlapping) the hatches of the Giant Black Stonefly. The mature nymphs climb out of the water sporadically during the day to leave the nymphal shuck, with perhaps more activity in the early morning. Patterns to imitate the aquatic stages of these large stoneflies are the Giant Salmon Fly Nymph and the Giant Black Stonefly Nymph, both in sizes 4 and 6, and the Great Brown Stonefly nymph in size 8.

### The Caddis Nymphs

The aquatic larvae of caddis flies include the greatest diversity in size, shape and color of any of the aquatic insects of interest to the trout fisherman. Some larvae build a case of sand grains, sticks, bits of leaves, or various items of stream bottom debris. Each different type of cased caddis constructs a case unique to its own kind and carries it with it wherever it goes.

Some of the caddis larvae do not build a case but roam freely over the surface of the stream bottom in search of food, while others construct funnel-shaped silken nets which strain food from the water. All of the caddis larvae take a year to reach maturity.

Immediately before emergence, the cased larvae retreat into their living quarters, plug up the open end and begin the transformation into a pupal stage, the form which eventually will rise to the surface to emerge. The caseless caddis fly larvae, when their time to transform arrives, construct a stone chamber in which they conceal themselves while developing into a pupa.



Mature Caddis Pupa

The pupal caddis, when its development is complete, breaks out of its enclosure and swims to the surface where it leaves the pupal shuck directly or climbs out of the water and emerges while clinging to a rock or stick.

Some forms of caddis flies begin hatching early in the spring, even before the first mayfly emerges.

One of the first caddis flies encountered commonly on trout streams in Maryland and Pennsylvania is the Little Black Caddis (*Chimarra*), which emerges as early as March. The larva of this form is one of the caseless types, small, pale-cream in color with a brown head and a segmented body about three-eighths of an inch long. It can be imitated with a brown and white chenille nymph on a #10 or 12, 2XL hook.

Throughout most of the fishing season on both East-

ern and Western streams, one form of caddis or another can be found emerging. Some forms hatch in such numbers that they appear in cloud-like concentrations over the water. A pair of the best known mid-season caddis flies are the Grannom (*Brachycentrus*) and the Green Caddis (*Rhyacophila*), both of which may be encountered in the West as well as the East. The Little Green Caddis larval and pupal patterns in sizes 10 or 12 imitate *Rhyacophila*, while the Little Gray Caddis larval and pupal patterns in the same sizes will take trout when *Brachycentrus* larvae and pupae are active.

### The Dragonfly Nymphs

Least known to the trout fisherman of all the aquatic larval forms are the nymphs of the dragonflies. Difficult to identify beyond the point of general recognition, a special problem to relate to an adult form, and seldom present in large numbers, the immature dragonflies, nevertheless, are beginning to attract the interest of Eastern as well as Western anglers.

Large and heavy-bodied by comparison with all but a few of the mayflies and stoneflies, the nymphal forms of dragonflies vary greatly in size, shape and behavior. Those found in flowing waters seem to prefer sandy or silty bottoms or eddy pockets where leaf fragments and stick debris pile up. A few that inhabit riffle areas burrow between the rocks or into the soft bottom of the stream-bed.

Although sluggish and slow-moving, dragonfly nymphs are able to propel themselves forward in spurts by expelling jets of water from their anal opening. The smaller of the trout stream dragonflies measure less than half an inch, while the larger forms will approach two inches in length. Most are dull brown, gray or green in color.

These nymphs crawl from the water and emergence



Dragonfly nymph

takes place while they're clinging to a rock, stick or some other object protruding above the surface of the stream. Once adult dragonflies begin to hatch, emergence continues sporadically into the fall. Little exact information has yet accumulated about the emergence dates for these insects and few patterns have been developed to imitate the nymphal forms. A recent pattern used in the West is the Assam Dragon Nymph developed by Charles Brooks.

### Cranefly Nymph

Another much-neglected aquatic larva fed on by trout is the fleshy, worm-like immature stage of the cranefly. Often called "water worms," the translucent, pale cream to light brown cranefly larvae found in stream habitats live among stacks of sunken leaves or under rocks. Many different kinds of cranefly larvae are widely distributed in streams and rivers across the country and they vary tremendously in size, some of them reaching two inches in length.

To attempt to carry an artificial to match each kind is impractical, so resorting to patterns which are suggestive of the group as a whole is more realistic. Three patterns, the Green, Brown, and White Cranefly Larva described by Schwiebert, in sizes 8 through 14, are a suitable selection to carry for imitating aquatics of this group.

Hatches of emerging craneflies are not heavy enough in themselves to be of importance to the fisherman, but during the early parts of the season, before the start of



Cranefly nymph

any cranefly emergence, high water flushes many of these juicy larvae free of the leaves and debris that normally conceal them. At such times, trout feed heavily on these worms and the artificial cranefly nymphs prove effective. →

SEASON OF FLYING 1978  
Volume Seven Number Four  
Winter 1980

# Fly Fisherman

