



Tying Mayfly Nymphs

Ronald A. Howard Jr.¹

Objectives

Participating young people and adults will:

1. Practice tying procedures for mayfly nymph patterns
2. Relate living insects to their imitations
3. Develop skills in communicating fly tying processes
4. Gain confidence in tying ability
5. Have fun while learning

Youth Development Objectives

Participating young people will develop:

1. Enhanced self confidence and self concept
2. Enhanced ecological understanding
3. Enhanced ability to understand and follow directions
4. Enhanced ability to critique personal efforts
5. Enhanced communication and evaluation skills

Roles for Teen and Junior Leaders

1. Demonstrate individual patterns
2. Assist participants as needed
3. Evaluate flies and suggest improvements
4. Discuss tying and fishing experience

Potential Parental Involvement

1. See "Roles for Teen and Junior Leaders" above.
2. Arrange for or provide teaching location
3. Arrange for or provide materials and/or equipment
4. Arrange for or provide transportation
5. Arrange for or provide refreshments.
6. Discuss personal experiences in tying or fishing

Best Time: any time, intermediate level

Best Location: well lighted, comfortable area

Time Required: 60 to 90 minutes

Equipment/Materials

tying vise	hackle pliers
bobbin	bobbin threader
dubbing needle	hackle brush
6/0 tying thread (black, brown, amber)	
head cement	nymph hooks - 2x -4x long
mallard wing quill and marginal feathers	
hen pheasant marginal feathers	
cock pheasant tailmottled turkey quill	
cinnamon peacock quill	
brown, dun, ginger and cree hackles	
partridge hackle	grouse hackle
lead wire	fine silver wire
fine gold wire	fine silver oval tinsel
fine gold oval tinsel	flat gold tinsel
tan marabou	brown floss
olive seal fur	claret seal fur
red fox fur	dark raccoon fur
hare=s mask	black wool
peacock herl	

Safety Considerations

No special considerations

References

See references in introduction

¹ Professor and Extension Specialist, State 4-H Office, 7607 Eastmark Drive, Suite 101, College Station, TX 77843-2473

Evaluation Activities/Suggestions

1. Observe development of tying skills
2. Observe interactions with other youth and adults
3. Observe improvements in tying skill and interest
4. Observe changes in ability to detect and correct tying errors or faults
5. Observe attention to detail and pattern
6. Observe apparent confidence

Lesson Outline

Presentation

Application

I. Nymphs

- A. Larval or pupal aquatic insects
 1. Mayflies
 - a. Cylindrical burrowing mayflies
 - b. Flattened clambering mayflies
 - c. Smaller calm water mayflies
 2. Caddisflies
 - a. Case-bearing caddisflies
 - b. Net spinning caddisflies
 - c. Caddisfly pupae
 3. Stoneflies
 4. Fishflies, alderflies and dobsonflies
 5. Riffle beetles and water pennies
 6. Damselflies and dragonflies
 7. Crane flies
 8. Midges, mosquitoes and true flies
- B. Pattern types
 1. General patterns
 2. Suggestive or imitative patterns
 3. Searching patterns

DISCUSS nymphs as a class of flies and the insects they represent. **NOTE** that mayflies come in a variety of types that vary with the habitat. If they are available, **SHOW** examples, pictures or illustrations of various types of nymphs.

II. General mayfly patterns

- A. Pattern elements
 1. Tail - generally 2 or 3 elements
 2. Abdomen
 - a. Cylindrical or flattened
 - b. Ribbed, woven or quill bodied
 3. Wing pad - single
 4. Thorax - heavier than abdomen
 5. Legs or hackle
 6. Head
 7. Size and proportion variations
- B. Pheasant tail nymph
 1. Generalized pattern
 - a. Hook: standard to 2x long
 - b. Tail: cock pheasant tail fibers
 - c. Rib: fine gold wire
 - d. Abdomen: pheasant tail fibers
 - e. Wing pad: pheasant tail fibers
 - f. Legs: tips of tail fibers tied back
 - g. Tying thread, lacquered
 2. Tying procedure

Using a large fly or an illustration, **DEMONSTRATE** the basic elements of a mayfly nymph pattern.

PASS OUT and **EXPLAIN** the components needed to tie a pheasant tail nymph.

- a. Attach thread at rear of shank
- b. Wind optional lead wire underbody
- c. Wrap and lacquer underbody
- d. Bind in three pheasant tail fibers as a tail
 - e. Bind in ribbing wire
 - f. Wind pheasant tail fiber abdomen
 - g. Wind ribbing across body material
 - h. Bind in 4-8 pheasant tail fibers as a wing pad
 - I. Bind in several pheasant tail fibers to wind a thorax
 - j. Double back tips of fibers as legs

- k. Fold wing pad forward and bind down
- l. Wind head and whip finish

C. Stercho olive

1. Developed by Jerry Stercho
2. Pattern
 - a. Hook: #8 -3x long
 - b. Thread: dark brown or black
 - c. Tail: red fox guard hair
 - d. Rib: oval gold tinsel
 - e. Abdomen: olive seal fur
 - f. Wing pad: turkey or cinnamon peacock
 - g. Thorax: olive seal fur
 - h. Legs: brown hen or soft rooster

3. Tying procedure

- a. Attach thread near bend
- b. Bind in clump of fox hair for tail
- c. Bind in ribbing tinsel
- d. Dub and wind abdomen
- e. Apply rib and bind off

- f. Bind in wing pad

- g. Bind in leg hackle

- h. Dub and apply thorax

- I. Wind hackle for legs and bind off
- j. Fold wing pad forward, bind down and trim at head
- k. Wind head, whip finish and lacquer

D. Gold-ribbed hare's ear

1. Excellent generalized nymph
2. Example of hackleless tying approach
3. Pattern
 - a. Hook: 2x long nymph hook
 - b. Thread: gray or black 6/0
 - c. Tail: hare guard hairs OR dun hackle fibers
 - d. Rib: flat gold tinsel

DEMONSTRATE tying a pheasant tail nymph while explaining the process. **LEAVE** the fly in the vise as an example for comparison by the participants.

DEMONSTRATE two ways of winding ribbing wire B with the pattern of winding the abdomen or across those wraps for greater security.

BIND wing pad materials in place and **BIND IN** several tail fibers as thorax material.

WIND thorax and tie off at the head area. **PULL** the tips back and bind them in place as legs.

FOLD the wing pad fibers forward and bind them in place, trimming them close at the head. **WIND** a head and whip finish.

PASS OUT and demonstrate the materials to be used in tying a Stercho Olive nymph.

Start by attaching the thread near the back of the shank. **BIND IN** a small clump of red fox guard hairs as a tail. **TRIM** the butts of the hairs and **BIND IN** a piece of oval gold ribbing tinsel.

DUB dark olive seal or a substitute and wind a generous abdomen, applying ribbing after finishing the abdomen.

BIND IN a strip of cinnamon peacock or dark mottled turkey wing quill as a wing pad.

BIND IN a brown hen or soft rooster hackle to be used as legs.

DUB and **APPLY** a generous thorax and tie it off at the head.

WIND the hackle in an open spiral and tie off at the throat before **FOLDING** the wing pad forward and binding it off. **WIND** a head, whip finish and lacquer.

NOTE that the hare's ear nymph is tied without hackle, using picked out or brushed out body hairs to suggest legs.

PASS OUT and **EXPLAIN** the materials for a gold-ribbed hare's ear.

- e. Abdomen: hare's mask with guard hairs
 - f. Wing pad: mallard wing quill slip
 - g. Thorax: hare's mask
 - h. Hackle: dubbing picked out or brushed
 - I. Head: tying thread, lacquered
4. Tying procedure
- a. Attach thread at rear of shank
 - b. Bind in the tail materials
 - 1) Dun hackle fibers
 - 2) Hare's mask guard hairs
 - c. Bind in gold tinsel ribbing
 - d. Dub and wind tapered abdomen
 - 1) Mixture of hare's mask and guard hair
 - 2) Roughly dubbed
 - e. Spiral rib over abdomen
 - f. Bind in mallard wing quill strip at rear of thorax
 - g. Dub thorax heavily
 - h. Fold wing pad forward and bind down
 - I. Wind head, whip finish and lacquer
 - j. Pick out dubbing simulating gills and legs
 - 1) Pick out with dubbing needle
 - 2) Brush out with dubbing brush

Start with the thread near the rear of the shank and **BIND IN** the tail material of your choice.

TRIM the tail materials and **BIND IN** flat gold tinsel for ribbing.

PREPARE a mixture of hare's mask fur and guard hairs and **WIND** a roughly dubbed abdomen. **BIND** it in and **WIND** the ribbing tinsel over it to the thorax.

BIND in a slip of mallard wing quill at the base of the thorax, then heavily dub a thorax with the same materials used in the abdomen.

FOLD the wing pad forward and bind it in over the thorax.

WIND, WHIP FINISH, and LACQUER the head.

DEMONSTRATE picking out the dubbing with a dubbing needle and using a hackle brush to roughen the body.

III. Specific mayfly nymph patterns

A. Green drake nymph

- 1. General pattern for burrowing mayfly
- 2. Pattern
 - a. Hook: 3x long #10
 - b. Thread: primrose or brown
 - c. Tail: 3 pale ginger hackle tips
 - d. Rib: fine oval silver tinsel
 - e. Gills: pale tan marabou at sides
 - f. Abdomen: amber/tan fox fur
 - g. Wing case: mottled turkey slip or hen pheasant marginal wing feather
 - h. Thorax: amber/tan fox fur
 - I. Legs: brown partridge hackle
 - j. Head: lacquered tying thread
- 3. Tying procedure
 - a. Attach thread at rear of shank
 - b. Bind in three splayed light ginger or pale cree hackle tips as tails
 - c. Bind in strips of marabou for gills
 - d. Bind in ribbing tinsel
 - e. Dub and wind red fox fur abdomen
 - f. Pull marabou forward at sides and bind in place
 - g. Apply ribbing tinsel, binding marabou in place
 - h. Pick out marabou as gills

PASS OUT and **DISCUSS** the materials needed to tie a green drake nymph.

TIE in three pale ginger hackle tips flared laterally at the rear of the shank. **ADD** a strip of fine oval silver tinsel for ribbing material and a pair of pale tan marabou strips as gills.

DUB a tight abdomen of amber and tan fox fur, **PULL** the marabou forward along the sides, and **BIND** them in place with the silver tinsel rib.

- I. Bind wing pad in place
 - j. Dub and wind red fox fur thorax
 - k. Bind in brown partridge hackle
 - l. Wind 2-3 turns of hackle and tie off
 - m. Smooth legs back and bind off
 - n. Set wing pad
 - 1) Pull wing pad forward
 - 2) Bind in place
 - 3) Trim excess away
 - o. Wind head, whip finish and lacquer
- B. Blue-winged olive nymph
- 1. Small, open water nymph type
 - 2. Pattern
 - a. Hook: #18 wet fly
 - b. Thread: brown 6/0
 - c. Tail: dark dun hackle fibers
 - d. Rib: fine silver wire
 - e. Abdomen: stripped peacock herl over fine, tapered floss underbody
 - f. Wing pad: mallard wing quill slip
 - g. Hackle: partridge body feather
 - h. Thorax: dark raccoon dubbing
 - I. Head: lacquered tying thread
 - 3. Tying procedure
 - a. Attach thread at rear of shank
 - b. Bind in dark dun hackle fiber tail
 - 1) Pluck small bunch of fibers
 - 2) Bind short tail in place
 - c. Prepare and bind in stripped herl
 - d. Bind in fine silver wire
 - e. Bind in and wind tapered floss body
 - f. Wind stripped herl over floss base, bind off and trim excess
 - g. Wind ribbing across herl body, bind off and trim excess
 - h. Bind in mallard quill slip
 - I. Dub and apply dark raccoon thorax
 - j. Attach and wind partridge hackle
 - k. Pull wing pad forward, bind down and trim
 - l. Wind head, whip finish and lacquer
- C. Dun variant nymph (Flick)
- 1. Pattern
 - a. Hook: #10 2x long
 - b. Thread: black 6/0
 - c. Tail: 3 strands of heavy peacock herl
 - d. Rib: oval silver tinsel
 - e. Underbody: lead wire, wrapped and lacquered
 - f. Body: mixed claret seal and black wool
 - g. Hackle: grouse

APPLY a mottled turkey wing quill slip as a rib or wait to **APPLY** a hen pheasant marginal feather from the head end. **DUB** a thorax of the same material used in the abdomen but apply it more heavily, binding in a brown partridge hackle at the throat.

APPLY 2-3 turns of hackle, **SMOOTH** it back and **BIND** in place. **SET** the wind pad in place and bind it down.

Wind head, whip finish and lacquer the head.

PASS OUT the materials for a blue-winged olive nymph while discussing each of the materials and their uses in this pattern.

BIND in a small, short clump of dark dun hackle fibers, trimming away the excess material to provide a smooth base for the body materials.

PREPARE a peacock herl by stripping the barbules away with the thumbnail and fingernail. **BIND** the stripped herl in place over the tail, then **ATTACH** fine silver wire to serve as a rib. **BIND** in a piece of fine, brown floss and **WIND** a tapered abdomen from tail to thorax, then **WIND** the stripped herl over the floss base, binding it down at the thorax and trimming away the excess material.

WIND the ribbing wire in the opposite direction from the herl, binding it in place. **TIE** it down and **TRIM** the excess material.

BIND in a mallard wing quill strip as a wing pad before **DUBBING** and applying a thorax of dark raccoon fur.

BIND in and **APPLY** a dark partridge hackle at the throat as leg hackle.

PULL the wing pad material forward and bind it in place before trimming it at the head, forming a head, whip finishing and lacquering the head.

PASS OUT the materials for Flick's dun variant nymph and **EXPLAIN** their use.

- h. Head: tying thread lacquered
- 2. Tying procedure
 - a. Attach thread at rear of shank
 - b. Wind shank with lead wire
 - c. Wind thread over wire and coat with lacquer
 - d. Bind in peacock herl tail
 - 1) Select heavy herl
 - 2) Clip to about 1/3 to 1/2 inch long
 - f. Bind in oval silver tinsel
 - g. Dub and wind tapered body of mixed claret seal and black wool dubbing
 - h. Wind the ribbing tinsel to shoulder
 - I. Bind in grouse hackle at shoulder
 - j. Wind grouse hackle collar
 - k. Trim excess hackle
 - m. Wind head, whip finish and lacquer
- D. Lead-winged coachman nymph
 - 1. Pattern
 - a. Hook: 3x long nymph hook
 - b. Thread: 6/0 black
 - c. Tail: brown hackle fibers
 - d. Body: peacock herl
 - e. Wing pad: mallard marginal wing feather cut to shape
 - f. Hackle: soft, brown hen or rooster
 - g. Head: tying thread, lacquered
 - 2. Tying procedures
 - a. Bind thread in at rear of shank
 - b. Attach brown hackle fiber tail
 - 1) Pluck bundle from hackle
 - 2) Bind in place
 - 3) Trim butt ends away
 - c. Wind peacock herl body
 - 1) Attach 3-5 peacock herls
 - 2) Wind herl body
 - a) Wind herls in sequence filling in body
 - b) Wrap herls around thread then wind on shank to form body
 - d. Attach and wind brown hackle
 - e. Prepare mallard marginal feather
 - 1) Notch center of feather
 - 2) Cut perpendicular to shaft
 - 3) Trim base to shape
 - f. Bind wing pad in place
 - g. Wind head, whip finish and lacquer

FORM an underbody by winding lead wire over the hook shank.

WIND tapered thread ends on the lead underbody, crisscrossing the thread over the body and lacquering it to prevent corrosion.

BIND in three heavy peacock herls as a tail and **TRIM** them to about 3 to 4 inch long.

BIND in an oval tinsel rib and **DUB** a tapered body of coarsely mixed claret seal and black wool, winding the ribbing tinsel over it to the shoulder.

BIND in a grouse hackle at the shoulder and **WIND** a sparse collar, binding it down and trimming the excess hackle.

WIND a generous head, whip finish and lacquer.

PASS OUT and **EXPLAIN** the use of the materials for a lead-winged coachman nymph.

BIND IN a brown hackle fiber tail and **TRIM** the excess fibers away.

ATTACH 3-5 peacock herls and wind a generous body.

DEMONSTRATE both methods of building the herl body.

ATTACH and **WIND** a brown hackle at the shoulder, pulling the hackle down and back as a throat.

DEMONSTRATE trimming a mallard marginal feather to a wing pad shape and applying it over the thorax before forming a head to finish the pattern.

IV. Fishing them

A. Dead drift

1. Upstream or up and across presentation
2. Matching drift to current
3. Line watching to detect strikes

B. Swimming nymph

DISCUSS several methods of fishing nymphs, including dead drift, down and across wet fly technique, and the rod lift approach to simulate a hatching nymph. **DISCUSS** the use of a strike indicator to assist in detecting strikes.

1. Down and across - wet fly approach
2. Up and across with hand twist retrieve
3. Rod lift to simulate hatching nymph

Summary Activity

1. Have participants review the series of flies they have tied and critically analyze their technique. Discuss techniques and ways of improving them.
2. Arrange a fishing trip where the nymphs tied in this exercise can be fished, assisting young people with their angling technique.

Lesson Narrative

Although dry fly fishing is exciting and spectacular during hatches, the immature stages of aquatic insects are available for a much longer period of time, and fish feed heavily on them. Nymph fishing is productive, and a wide variety of patterns are useful to the angler. This series of flies was selected to demonstrate techniques useful in tying mayfly pattern.

Nymphs

Nymphs, to the angler, are larval or pupal aquatic insects. Mayfly nymphs include cylindrical burrowing species that inhabit bottom substrates, flattened clambering mayflies that inhabit rocky or rubble structures, and smaller calm water mayflies. Caddisflies include case-bearing species that make their cases of cut pieces of detritus, sticks or sand or fine gravel grains. Other caddisflies are free-living, spinning nets to capture detritus or small organisms. All of these species become pupae before they emerge as adults. They could be considered nymphs or wet flies. Stoneflies are a diverse group, primarily occupying turbulent, highly oxygenated water. In contrast to the mayflies, which have only a single wing pad, stoneflies have two. Many of them are brightly colored, and they range from tiny species to the very large Asalmon flies found in many western streams. Fishflies and alderflies roughly resemble caddisflies on casual observation, while dobsonflies (adult hellgrammites) roughly resemble stoneflies. Riffle beetles resemble other beetle larvae, and water pennies are flattened grazers on stream bottom stones - from the top side, they resemble tiny sand-dollars or tiny flattened starfish without arms. Damselflies and dragonflies are familiar as adults, but less familiar to most people as nymphs. Their aquatic forms are similar, but damselflies have longer, slimmer bodies that swim with a lateral lashing motion (mayflies swim with a similar, but vertical motion). Dragonfly naiads can force water from their anal opening to jet through the water when disturbed. They are generally more robust than damselfly nymphs, too. Predators as adults, they are also voracious predators as juveniles. Midges, flies and mosquitoes are often abundant with numbers and types dependent upon the characteristics of the water. Black fly larvae and pupae, for example, may form the foundation for food chains in many northern areas. Crane fly larvae resemble grubs or very large maggots. They live either in detritus in and along stream banks or among the roots of vegetation in moist soils. The adults look like gigantic mosquitoes to casual observers.

With this wide variety of organisms as models, many pattern types have evolved as fly tiers attempted to fool fish into hitting their offerings. Several general pattern types have evolved. Some are generalized patterns that suggest a wide array of possible prey. Some are suggestive or highly imitative patterns of given species of natural insects. Another group is made up of patterns that are used in fishing the water searching for fish that are actively feeding. These may resemble no specific insect but suggest living things that are somewhat similar. This lesson is devoted to tying several varieties of mayfly nymphs, while teaching some techniques that are generally applicable to nymph tying.

General Mayfly Patterns

The general pattern for mayfly nymphs includes several common elements - tail, abdomen, ribbing or woven materials to suggest segmentation, a wing pad, thorax, legs or hackle, and a head. The bodies may be cylindrical or flattened. Gills may be located on the tail or along the sides of the abdomen. Generally, the thorax is heavier than the abdomen and the abdomen is tapered, heavier on the front than the rear. Sizes and proportions vary, and hooks from x short to 3x long are commonly used in tying them. Bodies may be made from yarn, floss, dubbed fur, herl or other feather barbs, or many synthetic materials, with legs of

hair, hackle, knotted feather barbs, or even rubber leg material, and wing cases of plastic, feather slips, individual feathers or other materials of choice.

Pheasant Tail Nymph

The pheasant tail nymph is a generalized pattern that suggests a wide variety of nymphs and simply looks like food to fish. The pattern for the fly follows:

Hook: standard to 2x long
Thread: 6/0 black or brown
Tail: cock pheasant tail fibers
Rib: fine gold wire
Abdomen: pheasant tail fibers
Wing pad: pheasant tail fibers
Legs: tips of tail fibers tied back

To tie the pheasant tail nymph, attach the thread at the rear of the shank. If desired, the fly can be weighted by wrapping lead, copper or brass wire around the shank. If that option is chosen, wind tapered ends of thread and crisscross the wire with the tying thread and lacquer the entire assembly heavily to prevent corrosion from ruining the fly. Bind in three cock pheasant tail fibers as a tail, flaring the fibers. Bind in the ribbing wire, and wind pheasant tail fibers as an abdomen. After binding those fibers in place at the rear of the thorax, spiral the ribbing wire in the opposite direction, binding down the body material with each turn. Bind in 4-8 pheasant tail fibers as a wing pad, allowing the tips to project over the tail. Bind in a set of tail fibers and wind them on as a thorax, leaving the tips free, pulling them back as bearded hackle for legs. Pull the wing pad materials forward and bind them down at the shoulder before winding a head, whip finishing the thread and lacquering the thread.

Stercho Olive Nymph

This pattern was developed and passed on to the author by Jerry Stercho, then a student at Cornell University and a fellow fly fisherman. Although it can be tied in a wide variety of sizes and it can be modified to suggest a wide variety of nymphs, the large pattern he first shared dubbed heavily with dark olive seal fur remains a favorite and highly successful pattern. The pattern follows:

Hook: #8 -3x long
Thread: dark brown or black
Tail: red fox guard hair
Rib: oval gold tinsel
Abdomen: olive seal fur
Wing pad: turkey or cinnamon peacock
Thorax: olive seal fur
Legs: brown hen or soft rooster

The Stercho Olive nymph may be tied either with or without integral weight. For deep or Aheavy@ water, the shank is wrapped with lead wire with tapered ends of thread and a crossed pattern of thread before being lacquered. With or without a lead underbody, the fly begins with attaching a long and fairly generous tail of red fox guard hairs. An oval gold tinsel rib is tied in beside the tail, and a roughly dubbed abdomen is wound to the thorax. The rib is applied in the usual manner and tied off at the thorax as well. A wing pad, comprised of a slip of either mottled turkey or cinnamon peacock wing quill is attached at the rear of the thorax with the underside of the feather slip up and the material projecting over the tail. A fairly long brown hackle is tied in over the wing pad material, and a roughly dubbed olive seal fur thorax is wound to the head area. The hackle is spiraled over the thorax, taking about 3 to 4 turns. Using the fingers, divide the hackle fibers on the top of the thorax about evenly on the sides and pull the wing case material forward to the head area. Bind the front of the wing case down, trim the end and wind a fairly large head of tying thread. Finish the fly by whip finishing the head and applying a drop or two of lacquer or head cement.

Gold-ribbed Hare's Ear Nymph

The gold-ribbed hare's ear is an excellent generalized nymph pattern that catches many types of fish under a wide variety of conditions. It can be tied in a wide range of sizes and in several colors as appropriate to the waters being fished and the time of year. This one is the traditional pattern using natural hare's mask as dubbing material. It is an example of a hackleless approach to tying. After the fly is finished, the dubbing materials are roughened by picking them out with a dubbing needle or brushing them with a small, stiff brush. (An excellent one can be made by clipping the fibers on a toothbrush short and grinding the brush to one or two sets of fibers wide.) The picked out materials resemble gills and legs on the natural insect. Many anglers note that the fly gets better as fish roughen the body with their teeth.

The pattern for the gold-ribbed hare's ear nymph follows:

Hook: 2x long nymph hook, sized as desired
Thread: gray or black 6/0
Tail: hare guard hairs OR dun hackle fibers
Rib: flat gold tinsel
Abdomen: hare's mask with guard hairs
Wing pad: mallard wing quill slip
Thorax: hare's mask
Hackle: dubbing picked out or brushed
Head: tying thread, lacquered

Tying the gold-ribbed hare's ear nymph starts with binding in a tail. A small clump of dun hackle fibers can be used for a lively tail, or a small clump of hare's mask guard hairs can be used to create a heavier, buggy tail. I prefer the hair tail for most applications, but take your choice. Bind in a strip of fine or medium, flat gold tinsel for ribbing material, and dub a tapered abdomen of mixed hares mask fur and guard hairs clipped from the ears. The material should be roughly dubbed, leaving it looking like a shaggy yarn with guard hairs projecting from the dubbing strand. Carry the dubbing forward to the base of the thorax and bind it down. Spiral the ribbing material forward and tie it off in the same area. Wind back over the ribbing to the forward edge of the abdomen and bind in a strip of mallard wing quill as a wing pad. Dub a thorax slightly heavier than the abdomen, carrying it forward to the head area. Pull the mallard quill slip forward and bind it in place, trimming the excess materials away. Wind a nicely tapered head, whip finish the thread and apply a drop or two of lacquer or head cement to finish the head. Once the cement or lacquer is dry, pick out the dubbing material with a dubbing needle or roughen it with a hackle brush to simulate gills and legs.

Specific Mayfly Nymph Patterns

Numerous mayfly nymph patterns have been developed to imitate or suggest specific species or groups of mayfly nymphs. The patterns that follow are a small sampling of those specific patterns.

Green Drake Nymph

The green drake nymph is an excellent example of a burrowing type mayfly. It is a fairly large nymph that is darker than most tiers would like to make it. The pattern used here is a modification of Flick's green drake. Some tiers modify it by using heavy brown buttonhole thread as a ribbing material. The pattern is as follows

Hook: 3x long #10
Thread: primrose or brown
Tail: 3 pale ginger hackle tips
Rib: fine oval silver tinsel OR brown buttonhole thread
Gills: pale tan marabou at sides
Abdomen: amber/tan fox fur
Wing case: mottled turkey slip or hen pheasant marginal wing feather
Thorax: amber/tan fox fur
Legs: brown partridge hackle
Head: lacquered tying thread

The pattern is tied on a 3x long #10 nymph hook. After attaching the thread at the rear of the shank, bind in three narrow, light ginger or pale cree hackle tips as tails. These should be splayed outward at either side of a central segment. Two marabou strands should be bound in, one on either side of the hook, to be folded forward as gills along the sides of the fly, and a strip of fine oval silver tinsel is tied in as a rib. A coarsely mixed combination of reddish and amber red fox fur is dubbed over the abdomen, and the marabou strands are pulled forward and tied in at the back of the thorax. The ribbing tinsel is wound over the marabou and dubbed body, binding them together; and the marabou is picked out to resemble gills. If a turkey slip is used as a wing pad it must be tied in at this point. If a hen pheasant marginal wing feather is to be used, it will be tied in last. Dub a thorax of the same materials as the abdomen, carrying it forward to the base of the head. Bind in a brown partridge hackle and wind 2-3 turns behind the head. Pull the hackles back and down, wet-fly style; and bind them in place with several turns of thread. Either pull the turkey quill slip forward and bind it in, or trim the base of a hen pheasant marginal wing feather and bind it in place over the thorax. [Note that the marginals near the base of the primaries at the wing tip are long and beautifully shaped for a mayfly wing pad.] Trim the excess away and wind a smoothly tapered head. Whip finish the thread and coat the windings with lacquer or head cement.

Blue-winged Olive Nymph

The blue-winged olive nymph suggests several smaller nymphs that live on the surface of stream bottoms or plants in calm to moderate currents. It serves as an example that can be duplicated in many sizes and color combinations to suggest a wide variety of nymphs. The pattern follows.

Hook: #18 wet fly
Thread: brown 6/0
Tail: dark dun hackle fibers
Rib: fine silver wire
Abdomen: stripped peacock herl over fine, tapered brown floss underbody
Wing pad: mallard wing quill slip
Hackle: partridge body feather
Thorax: dark raccoon dubbing
Head: lacquered tying thread

Begin by attaching the thread near the rear of the shank and binding in a small bunch of dark dun hackle fibers as a tail. Leave the tail material fairly short, about half the body length or slightly less. Prepare a stripped peacock herl by pulling a herl between the thumbnail and finger nail, stripping away the fibers or flue on either side of the central core. Bind the stripped herl in place by its tip, then bind in a piece of fine silver wire for ribbing. Next bind in a single strand of floss and carry the thread forward to about the middle of the shank. Wind a smoothly tapered body from the tail to the front of the abdomen and tie it off, trimming away the excess. Wind the stripped herl over the floss underbody, giving the abdomen a segmented appearance, tying it off at the front of the abdomen. Wind the ribbing over the herl in the opposite direction binding the material down and reinforcing it. Tie the ribbing off at the thorax. Next bind in a strip of mallard quill to serve as a wing pad. (Alternatively, two smaller slips of mallard quill could be bound in on opposite sides of the back. When these are pulled forward, they form a broadly V-shaped wing pad.) Dub a fairly heavy thorax of dark raccoon fur, then attach and wind a turn or two of partridge hackle, pulling it back and down and binding it in place. Pull the wing pad forward, bind it down and trim it cleanly at the head. Wind a well-proportioned head, whip finish the thread and lacquer or cement the head to finish the fly.

Dun Variant Nymph (Flick)

The dun variant nymph designed by Art Flick is suggestive of the larva of *Isonychia bicolor*, commonly known as the dun variant or the white-gloved howdy. It is a large, dark mayfly with light colored tips on the legs. Larvae of this species are strong swimmers, usually climbing onto rocks or logs to emerge. The pattern follows.

Hook: #10 2x long
Thread: black 6/0
Tail: 3 strands of heavy peacock herl, clipped short

Rib: oval silver tinsel
Underbody: lead wire, wrapped and lacquered
Body: mixed claret seal and black wool
Hackle: grouse
Head: tying thread lacquered

The dun variant nymph can be tied either with or without a lead underbody. If a lead underbody is used, it should be bound in place with thread and lacquered in the conventional fashion before the body materials are applied. The first step in tying the body is to attach 3 strands of heavy peacock herl as a tail. Trim the herl pieces to a length of about 1/3 to 1/2 inch. Bind in the oval silver tinsel ribbing and let it hang while the body is applied. Dub a tapered body of mixed claret seal and black wool, leaving a very dark body with reddish highlights and carrying the body to the shoulder. Bind in a grouse hackle, and wind 2-3 turns of hackle as a collar, pulling the fibers back slightly and winding over them to hold them in place. Trim the excess hackle feather away and wind a smooth head. Whip finish the thread and lacquer or cement the head materials.

Lead-winged Coachman Nymph

There is a strong difference of opinion over whether the lead-winged coachman nymph is a generalized searching pattern or an imitative pattern. Regardless of one's opinion in the debate, the pattern is an excellent one for taking a wide variety of fish. The peacock body seems to be an attractive one in drawing strikes, and it can be tied in a wide array of sizes to simulate many insects. The pattern follows.

Hook: 3x long nymph hook
Thread: 6/0 black
Tail: brown hackle fibers
Body: peacock herl
Wing pad: mallard marginal wing feather cut to shape
Hackle: soft, brown hen or rooster
Head: tying thread, lacquered

The lead-winged coachman nymph is tied on a 3x long nymph hook using black thread. It starts with a fairly long tail of brown hackle fibers bound in at the rear of the shank. The bases of the fibers are trimmed away, and several peacock herls are bound in place, their number varying with the size of the fly being tied. One of two basic methods of winding the herl in place is used, either winding one herl at a time (either in sequence or as overlapping wraps) or winding the herl around the tying thread and applying the herl all at once. The former produces a nicer looking body, while the second method produces a much more durable and stronger body. Both work well. If the sequential method is used, the thread should be carried to the head area before winding the herl. If the latter method is used, thread and herl are wound on together starting at the base of the tail. In either case, the herl body is carried forward to the back of the head area before being tied down and having the excess trimmed. A soft, brown hackle is tied in at the throat and one or two turns of hackle are applied before binding the hackle in and trimming the tips away. Once the hackle fibers are drawn down and back and bound in place, a single mallard wing marginal feather is cut to shape and applied. The feather is trimmed by cutting the rachis (mid rib) to leave a V-shaped notch. Next a flat cut is made perpendicular to the central rib. Finally, the forward edge of the feather is stripped to leave what looks like a set of larval wings. The wing pad is bound in place carefully, and the excess feather is trimmed away before winding the head. The fly is finished conventionally.

Fishing Nymphs

Several methods of fishing nymphs are effective. Many nymphs drift with the current when they are beginning to emerge. These are best suggested by using a dead drift. Much like a drag-free float with a dry fly, the dead drift starts with an upstream or upstream and across cast, mending the line to try to match the speed of the current with the fly. Most dead-drift nymph fishermen are serious line watchers who strike at tiny movements, pauses or even flashes in the water. The use of a strike indicator can greatly increase the ease in detecting strikes.

Other nymphs may be active swimmers that can be simulated by either the down and across wet fly approach or by retrieving an upstream and across cast with a hand twist or short strip retrieve. Since these are tight line techniques, most people are more effective at hooking fish that strike when using them. For nymphs that swim vigorously toward the surface before emerging, the angler can combine an upstream cast with sweeping rod lifts or long stripping movements of the line to produce a sharply rising fly. Most strikes occur at the top of the lift as surface-minded fish chase and slash at swimming nymphs.

Exhibit or Sharing Suggestions

1. Prepare a poster, models or photographs to show the steps in tying one of the nymph patterns listed.
2. Study pattern books or tying magazines to locate other types of nymphs that imitate mayfly larvae.
3. Prepare a method demonstration on tying a pattern of your choice.
4. Prepare a photographic story of tying one or more nymphs from the beginning of the tying process to fishing them.
5. Record your tying and fishing experiences in a journal. Share that journal with others in an appropriate setting.
6. Make a series of flies and fly pattern cards that can be exhibited at a fair or similar gathering.
7. Try variations of these nymphs that are designed to suggest natural insects you have observed. Fish them to see how they work and compare them to established patterns. Share your results with friends or your group.

Community Service and "Giving Back" Activities

1. Consider ways of helping other young people learn how to tie flies, setting up tying clinics or instructional programs for interested people.
2. Tie a set of flies that can be used as auction items or door prizes in community events or fundraisers.
3. Donate flies to a local fishing program.
4. Participate in a National Hunting and Fishing Day celebration by demonstrating fly tying for local people.

Extensions or Ways of Learning More

1. Sample the organisms living in the streams or lakes you normally fish. Using your tying skills, try to produce a pattern that simulates the prey items you have found after researching fly patterns to see if a suitable pattern exists.
2. Collect stomach contents from fish you catch. Preserve samples of those stomach contents in 70 percent alcohol, labeling each sample with the date, location and fish from which it was taken. Record your observations in a notebook and determine if their food habits are the same all through the year or if they change with the time of day and season. Use references to entomology or other fields to assist in identifying what the fish are eating and attempt to create a seasonal reference to their favorite foods.
3. Create a series of patterns, changing only one item at a time. Fish each of them equally, and observe the reactions of the fish to each sample. Record your observations, and try to determine the elements in a pattern that are being used by the fish to select their "food."

Links to Other Programs

The link to the rest of the sportfishing program is obvious. Fly tying is a natural link to fly fishing as well as to crafting other types of tackle. Rod building can be a means of having an excellent fly rod at a lower cost. The feathers, furs and other materials needed by a fly tier can lead to interests in hunting, trapping, waterfowl, poultry science or other seemingly unrelated fields. Understanding aquatic ecology as well as keen observation skills are important to success in both tying and fishing flies. This can provide entry into the sciences, either as a future vocation or as an avocational activity. Fishing flies can lead to an interest in several fields of engineering. Tying flies can be a great introduction to economics and marketing for young entrepreneurs. Finally, the hobby of tying flies is both craft and art. It can lead into many other areas of activity from writing and photography to science.