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Fly Paper

Approximately 4 years ago one winter I was moping around the house wishing I had something to do. Becky was getting on my case about finding a hobby that would keep me home. I do cross-country ski in winter, but that takes me away from the house. She was looking through some catalogs and in the Orvis Catalog she found that the Orvis Shop in Ada offered a course in Fly Tying. The course was given on Saturdays for 4 weeks at the minimal cost of \$15.00. What a deal! She signed me up. I attended the course and really enjoyed the subject matter and soon this \$15.00 course had blossomed into a rather expensive but enjoyable hobby.

Tonight I'd like to show you a little about fly Tying, tell you about some of the equipment used, talk a little about the entomology of the insects imitated and the habits of the prey pursued.

The first record of the art of fly fishing is found in Aelians; "De Natura animalium" written in the 3rd century A.D.

"There is a river called astraëis flowing midway between Berea and Thessalonica in which are particular certain spotted fish whose food consists of insects which fly about the river. These insects are

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dis-similar to all other kinds found elsewhere, they are not wasps, nor ephemera, not do they resemble bees. Natives call them "Hippurus".

As these flies float on top of the water they attract the fish which swim upon them and gulps them down, just as a wolf seizes a sheep or an eagle a goose.

The fisherman are aware of all this, but do not use these flies for bait because handling would destroy them. They therefore cover a hook with red yarn and upon which they fasten 2 feathers of a waxy appearance which grow under a cock's wattles. They have a reed 6 feet long and a line of approximately the same length. They drop this lure upon the water, the fish become excited anticipating from its beautiful appearance a divine repast; but as with extended mouth he gulps the lure, it is held fast by the hook and being captured meets with a very sorry entertainment.

First of all fly tying can be done as a hobby just to produce a piece of art or to produce a bait for trout, bass or other game fish. My Purpose is 2 fold, I just enjoy making the fly, but I also enjoy fooling the trout with my imitation. I will center my paper on trout, because these are the fish I like to pursue. Although trout will ingest mice, snakes, worms, leeches, birds,

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fish eggs, Etc, the bulk of their food consists of insects crustacians and food fishes. Insects are the most important of the three, although local conditions may tip the balance toward one of the others.

Insects are the most successful of all animals in terms of sheer numbers and their diversity of forms and habits. It is of little wonder they serve as an important food item for such a multitude of creatures, including bears, foxes, mice, snakes and fish.

Insects of which are imitated for trout may be aquatic or terrestrial. Of the aquatic insects, the mayflies, stoneflies, caddis flies and midges are the most significant to the fly fisherman. Terrestrial insects of note include ants, grasshoppers, and beetles.

Scientists place the insects in the phylum "arthropoda" (jointed legs) and the class "Insecta" (the insects). Each of the insects mentioned belongs to its own order.

The cornerstone of modern fly fishing is the mayflies (order Ephemeroptera), from the latin (Ephemero, short lived) (ptera wing) referring to the short life span of the adult. These insects range in size from 1/8 inch to 1 1/2 inches in length. Their colors cover the spectrum of earthy hues (creams, yellows, tans, browns, greys,

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blacks, and olives).

Mayflies normally live for 1 year and all but a few days of that time is spent in the aquatic stage called a nymph. Nymphs feed on alge and plant debris. Mayfly nymphs are of 4 basic designs depending upon their particular stream conditions where they're found.

1. Clingers (live in fast water) flat bodied to avoid being washed away.
2. Burrowers - That live in silt and fine gravel.
3. Swimmers - Torpedo shaped.
4. Crawlers - Cylindrical shaped.

Regardless of their shapes all mayfly nymphs have one visible pair of wing pads and gills on the upper surface of their abdomen.

As they mature the adult parts begin to mature within the husk. Just before they hatch the wing pads of the nymph become very dark, indicating the adult wings have formed within. Thus, by checking the wing pads of the nymph, the angler can predict a hatch.

When mature the nymph swims or otherwise makes its way to the surface where the skin splits down the back and the first adult stage emerges. This stage is called the (DUN). It usually sits on the surface for several seconds until its wings harden for flight. During this

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time it is in grave danger of becoming prey for trout. At rest the Dun holds its wings upright over the back, the only aquatic insect to do so. During a hatch a trout can select his choice of nymphs, actively emerging duns, called emergers, stillborn duns or fully hatched duns.

Mayflies hatch during the warm season. Normal hatching period of any species is about 2 weeks. This period occurs approximately the same time each year according to the weather. For example in the upper Midwest the Hendrickson hatches about May 1st. The great Michigan mayfly about June 15th and the Tiny Blackfls about July 4th and the Blue winged olives about September 1st. The hour of the hatch is most predictable, normally during the most pleasant part of the day.

When the Dun leaves the waters surface it flies to the streamside vegetation and there rests. It does not feed. Its mouth parts are now atrophied. After a day or 2 the duns skin splits open along the back and the 2nd adult stage emerges. This is the sexually mature insect, and is called the "spinner". Mayflies are the only aquatic insects having this 2nd adult stage. The spinners body is more brightly colored than the duns and the wings are transparent.

The spinners mate and the nuptial dance usually occurs when the air temperature is between 60-70°. The large

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eyed males fly in large swarms either over or near the water rising upward seven feet then coasting downward, To repeat the process. Females fly into the swarm, select a mate and couple. Once fertilized the females drop to the water, deposite their eggs and then like the males die. The body of the spinner male or female relaxes and falls to the surface creating a cross shaped silhouette of the spent spinner.

A second order called "Plecoptera" or stoneflies from the Latin (Pleco Folded and ptera Wing,) referring to the wing which are folded and held down across the back at rest

Stoneflies take their name from the fact most species live under stones in the water. This order also has a nymph but it lives from 1 - 4 years. It varies in size from $\frac{1}{2}$ - $3\frac{1}{2}$ inches although these nymphs resemble mayfly nymphs there are 2 pair of wing pads, and the gills, if present are on the throx not the abdomen.

As the stonefly nymph matures it crawls out on logs, stones, bridges, ect dries and splits down the back and the adult pulls itself free. The wings expand and harden and the insect is airborne.

Stoneflies mate on shore, the female flies over the water and deposits her eggs. Some drop their eggs, and soon land on the water, which can prove to be a deathly mistake.

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Another order "Trichoptera" (trico meaning hair and again ptera meaning wing) referring to the hair covering the wing. These are also known as caddis flies.

This widely known but little understood insect probably constitutes the single most abundant aquatic group in trout streams.

The life cycle is different from that of the Mayfly or stoneflies. There are 2 subaquatic forms rather than one, the worm like larva which hatches from the egg, and the pupa or pre-adult stage. This complete life cycle is similar to the butterfly. Caddis larve make cases in which they live. As the insect grows it also enlarges it's house. Other Caddis larve build silken webbs or freely ^{roam} ~~roam~~ about the bottom of the streams for food. The larve lives for 1 year, then seals itself up in its case to pupate. After a couple of weeks and radical changes the pupa cuts its way out of the case and darts to the surface. At the surface the husk ruptures and the adult emerges. The adult shape is unique in that the wings are opaque but glisten in the light and are folded into a tent shape over the back. Mating flights form in the afternoon and the female dives to the bottom to deposite her eggs, again a deathly move.

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The one last important insect for the Michigan Fly Fisherman is the Terrestrial. They are land bred insects that stray into the water and fall prey to the trout. These include ants, grasshoppers and leafhoppers.

Now you have some understanding of the insects and their life cycle in the stream. At any part in that cycle they are food for trout, therefore we must be able to imitate that life form. The idea is to figure out what's going on in the stream and then match the activity. This is when the understanding of entomology pays off.

Behind me is my fly ~~tie~~ing gear, a rather bulky outfit to carry with one at streamside. Therefore those cold winter nights are spent ~~tie~~ing all types of flies for different occasions.

Let's look at some of the materials used in ~~tie~~ing.

First of all the hook, which varies in size from tiny to large and is numbered accordingly.

Next the body fur or dubbing, a variety of colors and material, from chennil to wool.

Next the hackle which make up the leg and wing portion of the fly. The hackle is the feather which comes from the portion of the chicken behind the head and down the back. (Hold up chicken and demonstrate)

The hackle can range in price from \$3.00 - \$80.00

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depending on quality.

Other things used are different animal hair,

1. Calf Tail
2. Squirrel Tail
3. Buck Tail (Hollow will float)
4. Hares Mask
5. Muskrat
6. Elk hair
7. Deer hair
8. Moose hair
9. Water fowl feather
10. Turkey feathers Ect, Ect, Ect.

One can (tie) up a considerable amount of money in these materials.

The actual art of winding the materials on the hook would be difficult to demonstrate to such a large group, therefore I will just pass some flies around for you to observe. (Pass Flies_)

Now you understand the food, you must learn about your prey (the Trout).

A quote from the book "The Trout and the Fly" by Goodend and Clark. "Truly a sorcerer, a trophy trout can captivate the mind and emotions of a fly fisherman".

"The trout is a marvelous creature. Its as if it were

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designed for the fly fisherman." "His habitat is wild clean waters, his diet of aquatic organisms intrigues and challenges the mind, yet it lends itself most generously to imitations with artificial flies."

"His feeding habits are sometimes so selective they leave the angler frustrally mumbling to himself, or their are times he is like the pig at the trough, throwing himself open to the artificial reckless abandon.

Trout were originally associated with the edges of the continent of the Northern Hemisphere. Some species were largely restricted to fresh water, others were ^{anad-dromous} anadromous-living in the ocean and returning to the freshwater to spawn. Due to widespread stocking by man trout are found in almost every cold water ecosystem in the world. Of the 4 principle species of trout, only the cutthroat is found exclusively in the West, the others have been stocked throughout the U.S. The Cutthroat and Brook Trout are generally restricted to the coldest rivers. The rainbow and Browns can tolerate a broader range of temperature and therefore have the widest distribution.

Trout are nearsighted, able to see only 20-30 feet. The eye is lidless and the retina is designed for excellent night vision. Color and shape discrimination are well established in the fishes and are important in the feeding behavior.

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During a hatch trout lock in on the shape and color of the food organism, and refuse all objects of other dimension and coloration. Trout can see independently with each eye or use them together. When both eyes are used to focus on an object (Binocular vision) the field is only 30° . In contrast mans field of independent vision is 180° , but his binocular vision field is 90° . The best presentation of a fly to a fish is just ahead and to one side. Due to light refraction in water, the trouts window is a cone of 97° . Objects in the center of the cone are distinct, others to the side are blurred, The size of the fish's window varies with depth, the deeper the larger ect. Trout have ears, but no external opening, it is their lateral line system that serves as a sound detector. This system of nerves extends along the trouts side where it is visibally noticable, sounds generated in water travel 5 times the speed of sound waves in air and are much less deminished in intensity over the same distance. Talking while fishing is perfectly safe, however since for all practical purposes sound does not travel from air to water, but a fisherman must be careful when he is wading not to grind gravel or plough through the water like a speed boat.

The olefactory sense of the trout is highly developed, although the nostrils are quite unlike those of land

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organisms. Since they don't need the openings for breathing, the nostrils are greatly simplified being nothing more than U-shaped tubes in the dorsal wall of the snout. Water passes through the tubes and over the olfactory nerve endings. This sense is so delicate in trout and salmon that ocean going species can find their way back to their native rivers by the smell of the water.

However big he is and whatever kind of water he inhabits the trout is an expert at survival, in knowing where the food is, in getting it and in conserving his energy.

Trout soon discover that food such as nymphs and insects are at the mercy of the current, they therefore place themselves to take advantage of the most concentrated flows. These places are called (lies) and a trout may have 2-3 lies depending on water conditions and food availability. Once he has found a lie, he will stay there and move only if driven away by an angler or a bigger fish.

Now you kind of have an idea of what this is all about. Let me give you a hypothetical situation on a trout stream.

When one reaches the stream side one should be aware of any feeding activity on the water surface. Tell tale

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rings in the water or splashy rises predict what type of feeding is occurring.

Rise forms include

1. The sip or kiss rise - a fish feeding just under the surface film, taking in the insect and a little air, therefore the audible kiss sound.
2. The Slash - A powerful large scale disturbance of the surface. A trout traveling at high speed, because his insect is also.
3. The Waggle - The trout feeds under the surface and when he dives back to his lie, his tail breaks the surface and sometimes gives a waggle.
4. The plain rise - As the name implies the fish usually after a dun simply swims up to capture the dun, then rolls away.
5. Head and Tail Rise - Again as the name implies Fish is usually after a surface fly.

If one sees any of this type of activity, his tactics should follow appropriately. If no activity is present one must investigate. First one should look on the rocks of stream side and see if any insect cases are there. If not pick up a rock on the bottom and investigate it for life forms. Also a small seine can be used to sample the aquatic organisms on the surface and again baits of this type should be tried. One would think with so much

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knowledge you couldn't fail, but you can very easily.

When I am fishing I often think of sign I saw in Frank Lievense's. basement.

"Here's to the Fisherman: He riseth early, He maketh great preparations, He disturbeth the entire household, He sets forth with great anticipation. He then returneth late, smelling of strong drink and the truth is not ~~with~~ in him.

Man has done much to destroy the great fishing waters of the world, but he has also done much to preserve them. All the states have wonderful planting systems for trout, some of this has taken a back seat in Michigan because of the revenue being produced by the salmon sport fishing.

Most rivers of any magnitude for a trout fisherman are under the care of the DNR. Different ideas in planting, sizes and numbers of fish to be kept by anglers, season openings and closings have been of great benefit to the trout fisherman. Man made obsticals placed in the rivers for trout to spawn and lie are all being done to better the habitat for trout.

I've been fortunate enough to fish the stream s of West which, some are still wild and untouched. Michigan used to be that way but now with the amount of traffic on the streams by canoes and anglers alike, fishing can really

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be tough, a full limit of trout is not a daily happening.

I end with this little saying I found:

If you wish to be happy for 1 Hour get intoxicated
If you wish to be happy for 3 days get married
If you wish to be Happy for 8 days kill your pig and
eat it.
If you wish to be happy forever learn to fish!