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Natural History Notes

MIKE DOMBECK grew up in the Moose Lake area and graduated from Hayward High School and the University of Wisconsin-Stevens Point. He has a B.S. degree in Biology and an M.S. degree in Aquatic Biology. He has taught Zoology at the University of Wisconsin-Stevens Point and is now a fisheries biologist with the U.S. Forest Service, living in Munising, Michigan. Mike has also been an area fishing guide since his high school days.



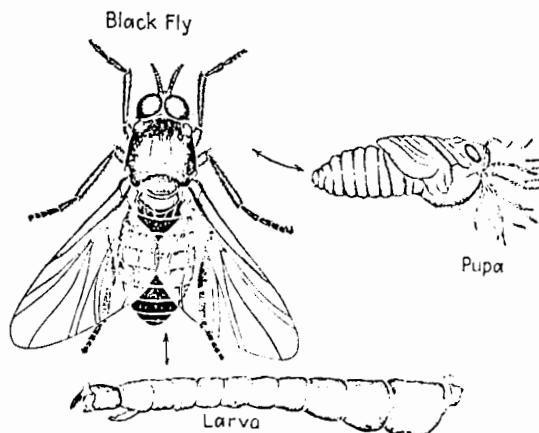
The Black Fly

Of all the insect pests we have, the black fly has the ability to send the heartiest nature lover running for cover. The bite of this small fly is second to none. During outbreaks in May and June these flies swarm about humans as well as many other warm-blooded animals in almost infinite numbers, crawling into hair, up pant legs and sleeves, and into ears and nostrils. We are often unaware of a black fly bite until it's over when a small spot of blood or red welt is observed. There is a key difference between a black fly bite and a mosquito sting. The black fly has chewing mouth parts and actually bites a small hole through our skin into a capillary or small vein to get a meal of blood while the mosquito has piercing mouth parts that puncture the skin much like an extremely fine needle. Usually we don't feel a black fly biting because their saliva contains an anesthetic which deadens the pain as well as an anti-coagulant which prevents the blood from clotting. The severe itching and inflammation is a result of our bodies' reaction to the foreign substances in the fly's saliva. These bites are uncomfortable, but far from serious for most individuals. However, if an allergic reaction develops (which is rare), medical help should be sought.

By now you are wondering if this critter has any good attributes. In fact, their good points far outnumber their bad.

There are more than 50 species of black flies in Wisconsin and less than half of these will bite humans. Many bite only birds or other animals. None transmit diseases to humans. As is the case with mosquitoes, only the female of the species bites animals. A blood meal is necessary before the eggs can mature, so the bite is necessary for reproduction of the species. The males usually feed on plant juices as do the females before they breed.

The black fly exhibits the typical insect life cycle. Clean-running water is a requirement. Females lay their eggs on partly submerged rocks, vegetation or logs. In late fall the eggs hatch into larva which drifts downstream and attach to rocks or vegetation, using small hooks and suckers on their abdomens. Here they perform a very important function. This larval or wormlike stage of the black fly are filter feeders. Their mouth parts possess fans which strain particles out of the water



on which they feed. Since these larva often occur in large masses they play a major part in cleaning our streams as well as being an important food source for trout and other fishes. A well-seasoned trout angler is familiar with the term *Simulium*, the generic name for many of our black fly species. It is at the larval stage that a clean running water environment with a flow of at least one foot per second or two-thirds of a mile per hour is necessary.

The following spring the larva enter the pupal stage in which they attach to rocks or aquatic plants and spin a cocoon. About one or two weeks later the adults emerge to breed and complete the life cycle. The adults live about three weeks and in that time may fly over ten miles away from their parent streams, mate, obtain a blood meal and return to lay their eggs. Ten miles is an incredible flight for an animal so small. Compare this to the mosquito which rarely travels over two miles.

When you are infuriated by the unbearable black fly your only recourse is to think positively! They are a very important link in our streams as well as indicators of pure clean water. They tell us something about the quality of our environment.



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