

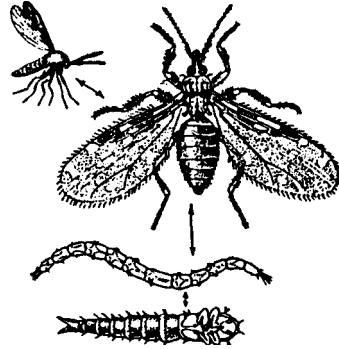
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Natural History Notes

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NO-SEE-UMS



Punkies
No-see-ums

It's an uncomfortable, hot and humid midsummer evening, one of those sultry "dog-days." Every window is wide open, grasping for even a tiny wisp of cooling, comforting air circulation. All window screens are intact as a defense against the swarms of hungry mosquitoes and other pesty insects. Suddenly, your skin is on fire with intolerable itching. Upon close examination you see your skin sprinkled with pepper-sized black specks. The no-see-ums have struck! Virtually all who have spent summers here in the northwoods have been attacked by swarms of no-see-ums, perhaps more times than you care to remember. What are these vicious little insects and where do they come from?

They are tiny flies called biting midges. Midges are closely associated with water. The large swarms of flying insects seen on summer evenings dancing in all directions are dancing midges that do not bite warm blooded animals. There are hundreds of species of midges that are closely associated with aquatic habitats from the equator to the Arctic. They seem most abundant where the scenery is the most beautiful, like our northwoods lake country.

These tiny insects are 1/10-1/20 of an inch long and are seldom noticed until they bite. Upon close examination under a magnifying glass you will note that the no-see-ums are black with brown legs and with areas of white and yellow. Their wings are gray and brown and the males have feathery antennae.

Like some of their closest relatives including mosquitoes, black flies and deer flies, the biting midges spend a portion of their life cycle in water. Depending upon the species, the eggs may be laid in streams, lakes, small puddles, or even in a few drops of water on a stump, log or rock. The female may attach the eggs to vegetation, twigs, or rocks just beneath the water's surface or in the splash zone of a riffle or waterfalls. The eggs hatch in 3-6 days and the tiny eel-like larvae feed on minute aquatic organisms. Next, the larvae transform into the pupae or chrysalis stage that usually floats freely in the water for several days before the winged adult emerges.

The adults of many no-see-um species feed on pollen, nectar, or other plant juices and some may not feed at all, since their primary mission is mating and egg laying. The large swarms of midges dancing about above the water are thought to be mating groups. Of the blood-sucking no-see-ums, only the female sucks blood which is required for egg development. When biting, the female, or more often swarms of females, pierce or stab the victim's skin to obtain a blood meal. The intense itching that we experience is our body's reaction to the insect's saliva. The intensity of the itching varies among humans depending upon individual reactions to the no-see-um's saliva.

No-see-ums attack many other hosts besides humans in order to obtain their necessary blood meal. They bite both warm and cold-blooded animals such as frogs and turtles. Some no-see-ums even attack other insects. A mosquito that has just taken a blood meal for herself will often be attacked by a swarm of no-see-ums, sucked dry and killed. On larger insects like dragonflies the no-see-um may pierce a vein in the wing to get its blood meal. The no-see-um may hang on the host insect's wing for a day or more. It is interesting that in the most highly developed parasite-host relationship, the parasite doesn't kill the host but lets it live so the parasite doesn't have to find a new host. It's a "don't kill your keeper" life style and it's very efficient for the parasite.

In addition to the four-letter names you have probably given the biting no-see-ums, they are also called punkies or sand flies. We humans do have many things to be thankful for. One is that no-see-ums don't grow to be the size of hummingbirds. If they did, the world wouldn't be a safe place.