

No-See-Ums



Scanning electron photomicrograph of valley gnat head.

No-see-ums, or black valley gnats (*Leptoconops torrens*), are tiny biting flies in the family Ceratopogonidae. These flies are common in parts of the Central Valley of California, particularly in areas with alkaline clay soils. The adults are black, about 1/16 inch long, and are small enough to pass through window screens, although they rarely do so.

Adults emerge in the late spring, usually mid-May through June. They remain a pest for several weeks depending on the weather (rainfall or drought). Larvae are orange-colored and live in damp, clay soils. The complete life cycle generally takes two years from egg to adult. However, larvae can diapause (a kind of hibernation) for 3 years or longer depending on environmental conditions. Adults emerge when the soil begins to dry and cracks develop. In areas with this soil type lawns are common sources of these tiny flies.

These flies are ferocious biters that feed on blood. As with mosquitoes, only the females bite, males either do not feed or only feed on nectar or honeydew secreted by aphids and scale insects. No-see-ums will bite humans, domestic and wild animals and birds. They have short

mouthparts and feed by injecting saliva into the skin, which causes blood to pool just under the skin surface. The bite is generally painless, but usually results in a small flat red spot that within 12 hours becomes excruciatingly itchy. In sensitive individuals a single bite can result in an swollen itchy spot 1-2 inches in diameter! Scratching no-see-um bites can double the length of time they require to disappear and can lead to infected sores.

Fortunately, these flies are not known to transmit any diseases of humans, pets or livestock, but a closely related fly transmits a virus that causes blue-tongue disease of sheep. Even though no-see-um's do not transmit any diseases their bites are sufficiently annoying to keep people indoors in some areas in California. They are small enough to crawl under loose clothing without being noticed, and standard mosquito repellents do not appear to be completely effective with these gnats.

During the months of May and June when the adult flies are present the best way to avoid being bitten is to limit exposure by staying indoors or avoiding areas known to have the flies. Regions with no-see-ums are located along the west side of the Sacramento Valley, which have alkaline clay soils, particularly between Davis and Woodland and east and north of the City of Woodland.



Leptoconops torrens feeding.