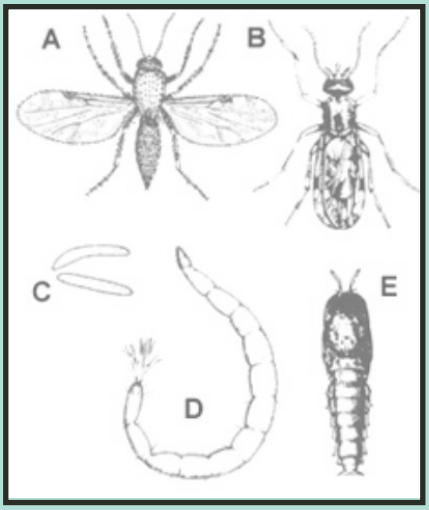
Sand Gnat

Scientific Name: *Culicoides furens*
Common Name: Sand gnat

Sand gnats -- Who are they?

Sand gnats as we call them, are members of the family *Ceratopogonida*e or "biting midge" family. The sand gnat that seems to be at its worst when the fishing is at its best! It hatches out in mass numbers when the temperature and season are just right for outdoor activity. Sand gnats are insects and therefore have a typical insect life-cycle which consists of four primary stages: egg, larva, pupa and adult (picture 2). Eggs are laid in marsh mud, decaying plant material, and even standing water. Female gnats "bite" humans and other animals to extract a blood meal that is necessary for the successful development of their eggs.



Picture 2

So why does it hurt like mad when a gnat takes a meal from your arm or, even worse, your scalp? The secret is in the mouth parts. Sand gnats don't just puncture your skin like mosquitoes do. Instead they rip it open using sharp cutting teeth located on the mandible (picture 3). After inserting two sharp, sword-like blades into the skin as anchors, the sand gnat uses the cutting teeth to rip up the skin and get the blood flowing. As if that weren't enough, the gnat then squirts a chemical into the open wound to inhibit blood clotting. The tiny pool of blood that forms is then sucked up through a straw-like structure called the proboscis. Some human victims have allergic reactions to the chemical and must endure itchy red spots or even swollen welts.

The Importance of Sand Gnats

Picture 3

It is their painful bite that makes sand gnats important to coastal Georgia's tourism economy. Tourists who are interested in outdoor activities are more likely to cancel their plans if the gnats are going to ruin the experience. This results in a loss of business for industries depending upon tourism dollars. So why not attempt to control sand gnat outbreaks? Because sand gnats are integral features of a healthy salt marsh ecosystem, controlling them with pesticides is neither successful nor good for the marshes. Larval gnats share space in the marsh with young fish and shellfish species that are commercially and recreationally valuable to our economy. Pesticide application would negatively impact both target species, sand gnats, and non-target species like juvenile fish. Additionally, sand gnat larvae are an important food source for other animals found in Georgia's salt marshes and estuaries.

Protect Yourself From Bites

Wear lightweight long-sleeve shirts and long pants. Button your shirt collar or wear a bandanna to protect your neck. Wear a hat or cap to keep the gnats out of your hair. Apply an insect repellant on exposed areas of skin. Be sure to read the product label and instructions for applying the repellant.