



Creature Feature: Summer 2011

By Lois and David Oleksa

Mud Dauber Wasp

If you happen to suffer from arachnophobia (the fear of spiders) you'll love the creature featured in this article. Mud daubers (scientific name: *Chalybion*, *Sceliphron* and other genera, in the order: Hymenoptera: Sphecidae) are wasps that rarely sting humans but are one of the biggest enemies that spiders have. Folks in this area are most familiar with the pipe organ mud dauber (*Trypoxylon politum*). These are the wasps with a long, narrow, almost hair-like waist between the thorax and abdomen that construct nests of long parallel mud tubes (up to 8 inches long) on the sides of buildings.



By Didier Descouens

Mud daubers come in a variety of colors from black to black with bright yellow markings to iridescent blue, although the pipe organ mud daubers are generally a dull black. They range in size from 1/2 inch to one inch and people are more familiar with the female of the species, since they are the ones that can be seen building the nest. Mud daubers typically select sheltered sites under eaves, on protected walls or in sheds or other outbuildings like barns that have been left open. If the nest has holes in it, the wasps have already emerged and you can be sure the nest is old and inactive.

All species of mud daubers are solitary wasps and are not social; nor do they live in colonies. They overwinter as full grown larvae, pupate in the spring and emerge shortly thereafter to start the cycle again. They do not defend their nests.

This wasp group is named for the nests that are made from mud collected by the females. Mud is rolled into a ball, carried to the nest site and then molded into place with the mandibles. The pipe organ wasp builds nests that have been described above while other species form smooth mud nests about the shape of a fist. One species, *Chalybion californicum*, does not make a nest of its own but rather appropriates the nests of other species, discarding the original contents of the nest and replacing it with their own.

But back to why they are the biggest enemies of spiders: amongst the nest building species, after completing the nest the female wasp captures spiders to provision the cells of the nest. Six or seven spiders are stung and paralyzed and carried to the nest site where they

are stuffed into the cell. A single egg is laid in the cell and then that cell is sealed with mud. After the wasp completes filling all the cells in the nest with spiders and eggs, she seals the final cell and departs, never to return. The larvae that hatch from the eggs feed on the spiders left for them and in about 3 weeks grow to be about $\frac{3}{4}$ of an inch long. These maggot-like larvae then spin a silken cocoon but do not pupate until the following spring. In the spring, after pupating, the new adults break their way through the mud wall of the nest and escape to begin the cycle all over again.

Where is the male mud dauber, you may ask, while the female is busy preparing for the new generation? He usually stands guard over the nest to insure no parasites, flies, or other wasps lay their eggs in the unfinished nest. If he would fail in his task, the eggs of the invaders would hatch first and their young would eat the stored spiders, leaving nothing for the mud dauber's hatchlings.

Although the mud daubers are considered a pest because of their nest construction in some not always desirable places, they really do not have to be controlled since they pose virtually no threat to humans. Rather, they should be welcomed since they remove many species of spiders that people find objectionable. As a matter of fact, *Chalybion californicum*, preys solely on black widow spiders. If the nests are objectionable, they can be scraped off, although doing so will not assist in eliminating spiders.

One last note: oddly enough, even though the mud dauber eats nothing but spiders during its larval stage, the adult mud dauber exists solely on the nectar found in flowers.