

In My Backyard: Tarantula Hawk

By C. W. (Bill) Smith

Years ago while working on my undergraduate degree in biology at Sul Ross State University in Alpine, Texas, I signed up for an entomology class. Entomology is the study of insects and their preparation for collection and preservation. It was a double course, 6 hours in all, with a lot of field work involved. I loved it, and it was one of my favorite classes.

That is, until we were on a field trip one day, butterfly nets in hand and kill jars at the ready to collect various bugs to fill out our student collections. We were somewhere south of Alpine in flat country with a lot of large mesquite bushes, some quite large trees. The people in my group were for the most part city kids who didn't have much experience in the country. Tinhorns, we call them, green as grass.

As we rounded a small hill we came upon a mesquite tree, probably ten feet tall with a 1-inch trunk, and in the leafy boughs, from a distance, looked like black and red specks. As we got closer we saw that the tree was covered with hundreds of tarantula hawks. The bluish black bodies glistened in the sunlight and the fiery red wings made them look on fire.

I approached very carefully because from childhood I had learned to leave tarantula hawks alone, that the giant stinger at the tip of their tail could cause major pain and anguish. But one of my city friends raced up with his butterfly net and began to flail the tree trying to snag one of the beauties. Immediately all hell broke loose and the air was full of angry wasps. Our group scattered like frightened quail as the giant wasps dive bombed, looking for the culprit who had disturbed their meeting. Thankfully no one got stung and that guy learned a valuable lesson about being stealthy when collecting insects.

In spite of their disposition and the big wallop their stingers inflict, tarantula hawk wasps are gorgeous insects. Our variety have the glistening blue-black body and flaming red wings, but other species have metallic blue bodies with black wings and blue highlights. Any time insects have a very vivid coloration, usually it is a warning to keep your distance. Sometimes, though, the same warning coloration is used by mimics to thwart off predators. With a body size up to about 2 inches in length, they are the largest of our wasps.

Tarantula hawks are found in the warmer areas of all the continents, except for Antarctica. In the New World they stretch from Utah in the north to Argentina in the south, and every place in between. The U. S. has eighteen species, mostly found in the Greater Southwest. The different species are similar and can be very difficult to distinguish.

The tarantula hawks I saw on my field trip were probably doing something called "hill-topping." Males will gather on a tall tree or cactus and wait for the females to fly by, kind of like Lotharios standing on the street corner whistling and cat-calling to the pretty girls. Males, by the way, have straight antennae, and females have curled or coiled antennae, one way we can distinguish the sexes.

When a mate has been selected and the tryst completed the female hurries off to find a tarantula and get ready for the baby. Finding a proper candidate the female stings the tarantula with paralyzing toxin and drags it to a burrow. She lays a single egg on the tarantula's abdomen, seals the burrow and takes off, never to return. The paralyzed tarantula can do nothing but wait. When the baby hatches it enters a hole in the abdomen and begins to eat, avoiding parts that will kill the tarantula in order to keep alive as long as possible. The baby pupates and



metamorphoses into a little adult, then exits the burrow, leaving the dried husk of the tarantula behind. The circle of life continues.

Although the babies are carnivorous, the adults feed only on plant nectar, especially favoring milkweed. In spite of the weaponry they carry, most tarantula hawks are not aggressive and will try to flee rather than fight. They don't seem to have the angry temperament that our more normal-sized wasps exhibit.

As for their venom, it is the second most powerful insect venom in the world, and ranks #1 on the pain index, along with the venom of the bullet ant. One researcher said it caused "...immediate, excruciating, unrelenting pain that simply shuts down one's ability to do anything, except scream." Fortunately, the pain only lasts for about five minutes, but the soreness and redness are still present 24 hours later. The man who devised the insect pain index described it as "blinding, fierce ... shockingly electric." I will take them at their word...I am certainly not going to do my own pain experiment with a tarantula hawk.

Tarantula hawks are such tough and formidable characters that most predators avoid them. One of the few animals known to eat them is our old friend the roadrunner. But for an animal that regularly dines on rattlesnakes, the tarantula hawk probably seems like a hors d'oeuvre to the roadrunner.

And, what's in your backyard?