

In My Backyard: Doodlebug, Doodlebug

By C. W. (Bill) Smith

"Doodlebug, Doodlebug, fly away home
Your house is on fire and your kids are all gone".

Out in my carport the soft dust in certain areas is littered with small dimple impressions, which as a child we identified as doodlebug pits. Kids in West Texas know exactly what a doodlebug is and have played with them for centuries, along with children across the world. In China they are called "di-gu-niu," in Mexico they are called "toritos" (and you have to be careful or they will dig into your skin!) In South Africa they are called "mierleeu" and in Sri Lanka they are called "bingundha." In the West Indies they are called "John-pee-pee." And in every culture they are associated with a nursery rhyme or song.

The American version has many refrains, with each geographical area containing a variation. The one quoted at the beginning of this article is the one we sang in Marathon. Sanderson probably has a different version.

Technically, the doodlebug is known as the antlion, a name conferred as far back as the 6th Century BC in classic literature. Referring to the nursery rhyme/song I must interject, some of you are saying, "Smith, it's not doodlebug, it is lady bug," and the truth is that both terms can be used in the nursery song, even though they are different creatures.

The lady bug of course is a beetle, small and dainty and perfectly harmless. The antlion, however, in the form we know it, is the stuff of nightmares!

Our antlion is one member of a family of about 2000 species and many of them create the cone-shaped pit in sand or soft dust to trap ants or other passing prey. The creature that does this is actually the larval form of a very beautiful and graceful ephemeral-winged flying insect, the lacewing, which resembles a dragonfly or a damselfly. But, dragonflies have no antennae and the antlion lacewings have long, club-like antennae. The lacewing also has smaller, bulbous eyeballs, as opposed to dragonflies which have huge eyes encompassing a good portion of their head. It has a long, slim body with four equally-sized wings that are made of clear material with dark veins separating the areas, like a stained glass window. They are quite beautiful, but we probably wouldn't know them if we saw them because their children are horrifying, like escapees from a nightmarish sci-fi B movie. The antlion larval form looks like a fat tick with a skinny "neck" and an ant-like head, topped by large hollow pincers for grasping their unsuspecting prey and injecting them with toxic venom and enzymes. The venom paralyzes the victim and the enzymes begin to liquefy it, enabling the antlion to slurp it up like a milkshake. The body is covered with forward-facing bristles which help anchor itself in the soil and exert greater force in grasping larger creatures.

One creepy fact about antlions is that the larval form is one of the few insect larvae known to lack an anus. Waste materials are held within its body until it metamorphoses into an adult and are expelled with the used cocoon.

As true insects with six legs, antlion larvae create the dimple in the dry, loose soil or sand in an area protected from rain, bury themselves at the bottom of the pit with jaws protruding and wait for an ant or other small insect to stumble into their lair. When they detect the ant trying to scramble out of the trap, they grab the unwary prey, inject it with toxin and enzymes and have their lunch. That's about it.



Not every species excavates pits. Some species hide under decaying plant material and debris and reach out to grab their prey if it wanders too close. But, all species are similar in body appearance and feeding techniques.

As children we would recite or sing the song and drag a stick through the pit to try to get the antlion to grab onto it, as we also did with tarantulas and other large spiders in their holes. In most cases we got a response, but the creatures were so hideous in appearance that the girls would usually scream and run away. Or, maybe not, if they liked that sort of thing.

Antlion lacewings around the world come in variety of sizes, up to about a 6 inch wingspan. The ones in the US approach 4 inches in wingspan, but we hardly ever see them because they only move about at dusk and stay hidden during the day.

The life cycle of antlions has not been studied in depth. It begins with the female inserting an egg into the ground or attaching it to a surface. At birth the larva either conceals itself in plant materials or builds the iconic cone-shaped pit and begins feeding. This ambush technique is haphazard in that it requires the prey to stumble into the pit by accident. Antlion larvae have a low metabolism rate and can go for a long time without feeding, sometimes taking several years before pupating and becoming an adult. While the antlion larvae are carnivorous most adults feed on plant pollen and nectar, although a few adult species are predacious on insects.

When it is ready, the antlion spins a cocoon buried a few inches deep in the earth and begins its metamorphosis. About one month later it emerges as a full-sized adult and digs to the surface. From there it launches into the sky in search of a mate. The adult lives from 25 to 45 days and then dies, hopefully after completing its biological imperative of producing another generation. The antlion larvae and adults produce the largest metamorphosis in size of any insect.

The antlion has perfected the building of its cone traps. It excavates by plowing sandy soil with its abdomen and can fling grains of sand up and backward using its head. It also uses this technique when a creature stumbles into its trap. Sensing vibrations of the creature's footsteps as it scrambles to climb out, the antlion flings grains of sand with its head to cause a mini-landslide and bring the prey down to its waiting jaws. Once the body fluids are sucked out of the prey, the antlion uses its head to flip the dried carcass out of the pit. It eats many types of small insects and arthropods (multi-legged, jointed creatures) including small spiders. As the larva grows larger it can prey on larger creatures. When feeding is done the antlion tidies up its cone pit by replacing fallen sand or dust particles, ready for the next customer.

Finally, fossil records for antlions have been found, though scarce, and place the beginnings of the creatures at about 150 million years ago. Speaking paleontologically, they are one of the most successful creatures in my backyard, certainly more successful than my dogs, whose distant ancestor fossils date to a mere one million years ago.

And, what's in your backyard?