



WILDLIFE NOTES

Pinacate beetle

Tenebrionidae eleodes hispilabrus

Photo: PDPPhoto.org



Walk down any dusty road in New Mexico during the spring and early summer, and you are likely to see a small, black beetle standing on its head. Silly as it looks, there is a point to the display. Pick that beetle up, and its elevated abdomen is apt to spray your hand with a black, foul-smelling liquid. In polite Southwestern circles, this insect is known as the pinacate beetle, but most people have settled for the name "stinkbug."

In this case, the common name is misleading. The little head-stander is really a beetle and has nothing to do with the verminous, sapsucking and bloodsucking order of true bugs, which includes toe-biters, bedbugs, cone-noses, and the true stinkbugs.

There are more than 100 species of the pinacate beetle in our state. In general it is a meek scavenger, feeding on seeds and dead, rotting material. It thrives in semi-arid and desert environments, lays eggs in the spring, and – like all beetles – goes through a series

of larval stages. Unfortunately, larvae of some species can be a pest in wheat and cotton fields, where this beetle eats seeds and roots.

After three months or so underground, the larvae pupate into adults. About an inch long and black, they live up to three years. A common identifying trait is

the fusing of the usually smooth wing covers, which means the pinacate beetle cannot fly. Its antennae are beaded with 11 segments, its eyes are notched, and the far ends of its legs have five, five, and four segments, respectively.

Head-standing is the only trait that most people and animals need to recognize, however. This pose brings into position the pygidial glands of the abdomen, which secrete a watery solution of two substances. One is quinone, a rather corrosive chemical that can blister skin. The other is a fluid that insecticide specialists call a "spreader". The beetle can spray this toxin at will, and it is very effective against small mammals and ants.

Some beetles without pygidial glands also stand on their heads, to mimic the one with the mace. The chemical defense is not foolproof, however. Toads aren't much bothered by the stuff, and a white-footed pocket mouse has evolved a counter move. It grabs the beetle and stuffs its abdomen into the sand before

indulging in a leisurely and unspoiled meal.

Contrary to rumor, the pinacate beetle cannot absorb moisture directly from the atmosphere, but it has adapted to deserts and conserves water very well. Its hard body surface, or cuticle, is coated with an especially thick wax, making it about as watertight as a canteen. Like all beetles, the pinacate has a highly efficient respiratory system that does not need fluid to transport oxygen. Little moisture is lost with breathing.

In extreme drought, the beetle is able to survive a 50-percent loss of its fluid volume – more than twice what would be lethal to humans. The beetle avoids the hottest temperatures, sheltering itself under rocks or debris, and emerging in the mornings or evenings. Some species are even nocturnal.

Pinacate beetles are most commonly seen in spring and early summer during their great migration. They don't seem to be going any place in particular. Apparently, they are just dispersing themselves over a broader area, so they won't compete too much for resources.

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