

## Butt Up Bug: Pinacate



My students asked me one time what the English called the Pinacate. I thought about it for a few minutes and finally stated that I did not know of a name for this black beetle. A few years later I heard John Karges use the phrase, “butt-up bug”, a very appropriate name.

It is a large (4 cm), black beetle frequently seen during sunny days in the winter along the river. It would be easily dismissed by the casual observer except for its unusual and distinctive head stand. Whenever it is startled or annoyed, this flightless beetle stops whatever it was doing and raises its hind legs off the ground, assuming its headstand position.

It is a beneficial beetle, During the night it eats dried and decaying vegetation, aiding in the formation of desert soil. It belongs to the family of Darkling Beetles, those beetles that prefer the dark. They are found all over the world but prefer arid regions like the Big Bend. During summer days they hide under rocks, in the dark. During the winter they can occasionally be encountered as they look for places to escape the cold. These beetles dig tunnels in the sand or silt to bury their eggs. Watching them work is interesting: first all the legs on one side of the body dig then stop while all the legs on the other side dig. The eggs are then laid and will hatch into glossy, elongate grubs which feed underground on vegetable

matter. Transformation to adult beetles also occurs underground although the fully formed adults live above ground.

The Apaches noticed the pinacate's headstand defense and thought that the beetle was listening to the will of god and other animals, out of reference would not attack it. Early naturalists, however, thought the beetle escaped attack because it was feigning death, that the headstand was designed to dismay and deceive the enemy.

After noticing purple stains on their fingers while handling these beetles, entomologists discovered that the pinacate ejects a very noxious chemical compound that is highly irritating to the nose and eyes. Further studies revealed that the compound (a group of quinines) sent small predators scurrying. It turns out that from its headstand position, the pinacate gets a more protective dispersion of its noxious spray

Some predators have adapted special ways of dealing with the beetle. The grasshopper mouse has been observed catching the beetle, then jabbing its abdomen into the ground where the spray does no harm. Frogs and toads catch the beetle and have it swallowed before it has a chance to spray them.

The desert can be a harsh environment in which each organism must find its means of survival, be it beetle, grasshopper mouse, or us.

**POSTED BY Patt Sims - January, 2010**