

# Tomentose burying beetle

*Nicrophorus tomentosus* By Shane Sater

The pitfall trap gave off a stomach-turning stench. I had planned to leave the yogurt container, buried to the brim to capture insects or small animals that tumble in and can't escape, for only a night or two. But a grass fire at the site had kept me away for a week. Now, the trap was full of dead black-and-orange beetles. I held my breath and fished them from a soup of dissolving grasshoppers and a putrefying shrew. Later, still holding my breath, I identified the insects as tomentose burying beetles.

The very stink that repelled me was, for these small-animal scavengers, the scent of opportunity.

## APPEARANCE

Tomentose are large, mostly black beetles that reach  $\frac{3}{4}$  inch long. Their abdomen, marked with wavy, orange bands, protrudes beyond the wing covers. Other burying beetles look similar, but only this one has dense yellow hair on its thorax.

## HABITAT

Look for these beetles almost anywhere in Montana, from grassland to forest. Their primary habitat is the fresh carcasses of small animals. From feeding to breeding, every facet of these beetles' lives revolves around cleaning up the traces of death.

## DIET AND BEHAVIOR

Imagine a freshly dead mouse or chickadee, maybe cached by a weasel or killed by a wildfire. Just after death, the smell is unremarkable to a human nose: neither putrid nor appetizing. But to a burying beetle, life hinges on tracking down

this smell—and quickly, before too many competitors arrive. Tomentose burying beetles are expert sniffers. Using specialized chemical receptors on their antennae, they can home in on a freshly dead mouse from up to 2 miles away.

Once they arrive, they must rapidly evaluate the situation: Is the freshly dead critter small enough to bury? Is the soil workable? Burying beetles are accomplished excavators, a skill that allows them to thwart their main competitors: blow flies. If the carcass is too big to bury—a cottontail rabbit, for example—blow flies will land, lay eggs, and the maggots will strip the meat so quickly that any beetle larvae may starve.

## BREEDING

Adult burying beetles can still feed on a larger carcass and its attendant maggots. But to reproduce, burying beetles need a partner, fresh meat small enough to bury, and speed. The first male on a carcass—a vole, perhaps—wafts pheromones from his abdomen to attract a female. If other males show up, a battle may ensue. Fighting isn't always the best strategy, though. Slightly larger carcasses sometimes host several pairs of peacefully breeding beetles, which may even help feed each other's young.

Before too many blow flies find it and lay



**SCIENTIFIC NAME** *Nicrophorus* derives from the Greek *necro*, meaning "dead." *Tomentosus* is Latin for "thickly covered with hairs."

eggs, the beetle pair drags the dead vole to where the soil is soft but holds its shape. Using their armored heads, they plow beneath the carcass. It sinks into the earth and they cover it with leaf litter, safe from competitors. The beetles strip the fur, form the vole carcass into a ball, and lay eggs.

They are unusually devoted parents. Like baby birds, young larvae nudge the mother, causing her to regurgitate food. Meanwhile, both parents tend the carcass, finding and killing blow fly larvae and preventing fungi from growing. They have helpers: Certain mite species hitch a ride on the beetles, from which they regularly dismount to devour blow fly eggs.

The beetle larvae develop rapidly, soon joining the adults in feeding on the buried vole carcass. In about a week, they are ready to enter their winter dormancy. In spring they will pupate before emerging as the next generation of adults. For the parents, their job here is done. It is time to move on in search of another carcass.

## STATUS

Tomentose are widespread and abundant across most of temperate North America. Next time you find a small dead mammal or bird, look carefully for these fascinating cleaner-uppers. 🐞



Tomentose burying beetles moving a carcass underground.

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