

Velvet Ants

Order: Hymenoptera (Bees, Wasps, Ants, Sawflies, etc.)

Family: Mutillidae (Velvet Ants)

Identification and Descriptive Features: Female velvet ants have a body form resembling a worker ant but are densely covered with bristly hairs. They are brightly colored in patterns that may include red, orange, yellow, white and black. Size among all species present in Colorado range from about 5-20 mm. Great variations in size not only occur between different species of velvet ants, but also can range greatly among members of the same species, depending on diet.

Males, unlike the females, are winged and tend to be a bit larger than the female. They are also very hairy bodied and brightly patterned, although sometimes with more muted colors than the females. The considerable differences in body form and coloration between the sexes has made it very difficult to identify both the male and the female of some species.



Figure 1. Velvet ant female, probably *Dasymutilla vestita*.



Figure 2. A male velvet ant.

Distribution in Colorado: This family is well represented in Colorado with more than 55 species; one or more species can be found in most any area of the state, excluding higher elevations. Velvet ants tend to occur in areas of open fields, particularly lower elevation shortgrass prairie of both eastern and western Colorado.

Life History and Habits: Velvet ants develop as predators of ground nesting solitary bees (e.g., digger bees, sweat bees) and wasps (e.g., sphecid wasps). Nests of bumble bees are occasionally invaded and there are records of velvet ants developing on immature beetles and flies.

The females are extremely active insects that move rapidly across the soil, searching for evidence of nests. When nests are located the velvet ant will dig into it and locate the developing bee/wasps within the nest. Eggs are laid on stages that have completed feeding and made preparations for pupation - the prepupae and pupae. The velvet ant mother cuts through the host cocoon and lays an egg. Upon egg hatch, the grub-like velvet ant larva consumes the bee/wasp host.

The velvet ants spend the winter in the pupal stage within the tunnels of the bees on which they have fed. The adult wasps emerge in late spring. The males can be seen flying lazily above the ground, usually around small rises or other features in the landscape. The wingless females spend most of their time crawling over the ground searching for nesting bees, particularly late in the day. Both sexes maintain themselves by feeding on nectar and pollen and they are most easily observed when they visit flowers such as milkweed. Velvet ants likely produce only a single generation per year.

Although velvet ants are not aggressive and run away when disturbed, the females do possess a stinger. Indeed the sting of a velvet ant is very painful and one of the common species, *Dasymutilla occidentalis*, is sometimes known as the "cow killer" - although the implied claim about its ability to kill a cow is absurd and their venom is not particularly toxic. The winged males of velvet ants are stingless but may have a small pointed "pseudo stinger" on the hind end and will bluff sting.

Table 1. Partial checklist of velvet ants known from Colorado.

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- Timulla grotei* (Blake)
Timulla oajaca (Blake)
Timulla vagans (Fabricius)
- Chyphotes albipes* Cresson
- Ephuta grisea* Bradley
Ephuta cephalotes Schuster
- Sphaerophthalma clara* (Cresson)
Sphaerophthalma coequalis coequalis Cameron
Sphaerophthalma coloradensis Dalla Torre
Sphaerophthalma ferruginea (Blake)
Sphaerophthalma imperialiformis (Viereck)
Sphaerophthalma noctivaga (Melander)
Sphaerophthalma spinifera Schuster
- Odontophotopsis erebus* (Melander)
Odontophotopsis fallax Viereck



Figures 3-5. Females of 3 velvet ants found in southeastern Colorado.

Odontophotopsis obliquus Viereck
Odontophotopsis pretiosissima (Dalla Torre)

Pseudomethoca contumeliosa Mickel
Pseudomethoca frigida (Smith)
Pseudomethoca propinqua (Cresson)
Pseudomethoca sanbornii (Blake)
Pseudomethoca scaevolella (Cockerell & Casad)

Lomachaeta coloradensis Mickel

Myrmilloides grandiceps (Blake)
Dasymutilla bioculata (Cresson)
Dasymutilla campanula Mickel
Dasymutilla caneo (Blake)
Dasymutilla chiron ursula (Cresson)
Dasymutilla curialis Mickel
Dasymutilla cypris (Blake)
Dasymutilla dugesii (Cockerell and Casad)
Dasymutilla gibbosa (Say)
Dasymutilla hector (Blake)
Dasymutilla interrupta Banks
Dasymutilla klugii (Gray)
Dasymutilla leda (Blake)
Dasymutilla macra (Cresson)
Dasymutilla medea Cresson
Dasymutilla meracula Mickel
Dasymutilla monticola (Cresson)
Dasymutilla myrice Mickel
Dasymutilla nigripes (F.)
Dasymutilla nitidula Mickel
Dasymutilla occidentalis comanche (Blake)
Dasymutilla perilla gentilicia Mickel
Dasymutilla quadriguttata (Say)
Dasymutilla reclusa Mickel
Dasymutilla sackenii Cresson
Dasymutilla scaevola (Blake)
Dasymutilla snoworum (Cockerell)
Dasymutilla stevensii Mickel
Dasymutilla texanella Mickel
Dasymutilla vesta vesta (Cresson)
Dasymutilla vestita (Lepeletier)