

## NESTS AND PREY OF TWO LITTLE-KNOWN SPECIES OF *CERCERIS* (HYMENOPTERA: SPHECIDAE)<sup>1</sup>

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**ABSTRACT:** *Cerceris gnarina* Banks and *C. wyomingensis* Scullen were studied at montane sites in Colorado. In both cases the burrows penetrated the soil at about a 90 degree angle and cells were built in a more or less radial pattern from the bottom of the burrow. *C. gnarina* preyed on *Baris striata* (Curculionidae), *C. wyomingensis* on *Graphops nebulosa* (Chrysomelidae).

Only about a third of the approximately 80 Nearctic species of *Cerceris* have been studied in the field. What is known suggests that there is relatively little diversity in nest structure but that each species is moderately to strongly host-specific, preying upon a limited assemblage of beetles (Scullen and Wold, 1969; Evans, 1971; Evans and Rubink, 1978). This paper concerns two little-known species I have studied briefly in Colorado, both appearing typical of the genus with respect to nest structure and also with respect to prey selection.

### *Cerceris gnarina* Banks

This species has nested for two consecutive summers (1981-82), during late June and early July, in the center strip of a little-used dirt road in Hewlett Gulch, near Poudre Park, Larimer Co., Colorado, at about 1800 m elevation. The soil here is a fine-grained silty loam, with many stones on the surface but not below 3-5 cm. In 1981 there were two nests 3.5 m apart, each with a small tumulus and a vertical hole penetrating the center. Females provisioned slowly, taking up to an hour to return with prey. When not provisioning they remained within the burrow entrance, facing out. One prey-laden female was followed by a satellite fly, *Senotainia trilineata* (Wulp) (Sarcophagidae).

On 12 July one nest was excavated. The tumulus was 1 cm high, 6.5 cm in diameter, the burrow nearly vertical, 5 mm in diameter, terminating at a depth of 16 cm. There were 8 cells, at depths of 15-18 cm, forming a somewhat radial pattern from the bottom of the burrow, each at the end of a short side-burrow that had been closed off. Six of them contained wasp larvae in various stages of development, one of them had 15 weevils but no egg or larva, and the remaining cell had only beetle fragments. All weevils,

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including those taken from provisioning females, appeared to belong to the same species. Twelve that were saved for identification proved to be *Baris striata* (Say) (Curculionidae).

#### *Cerceris wyomingensis* Scullen

A single nest of this species was located in the steeply sloping bank of a gully at Chimney Rock, a geological formation on the Colorado-Wyoming border, 40 km SW of Laramie, Wyoming, at an elevation of 2350 m. There was no tumulus, simply an open hole which penetrated the slope at about a 90 degree angle. The burrow was 4 mm in diameter and 45 cm long. When the nest was excavated on 2 September 1981, there was a single beetle at the end of the burrow and a single cell 4 cm from the terminus. The cell contained 6 beetles and a wasp egg on the topmost beetle. All beetles were *Graphops nebulosa* (LeConte) (Chrysomelidae).

At Great Sand Dunes National Monument, in southern Colorado, a male *C. wyomingensis* was one of several species of bees and wasps being used as prey by *Philanthus basilaris* Cresson.

#### ACKNOWLEDGMENTS

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#### ANNOUNCEMENT AND CALL FOR PAPERS

The 34th annual meeting of The Lepidopterists' Society will be held July 7-10, 1983 at the Fawcett Center for Tomorrow, Ohio State University, Columbus, Ohio. For a PROGRAM AND REGISTRATION FORM and other pertinent details write to the Ohio Biological Survey, 484 West 12th Ave., Columbus, Ohio 43210 (614) 422-9645 or to Eric H. Metzler, 1241 Kildale Square, North, Columbus, Ohio 43229 (614) 265-6507.