

ones at base of this declivity. Postpetiole smooth and shining, faintly coreaceous. Gaster smooth and shining.

Erect hairs present on upper surface of head along the occipital border, their length variable. Thoracic, petiolar, postpetiolar, and gastric pilosity similar to that of worker. Hairs on dorsum of scutum sparse. There is a patch of dense, long, coarse, suberect hairs on each mesothoracic sternite.

Entire body, except mandibular borders, teeth, and articulations, the compound eyes, the paraptera, and the gaster, ferruginous red. Mandibular borders, teeth, and articulations, the compound eyes, and the parapsides blackish brown. Basal two-thirds of first gastric segment ferruginous followed by a broad black band completely encircling the segment except for a ferruginous median dorsal interruption. This band extends posteriorly to near the margin of the first gastric segment which is ferruginous. Other gastric segments except the terminal one with similar but narrower and more widely interrupted bands. Terminal segment ferruginous.

Described from a nest queen with associated workers taken by the writer 20 miles north of Bernardo, New Mexico, at an elevation of 6,550 feet, September 10, 1951, Cole collection No. N-294. This specimen will remain in the writer's collection.

A single alate female was taken from each of two nests (H-307 and H-308) 15 mi. W. of Mountainair, New Mexico, at an elevation of 5,750 feet. One of these specimens has a few transverse rugules on the dorsum of the postpetiole. The wings are hyaline and iridescent and they have light brown veins and dark brown stigma. One of the females will be deposited in the collection of Dr. W. S. Creighton.

LITERATURE CITED

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STUDIES OF NEW MEXICO ANTS. XII. THE GENERA BRACHYMYRMEX, CAMPONOTUS, AND PRENOLEPIS (HYMENOPTERA: FORMICIDAE)¹

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Genus BRACHYMYRMEX Mayr

Brachymyrmex depilis Emery. This species was taken at only one locality, namely Sapello Canyon, near Beulah, 8,000 ft. The nests were in moist soil beneath stones on a steep pine slope.

Genus CAMPONOTUS Mayr

Camponotus (Camponotus) herculeanus (Linné). The only colony which I believe definitely to represent this species was found on Mogollon Mountain, 9,000 ft., beneath a stone and the bark of a dead standing pine in a moist area of pine, aspen, and spruce.

Camponotus (C.) herculeanus modoc Wheeler. The distribution in New Mexico seems to be limited to the northern half of the state. The ant nests beneath stones and in logs. Colonies were found at the following places: Tesuque Canyon, near Santa Fe, 7,650-10,000 ft.; 15 mi. N. of Eagle Nest, 9,500 ft.; 18 mi. E. of Eagle Nest, 8,500 ft.; Ute Park, 7,500-7,600 ft.; Sandia Mt., near Albuquerque, 8,700 ft.; 13 mi. S. of Mesalero, 8,200 ft.

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Camponotus (C.) laevigatus (F. Smith). This species, which has heretofore been recorded only from the Pacific coast to the Rocky Mountains, was found at three stations in the state, namely Cimarron Canyon, 7,450 ft.; 13 mi. N. of Eagle Nest, 9,500 ft.; Bandelier Nat. Monument, 6,050 ft. All nests were in large, rather dry, rotting pine logs in densely shaded wooded areas.

Camponotus (Tanaemyrmex) acutirostris Wheeler. A single colony was found nesting beneath a stone on a very dry, rocky slope with yucca and cacti in Carlsbad Canyon National Forest, Carlsbad Caverns National Park, 4,250 ft.

Camponotus (T.) ocreatus Emery. Nests were under stones in dry areas. At the higher elevations the ant was taken in stands of pine or pinyon-juniper and at the lower elevations in semidesert shrub communities. Collections were made at the following localities: near Raton Pass, 7,100 ft.; 20 mi. N. of Bernardo, 6,550 ft.; 25 mi. E. of Bernardo, 5,950 ft.; 15 mi. W. of Mountainair, 5,750 ft.; Beaverhead; 7 mi. E. of Tularosa, 5,300 ft.; Kit Carson Cave Road, near Gallup; 12 mi. W. of Hope, 5,200 ft.

Camponotus (T.) sansabeanus bulimosus Wheeler. One nest was under a large stone in a very dry, level, pinyon-juniper area 20 mi. N. of Bernardo, 6,550 ft.

Camponotus (T.) vicinus Mayr. This species, which is by far the most common member of its genus in the state, nests generally under stones but occasionally at the base of roots of shrubs. It has a wide range in the state and although prominently a representative of communities at the higher and more moist elevations, it was taken at 3,800 ft. in an arid habitat. Collections were made at the following places: 10 mi. E. of Taos, 7,000 ft.; 18 mi. E. of Taos, 6,000 ft.; Ute Park, 7,400-7,600 ft.; Cimarron Canyon, 6,500-7,100 ft.; Raton Pass, 6,400-7,700 ft.; Capulin Mt. Natl. Monument, 7,100 ft.; 10 mi. S. of Santa Fe, 6,500 ft.; Juan Tabo area, Sandia Mts., 6,025 ft.; Gallup, 6,700 ft.; 25 mi. E. of Gallup, 7,200 ft.; Kit Carson Cave road, near Gallup; 25 mi. N. of Beaverhead, 7,250 ft.; 80 mi. N. of Silver City, in Wilderness Area, 7,250 ft.; Sapello Canyon, near Beulah, 7,500 ft.; 4 mi. W. of Horse Springs, 7,300 ft.; 4 mi. N. of Magdalena, 6,600 ft.; Bandelier Natl. Monument, 6,350 ft.; White Sands Natl. Monument, 3,800 ft.

Genus PRENOLEPIS Mayr

Prenolepis imparis (Say). Mr. E. O. Wilson has assured me that his studies of the genus show that my New Mexico collections are all referable to the typical species. The present status of *arizonicus* Wheeler and *coloradensis* Wheeler as subspecies of *imparis* would seem to be, at the least, doubtful. My specimens are dark in color and for the most part have the type of petiolar emargination which has been used in part to segregate the subspecies *arizonicus*. Apparently, however, *P. imparis* is an extremely variable population. Collections were made beneath stones in moist, shaded areas at the following localities: Sandia Mts., near Albuquerque, 6,900 ft.; 4 mi. S. of Mescalero, 6,800 ft.; Cimarron Canyon, 6,700 ft., 7,100 ft.; Bandelier Natl. Monument, 6,050 ft.

SOME STUDIES OF TENNESSEE FERNS

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FERN DISTRIBUTION IN TENNESSEE

LOWLAND BRITTLE BLADDERFERN

Cystopteris fragilis (L.) Bernh., var. *protrusa* Weatherby

(Continued from the July number)

from Watertown to Statesville. Collections from counties preceded by an asterisk (not seen by the author) are assumed to be of this variety.