

STUDIES OF NEW MEXICO ANTS
(HYMENOPTERA: FORMICIDAE).
I. A NEW SPECIES OF MYRMICA

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MYRMICA striolagaster n. sp.

Holotype, worker (Cole Coll. No. N-116). Overall length, 6.14 mm.; alitrunk, 1.82 mm.; petiole and postpetiole combined, 0.95 mm.

Head, excluding mandibles, as long as broad (1.10 mm.) between the eyes, the sides moderately convex, the occipital border nearly straight, and the corners rounded. Frontal carinae broad, thin, directed upward, and with rounded apical border. Antennal scape with a right angle bend near the base and a shallow crescentic lamina at the bend. Labial palpi 3-segmented; maxillary palpi 6-segmented.

Thorax with its dorsal surface feebly convex when viewed in profile and with a rather broad and distinct mesoepinotal suture. Epinotal spines robust, pointed, nearly straight, deflected upward, outward, and backward, about as long as the distance between their bases. Petiole with a feebly concave anterior face and a convex dorsal surface, a little higher than the distance from the tip of the ventral tooth to the postpetiole. Postpetiole higher than long, higher than the petiole, submoniliform when viewed from above.

Head, alitrunk, petiole, and postpetiole coarsely rugo-reticulate. Antennal scapes and mandibles coarsely and longitudinally striate. Clypeus longitudinally and coarsely carinate. First gastric segment densely and coarsely punctate basally and with numerous, fine, longitudinal, basal striae. Pilosity of entire body coarse and very dense, the hairs golden, rather long, somewhat blunt, and quite uniform in length. Head, alitrunk, petiole, and postpetiole subopaque; gaster shining except at the striolate base of the first segment.

Color of head and alitrunk dark ferrugineous; petiole, postpetiole, and gaster darker.

Type locality—The nest was in soil beneath a stone on a moist, shaded, gentle, south-facing slope beside a stream in Cimarron Canyon, New Mexico, 5-½ miles west of Cimarron near highway U.S. 64. The collecting area was at an elevation of 6,700 feet. The holotype worker and 69 paratype workers were collected on August 29, 1951, by the writer.

Disposition of types—The holotype and a series of paratypes are in the writer's collection. Paratypes have been deposited in the U. S. National Museum and the Museum of Comparative Zoology (Harvard).

Variation in the paratype series—In the series of 69 paratype workers the overall length varies from 5.57 to 6.50 mm. Most characteristics seem to be remarkably uniform. Color variation is only relatively slight as is that of pilosity and sculpture.

Affinities—The new species is very distinctive, readily recognized, and in several respects wholly different from other known species and subspecies of *Myrmica*. In its gastric punctation the new species is somewhat similar to the members of the *punctiventris* group to which place it runs in present keys. But the new species is very much different from *pinetorum* Wheeler and *punctiventris* Roger of eastern and midwestern distribution. The gastric

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punctures are more numerous, coarser, and more extensive than those of the *punctiventris* group and they are accompanied basally by numerous, fine, longitudinal striae which are absent from the former. Other very distinctive features of the new species are the extremely coarse, rugo-reticulate sculpturing of the body, the abundant and coarse pilosity, and the laminate antennal scapes, none of which is characteristic of the *punctiventris* group.

Acknowledgement—The writer is grateful to Dr. M. R. Smith, of the U.S. National Museum, who examined a series of specimens of the new species and expressed the opinion that the specimens represent a new species of *Myrmica*.

STUDIES OF NEW MEXICO ANTS. II. A DESCRIPTION OF A NEW SUBSPECIES OF *APHAENOGASTER HUACHUCANA* (HYMENOPTERA: FORMICIDAE)¹

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During my studies of ants in New Mexico in the summer of 1951 I was unable to find any nests of *Aphaenogaster* spp. However, during the following summer a total of eight nests at two different localities was discovered. It is my opinion that all eight of these colonies represent an undescribed subspecies of *A. huachucana* Creighton. A description follows.

Aphaenogaster (Allomyrma) huachucana subspecies **crinimera**
n. subsp.

Holotype, worker (Cole Coll. No. J-185). Overall length, 6.3 mm.

Differing from the types of *huachucana* in the following respects: prominent transverse rugae on pronotum as well as on epinotum, longitudinal oblique rugae on mesonotum, posterior declivity of postpetiole longitudinally, irregularly, and rather coarsely rugose, posterior declivity of petiole with a few irregular longitudinal rugae; epinotal spines sharper and longer than one-half the distance between their bases; legs much more hairy; body color considerably darker (head, thorax, and appendages reddish brown, the petiole piceous reddish brown, the postpetiole darker than the petiole, and the gaster black).

The maxillary palpi are 5-segmented and the labial palpi 3-segmented.

Paratype, alate female (Cole Coll. No. J-185). Overall length, 9.3 mm. Differing from the female of the typical *huachucana* chiefly as follows: length of epinotal spines more than one-half the distance between their bases; postpetiole with rather dense and coarse wavy rugae, the crest being not at all shining; entire body dark reddish brown, the gaster infuscated dorsally except at the base of the first segment. Wing venation as in figure 1, b.

Paratype, male (Cole Coll. No. J-185). Overall length, 5.2 mm. Differing from the male of the typical species in the following respects: entire scutellum subopaque; body black, the coxae and femora rather densely and uniformly suffused with brown. Antennal segmentation as shown in figure 1, c, and wing venation as in figure 1, d.

Type locality.—The type locality is herewith designated as the campground area at Bandelier National Monument, New Mexico, at an elevation of 6,050 feet. This was the location of nest J-185 where collections of large series of workers, males and females were made on July 30, 1952. Long series of

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workers, males, alate females, and nest queens were also taken on August 19, 1952, from seven nests (H-423, H-424, H-425, H-426, H-427, H-428, and H-433) under stones five miles south of Mescalera, New Mexico, on state route 24, at an elevation of 6,950 feet. All collections were made by the writer.

Habitat of the type material.—The Bandelier colony was in moist soil beneath three adjoining stones beside a small, densely shaded stream in an area of large pines. No activity was observed until the stones covering the nest had been removed. The workers were very active and scurried for cover. The Mescalera area nests were beneath stones on a very moist, shaded, south-facing, grassy slope with dense pine and scrub oak. The workers were extremely active and agile.

Disposition of types.—The holotype and a large series of paratypes of all castes are in the writer's collection. Paratypes have been deposited in the U. S. National Museum, Museum of Comparative Zoology (Harvard), American Museum of Natural History, and in the collections of W. F. Buren, W. S. Creighton, R. E. Gregg, Mary Talbot, G. C. Wheeler, and E. O. Wilson.

Variations in the paratype series.—All collections were incorporated into the type series. The workers vary in length from 5.8 to 7.2 mm., the females from

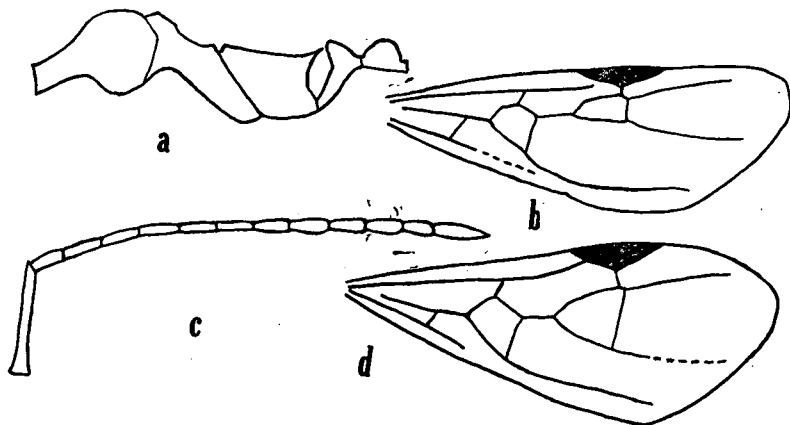


Fig. 1. *Aphaenogaster huachucana* subsp. *crinimera* n. subsp. a, thoracic, petiolar, and postpetiolar contours of worker in profile; b, fore wing of female; c, antenna of male; d, fore wing of male.

9.0 to 9.7 mm., and the males from 5.0 to 5.5 mm. Aside from body length and slight color differences, the members of each caste appear to be quite uniform.

Affinities.—The new subspecies is apparently very closely related to *A. huachucana* Creighton (1934, p. 189, and 1951, pp. 94-99). The type specimens (workers only) were collected in the Huachuca Mountains (7,000 ft.) of Arizona in 1932. Subsequent collections were made by Creighton (1951, p. 92) in the same mountains at elevations from 7,000 to 8,000 feet. Creighton (1934, p. 193) reports that the workers are very sluggish even when disturbed. Such behavior is definitely in contrast with that of the new subspecies.

I am of the opinion that the specimens described herein represent a distinctive subspecies and I believe that the differences they show from the typical *huachucana* are sufficient to support my contention. The geographic distribution of the new subspecies is not as satisfactory as one would wish, but isolation factors may well be operating.

LITERATURE CITED

- Creighton, W. S. 1934. Descriptions of three new North American ants with certain ecological observations on previously described forms. *Psyche*, 41:189-193.
- Creighton, W. S. 1951. Studies of Arizona ants. 2. New data on the ecology of *Aphaenogaster huachucana* and a description of the sexual forms. *Psyche*, 58:89-99.

STUDIES OF NEW MEXICO ANTS. III. THE PONERINES AND DORYLINES (HYMENOPTERA: FORMICIDAE)¹

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This short paper is the first of a series which will be concerned with the species and subspecies of ants collected by the writer in New Mexico during the summers of 1951 and 1952. The collections include the following forms of the subfamilies Ponerinae and Dorylinae.

SUBFAMILY PONERINAE

Amblyopone pallipes (Haldeman). No colonies of this species were found, but two solitary specimens, one a worker and the other a dealate female, were taken. The worker was collected from the surface soil beneath a large stone at the mouth of Sapello Canyon, at an elevation of 7,500 ft., near Beulah, on a moist, rocky slope with scattered, large yellow pine. The stone was imbedded in dense pine duff. The queen was taken from under a large, flat stone in a moist grassy meadow in Cimarron Canyon, 5½ mi. W. of Cimarron, at an elevation of 6,700 ft.

Ponera trigona opacior Forel. Five small colonies were collected from beneath stones in Cimarron Canyon, 5½ mi. W. of Cimarron, at an elevation of 6,700 ft. Three were in an open, very moist, grassy meadow and two were in a moist, densely shaded area near a stream.

SUBFAMILY DORYLINAE

Eciton opacithorax Emery. Colonies were found under stones at Little Tesuque Canyon, Hyde State Park, 7,600 ft., in a flat, open area with bordering pine and spruce; 7 mi. W. of Socorro, 7,000 ft., in very dry, stony semi-desert; 9 mi. W. of Hope, 5,100 ft., on a dry grassy slope with stony soil; 15 mi. W. of Hope, 5,300 ft. on a very dry level area with bunchgrass and cacti; and 10 mi. S. of Mountainaire, 6,650 ft. in dry desert with juniper, cacti, and Russian thistle. The largest colonies were at the lower elevations.

Eciton nigrescens (Cresson). One nest was beneath a stone 20 mi. W. of Hope, 5150 ft., in a dry, rocky, level area with bunchgrass, cacti, and yucca.

In view of the intensive collecting that was done over most of the state, it seems evident that the ponerines are of uncommon occurrence and may have a very limited distribution in New Mexico. The dorylines, on the other hand, are represented chiefly by *Eciton opacithorax*, which appears to have a rather wide distribution and to occur in considerable numbers in favorable habitats. Several to many colonies of this species were found at the localities listed, and as can be

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noted they had an elevational distribution of from 5,100 to 7,600 feet.