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STUDIES OF NEW MEXICO ANTS. IV. THE GENERA MYRMICA, MANICA, APHAENOGASTER, AND NOVOMESSOR (HYMENOPTERA: FORMICIDAE)[1]

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Genus MYRMICA Latreille

Myrmica lobicornis fracticornis Emery. During the summer of 1951 I made numerous collections of large series of what I had thought would prove to represent both *M. lobicornis fracticornis* and *M. lobicornis lobifrons* Pergande. Further study showed that all of these collections from various parts of the state could represent a single variable form. Additional collecting was indicated and this was achieved during the summer of 1952. Collections were made of large series of all castes from every nest of *Myrmica* which was found. From studies of this large mass of material together with collections made in other parts of the United States I have arrived at the conclusion that the names *fracticornis* and *lobifrons* represent the same extensive population. Weber (1948) synonymized *M. lobicornis lobifrons* Pergande with *M. lobifrons fracticornis* Emery and later Creighton (1950) isolated them from each other. My data substantiate the opinion of Weber. I propose therefore that the name *M. lobicornis lobifrons* Pergande again be relegated to synonomy and that the name *M. lobicornis fracticornis* Emery represent, by priority, this population.

Let me back my position by a few points in brief explanation. There seems to be a considerable amount of both intra- and inter-variability of colonies. In numerous instances the antennal laminae of the workers, both within and between nests, show variation from a spoon-shaped or saucer-shaped encircling flange to a small, transverse, hooked structure. Such holds true also with antennal and epinotal characteristics of the male. In extreme northern New Mexico where I had expected to pick up more or less typical *fracticornis* I took samples from many colonies which might well have been called either *fracticornis* or *lobifrons* and conversely where I should have collected *lobifrons* I amassed large series which for the most part could be identified under either name. Furthermore, I was unable to make any valid distinctions between types of nesting sites or between habits. Neither could I differentiate on the basis of elevation. As a matter of fact I was unable to find colonies represented below an elevation of 6,050 feet.

The categorical status of the population may well be a matter for speculation, because in some respects it does not behave like a subspecies. That this population might actually be an integral part of another population or other populations of *Myrmica* and that further synonomy may be established ultimately I readily acknowledge. At the present time however I have insufficient data with which to propose more extensive lumping. I prefer therefore to consider the vast population as a subspecies.

Wherever I collected this form I found its colonies to be fairly abundant to very abundant. Numerous collections were made at each of the following localities: Sapello Canyon, Beulah, 8,000 ft.; Dailey Canyon, Beulah, 8,000 ft.; Raton Pass, 6,400 ft., 7,100 ft., 7,400 ft.; Cimarron Canyon, 7,100 ft., 7,300 ft., 7,450 ft., 8,000 ft.; 5 mi. E. of Eagle Nest, 8,600 ft.; 11 mi. N. of Eagle Nest, 9,000 ft.; 15 mi. N. of Eagle Nest, 9,550 ft.; Taos, 7,350 ft.; Ute Park, 7,300 ft., 7,450 ft., 7,600 ft.; Tesuque Canyon, near Santa Fe,

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8,400 ft., 8,500 ft., 8,700 ft., 9,200 ft., 10,000 ft.; Sandia Mts., 7,500 ft., 8,700 ft.; 5 mi. S. of Mescalera, 6,950 ft.; 16 mi. S. of Mescalera, 8,300 ft.; Bandelier Natl. Monument, 6,050 ft.; Capulin Mt. Natl. Monument, 7,200 ft.; Mogollon Mt., 8,600 ft.; Little Willow Creek Ranch, Mogollon Mt., 8,300 ft.; Cloudcroft, 8,500 ft.

The colonies are confined to the higher elevations and generally occur on shaded moist slopes. They nest beneath stones and logs, in moist wood, and at times in the soil without any cover where they make small and irregular earthen mounds or semicircles of soil pellets.

Myrmica brevinodis Emery. Nests were at the following localities: Sapello Canyon, Beulah, 8,000 ft.; 11 mi. N. of Eagle Nest, 9,000 ft.; Cimarron Canyon, 7,100 ft., Tesuque Canyon, near Santa Fe, 8,600 ft., 10,000 ft.; Little Willow Creek Canyon, Mogollon Mt., 8,300 ft. Most of the colonies observed were beneath large stones and were very populous. Two smaller nests were found beneath slabs of wood.

Myrmica brevispinosa discontinua Weber. This subspecies appears to be well represented in the state. I was unable to find representatives of the typical species. The subspecies showed up in nearly all "*Myrmica* country." Each nest was beneath a stone. Collections were made from the following localities: Sapello Canyon, Beulah, 8,000 ft.; Cimarron Canyon, 7,450 ft.; Tesuque Canyon, near Santa Fe, 10,000 ft.; 11 mi. N. of Eagle Nest, 9,000 ft.; 15 mi. N. of Eagle Nest, 9,500 ft.; 12 mi. E. of Taos, 7,250 ft.; Sandia Mts., near Albuquerque, 7,900 ft.; Cloudcroft, 8,500 ft.; Mogollon Mt., 7,350 ft.

Myrmica emeryana Forel. Although there is considerable doubt in my mind as to the validity of this species I collected many series which would appear to match the characteristics of *emeryana* very closely. All nests were beneath stones at the following localities: Tesuque Canyon, near Santa Fe, 7,900 ft.; 10,000 ft.; Ute Park, 7,400 ft.; 12 mi. E. of Taos, 7,250 ft.; Capulin Mt. Natl. Monument, 7,200 ft.

Myrmica hamulata Weber. At the following localities were nests of what I believe represent this species: Sandia Mts., 7,700 ft.; Ute Park, 7,400 ft.; 5 mi. E. of Eagle Nest, 8,600 ft.

Myrmica striolagaster Cole. This very distinctive species which can be separated readily from other members of the genus was found at only two localities, namely, 5½ mi. W. of Cimarron, 6,700 ft. (type locality) and Bandelier Natl. Monument, 6,200 ft. Both nests were in moist, densely shaded areas beside streams.

Genus MANICA Jurine

Manica mutica (Emery). Numerous colonies were observed at only two nearly adjoining localities, namely, 12 mi. E. of Taos, 7,200 ft., where the ants nested beneath stones and sand craters, and at the bases of shrub stems in an open, flat, sandy, dry, semidesert area; and 15 mi. E. of Taos, 8,000 ft., under stones in a level, rocky, moist, pine-spruce habitat. The species appears to have a very circumscribed range in the state.

Genus APHAENOGASTER Mayr

Aphaenogaster (Attomyrma) huachucana crinimera Cole. Colonies were taken beneath stones at Bandelier Natl. Monument, 6,050 ft. (type locality) and 5 mi. S. of Mescalera, 6,950 ft.

Genus NOVOMESSOR Emery

Novomessor cockerelli (E. André). This species was found throughout the state in semidesert areas and is one of the most common ants of such a habitat. Its broad, flattened, pebbly or earthen craters with their very large, irregular,

central entrances can be recognized readily. Colonies were observed at elevations from 3,500 to 6,000 feet.

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