

Article XXVIII. — EXTRAORDINARY FEMALES IN
THREE SPECIES OF FORMICA, WITH REMARKS
ON MUTATION IN THE FORMICIDÆ.

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The three species of *Formica* described in the following paper were all taken within a radius of thirty miles of Colorado Springs, Colorado, during the past summer. They agree in presenting certain very unusual characters in the females, although the corresponding workers and males deviate but little from the ordinary species of *Formica*. Even a superficial study of the workers shows that they are all to be assigned to the *rufa* group, and were this sexual phase alone known, one would be tempted to regard them merely as subspecies or varieties of *F. rufa*. Fortunately we are not bound still further to complicate this well-known circumpolar species by including under it the three Colorado forms, since the females and, to some extent also, the workers and males display characters of undoubted specific value.

The first species, *F. ciliata* Mayr, has hitherto been known only from isolated female specimens.¹ Emery, in his revision of the North American *Formica*,² erroneously regarded it as perhaps belonging to the *pallide-fulva* group. It departs from all known species of the genus in its singular pilosity and, to a lesser degree, in the yellow color of the whole body. The female of the second species, *F. oreas* n. sp., is remarkable in coloration and to some extent also in pilosity, especially in that of the antennal scapes. In coloration it resembles the female of *ciliata* as well as that of *F. dakotensis* Emery. The third species, *F. microgyna* n. sp., is remarkable on account of the diminutive size of the females, which are actually smaller than the largest workers, a condition quite unknown among the normal females of any other species of *Formica*.

¹ Mayr, G. Die Formiciden der Vereinigten Staaten von Nordamerika. Verh. zool. bot. Ges. Wien, 1886, pp. 419-464.

² Emery, C. Beiträge zur Kenntniss der nordamerikanischen Ameisenfauna. Zool. Jahrb., Abth. f. Syst., Bd. VII, 1893, pp. 633-682, Taf. 22