

I subjoin descriptions of all three sexual forms of each of the three species, together with some ethological field notes. At the end of the paper I have added a few remarks on the significance of the aberrant female characters.

Formica ciliata Mayr.

Worker (fig. 1.—Length, 3–8 mm.

With the habitus of *Formica rufa* subsp. *obscuriventris* Mayr. Mandibles 8-toothed. Clypeus broadly rounded in front, hardly produced in the middle, strongly carinate its entire length. Head, excluding mandibles, fully as broad as long; occipital border slightly concave, especially in large individuals; posterior corners rounded; sides distinctly converging anteriorly, cheeks rather long. Joints 1–4 of antennal funiculus decidedly more slender and somewhat longer than joints 5–10. Thorax resembling that of *F. rufa*; mesoepinotal constriction pronounced, basal surface of epinotum flattened, horizontal, forming a decided angle with the slightly concave declivity. Petiole in profile rather thick at the base, with a thin edge; its anterior surface distinctly convex, the posterior flattened; seen from behind, the scale is produced upwards in the middle in the form of a blunt point, sides rounded.

Mandibles finely and densely striated. Whole body opaque, except the frontal area and clypeus and, in the largest workers of some colonies, also the whole head, which are more or less shining. Head, thorax, petiole, and gaster very finely shagreened.

Hairs yellow, those on the clypeus and mandibles rather coarse, on the former projecting forward. Upper surface of head naked; lower surface with a few erect hairs. Thorax covered with erect hairs, except the mesonotum, mesopleuræ, and basal epinotal surface, which are naked. Petiole below and along edge of scale with a fringe of short hairs, also with a few hairs on its anterior and posterior surfaces. Gaster invested with short, rather dense grayish yellow pubescence in addition to numerous uniformly distributed, suberect, and subobtuse hairs, which are hardly longer on the terminal segments than elsewhere. Antennæ delicately and inconspicuously pubescent. Legs with sparse pubescence; coxæ and flexor surfaces of tibiæ and tarsi with prominent hairs.

In the largest workers the head, thorax, and petiole are rich yellowish red, the mandibles and clypeal sutures deeper red. Gaster brown. anal segment, and often also the base of the first segment and the venter, yellow. Antennæ and legs reddish yellow, the funiculus toward the tip, the coxæ, femora, and often also the tibiæ, dark brown. The smallest workers usually have the posterior portion of the head, dorsal surface of thorax and of petiole clouded with black or dark brown.