

6120

McC. Brown in
C. I.

**A New Subspecies of *Formica moki* Wheeler
(Hymenoptera : Formicidae)**

A. C. COLE, Jr.



Reprinted from

"THE AMERICAN MIDLAND NATURALIST"

Vol. 29, No. 1, pp. 183-184, January, 1943

**The University Press
Notre Dame, Ind.**

B

A New Subspecies of *Formica moki* Wheeler (Hymenoptera: Formicidae)¹

A. C. Cole, Jr.

In 1939, Smith² described a new subspecies of *Formica moki* Wheeler, which he named *xerophila*. In the same paper he also redescribed the worker of *moki* as follows:

Worker—Length 4.5-5 mm.

Head, exclusive of mandibles, one-seventh to one-ninth longer than broad, narrower in front than behind, with entire and gently rounded posterior border, rounded posterior angles, and weakly convex sides. Eye large, convex, oblong, little more than its greatest diameter from base of mandible. Antenna long and slender, scape approximately as long as the combined lengths of the first 7 or 8 funicular segments; middle funicular segments about twice as long as wide. Clypeus sharply carinate, anterior border entire, projecting medianly. Frontal and ocellar triangles almost equilateral. Frontal carinae slightly diverging behind. A faint frontal furrow often extending as far backward as anterior ocellus. Mandible 7- or 8-toothed. Maxillary palpus long, slender, 6-segmented. Thorax long, narrow; mesoepinotal constriction shallow; base and declivity of epinotum subequal, the base sloping to meet the declivity in an obtuse angle. Pronotum viewed from above almost as long as broad; mesonotum approximately one and a half times as long as broad. Petiole with a moderately convex anterior surface, and flat posterior surface, the two meeting above to form a sharp, straight or sometimes feebly rounded superior border. Gaster small. Legs long and slender.

Subopaque, finely and densely shagreened; mandibles, sides of clypeus, and frontal area slightly shining in certain lights. Mandibles densely striate, and also coarsely punctate. Posterior dorsal surface of head and the gaster with a metallic or bronzy luster in certain lights.

Hairs grayish, sparse, erect, present on clypeus, dorsal surface of head, coxa, trochanter, and flexor surfaces of femora and tibiae, and on gaster; hairs on mandibles suberect; hairs on gaster shorter than on venter and at apex. Pubescence grayish, fine and dense, covering all parts of body, but densest on gaster.

Dull ferruginous; dorsal surface of head posteriorly, and the petiole, gaster, and legs dark brown; in some lights parts of the thorax may have a brownish or infuscated cast.

The type locality of *moki* is Bright Angel Trail, Grand Canyon, Arizona, 5,500-7,000 feet. Other localities from which the species has been recorded are Prescott, Arizona, and Milford, Blanding and Bluff, Utah. I have a small series of what I consider to be *moki* collected in Millard Co., Utah, by D. M. Rees. These specimens have very distinct splotches of brown on the thoracic dorsum.

¹ Contribution No. 6, Department of Zoology and Entomology, University of Tennessee, Knoxville.

² Smith, M. R. Notes on *Formica* (Neoformica) *moki* Wheeler, with description of a new subspecies, Ann. Ent. Soc. Amer. 32:581-584, 1939.

Smith³ described his subspecies *xerophila* as follows:

Worker.—Length 5.3-5.6 mm.

Similar to *moki* except for the following differences: mandibles uniformly 8-toothed in all specimens examined; petiole thicker antero-posteriorly, and with blunter, more rounded, and feebly notched superior border; pubescence of body apparently denser, therefore more distinct; general color blackish with anterior part of head, and the antennae, tibiae, and tarsi reddish brown; body, especially the posterior dorsal portion of head, and the gaster, with a metallic luster in certain lights.

Type locality.—Leavenworth, Wash. (Falconer Smith).

Formica moki subsp. *grundmanni* nov.

Worker.—Length, 5.5-6.5 mm. (Cole collection No. U-36).

Differs from *moki* in the following respects: Greater body length; mandibles uniformly 8-toothed in all specimens examined; mesoepinotal constriction somewhat deeper; thorax more robust; petiole very much thicker anterioposteriorly, with an extremely convex anterior surface, superior border very blunt, more rounded and feebly but distinctly excised; pubescence denser and hence more obvious, especially on posterior dorsal portion of head and on gaster; legs, especially the femora and tibiae, reddish brown; indistinct splotches of brown on pronotum and mesonotum; gaster much darker than legs in many specimens, in some specimens nearly black.

Differs from *moki* subsp. *xerophila* as follows: Thorax shorter and stouter; petiole thicker anterioposteriorly, with a more blunt superior border; pubescence denser; body surface less shagreened; color of body lighter.

The specimens upon which this description is based were collected in soil beneath stones in Parleys Canyon, Salt Lake Co., Utah, by A. W. Grundmann. The type series consists of 30 workers. Cotypes are to be deposited in the U. S. National Museum, the American Museum of Natural History and the Department of Zoology of the University of Utah.

The writer is much indebted to Dr. M. R. Smith, at the U. S. National Museum, who kindly compared specimens of *grundmanni* with types of *xerophila*.

³ *Op. cit.*, p. 583