

**A NEW ANT FROM SOUTHWESTERN UNITED STATES**

(HYMENOPTERA, FORMICIDAE)

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Among the ants which I have received in recent months for identification, there appears to be one which is distinct from previously described forms. I am greatly indebted to Dr. M. R. Smith of the United States National Museum for his kindness in examining the specimens and for advice regarding their determination. Mr. W. L. Brown, Jr., has been of help also by comparing the new ant with closely related species in the Museum of Comparative Zoology.

***Aphaenogaster (Attomyrma) boulderensis smithi*, new subspecies**

*Worker.* Length, 6.2-6.9 mm. Head, excluding the mandibles, one and one-half times as long as broad, with the greatest width slightly posterior to the mandibular fossae; from there the head tapers gradually to the occiput which is approximately one-half its greatest width; occipital margin with a well developed carina. Eyes very prominent, and placed midway of the head. Clypeus with a broadly sinuate anterior margin. Frontal carinae prominent, short, extending only one-half of the distance between the antennal insertions and the eyes, and only slightly divergent posteriorly. Mandibles 8-toothed, with three large apical teeth, and the remainder in the form of small denticles. Antennae 12-segmented; scape long, narrow, and straight except for a slight bend at its insertion; scape exceeds the occipital border by fully one-third of its length. Thorax long and narrow, especially the mesothorax which is subcylindrical. Prothorax convex, and produced interiorly into a short but distinct neck; mesothorax with an elevated, oval portion anteriorly, the remainder flat and sloping; mesoepinotal suture very well developed, showing a deep impression dorsally. Epinotum subquadrate, the basal face one and one-third times as long as the declivity; epinotal spines obsolete, reduced to very low ridges. Petiole one and one-half times as long as the postpetiole; petiolar node rather high and rounded, anterior slope obtusely concave, posterior slope convex. Postpetiolar node subglobular, the anterior face straight and sloping, the posterior face vertical. Gaster small and somewhat narrowed anteriorly.

The sculpture of the head, thorax, petiole and postpetiole renders the body opaque to subopaque. Head coarsely punctate or granular, with a few rugulae bordering the antennal insertions laterally, and extend-

ing posteriorly from the frontal carinae as far as the eyes. Mandibles striato-punctate. Entire thorax punctate, and with conspicuous, transverse rugulae on the base of the epinotum, and on the sides of the epinotum just above the hind coxae. Petiole and postpetiole very finely punctate or shagreened, and feebly shining on the nodes. Gaster shagreened and somewhat shining.

Hairs widely spaced, short and tapering, on all parts of the body, including the coxae and femora; long on the clypeus. Erect hairs absent on the tibiae and scapes. Pubescence almost absent on the body, but present on the legs and abundant on the antennae.

Color of head, thorax, legs, and antennae bright ferruginous red; petiole and postpetiole slightly darker, and in some specimens infuscated; mandibular teeth and gaster black.

Described from thirty-eight specimens collected by Mr. Clyde P. Stroud in the Malpais Lava Beds of the Tularosa Basin, near the town of Carrizozo, New Mexico, on July 27, 1947. This area is thus designated as the type locality. The new subspecies is named for Dr. M. R. Smith.

Holotype: worker.

Paratypes: workers, preserved in my collection, in the United States National Museum, and in the Museum of Comparative Zoology.

The typical *Aphaenogaster boulderensis* M. R. Smith was described from Horseshoe Island in Lake Mead, at Boulder Dam, on the Colorado River (Smith, 1941). Dr. Smith has compared my specimens with his species, and has also given me a paratype of the latter for study. There can be no doubt that the new form differs from *boulderensis* in a number of particulars, and while more specimens and additional distributional data might substantiate the recognition of a full species, it is probably better at this time to regard the ant as a subspecies. In shape, the head is longer and tapers more gradually toward the occipital border. The thorax seems somewhat more attenuated, the constricted anterior portion of the pronotum being a little longer than in the typical *boulderensis*. The punctuation of the head and thorax is quite dense, giving these parts an opaque appearance, in contrast to the type where they are rather shining. The basal face of the epinotum is slightly shorter in proportion to the declivity, and the spines, though reduced to ridges, are more noticeable. A minute, anteroventral spine present on the petiole of the type, is entirely absent on *smithi*. In color, *boulderensis* is completely ferruginous, with only a slight darkening of the tip of the gaster, while *smithi* is a richer red, and has the gaster uniformly black, with the black color extending in some specimens on to the postpetiole.

It is possible that *smithi* may be confused with *Aphaenogaster mutica* described by Pergande (1895), from San José del Cabo, in Mexico. However, Dr. Smith has compared *smithi* with type specimens of *mutica* in the United States National Museum, and has found that the two forms are absolutely distinct. I have examined specimens of *smithi* in conjunction with the original description of *mutica*, and agree with his conclusion that the new subspecies is not a synonym of the latter ant. *Smithi* is larger in size than Pergande's species (*mutica* is 5 mm.), and it differs also in that the epinotal base is less than twice as long as the declivity whereas in *mutica* this distance is two times or more the length of the declivity. Further, the posterior half of the mesonotum is angled with respect to the plane of the epinotum. The pro- and mesothorax of *smithi* are definitely punctate throughout, while the prothorax and the anterior dorsal portion of the mesothorax in *mutica* are highly polished, with little or no trace of sculpturing. The petiolar and postpetiolar nodes of *smithi* are shagreened and subopaque, in contrast to *mutica* in which they are polished. The gasters of the two ants are similar except that in *smithi* the entire structure is shagreened, though not enough to destroy its shining appearance. In color, the ants are also similar except that in *smithi* the mandibles are reddish instead of yellow, and the nodes are of a deeper shade than the thorax.

*Aphaenogaster floridana* was described by M. R. Smith (1941), in the same paper with *boulderensis*, and while these ants have characters which link them closely in the same group, such as an elongated, tapering head, with occipital flange, generally attenuated body, and spineless epinotum, they are obviously distinct species. Nevertheless, it seems desirable to separate *floridana* from *smithi* also, even though the latter is considered a subspecies of *boulderensis*. *Floridana* differs from *smithi* in its smaller size, certain structural details, and color. The epinotum is more abruptly angled, with barely any trace of spines; the relation of the basal face to the declivity, however, is about the same as in *smithi*. The petiole is elongate with a low node that slopes gradually anteriorly and posteriorly, and grades into the peduncle; the postpetiole is distinctly swollen, considerably larger than the petiole, elliptical in shape from the side, elongated pyriform from above, without a distinct node dorsally, and twice as long as high. A minute spine present between the middle and hind pairs of coxae on *boulderensis* and *smithi*, is absent on *floridana*. The antennae have broad, tooth-like expansions at the proximal ends. The head and thorax are finely shagreened so that these parts are rather shining, and rugulae are

practically absent except for a few near the antennal insertions and extending back from the frontal carinae. The gaster is also shining. Head, antennae, thorax, and nodes reddish yellow, mandibles and legs a little lighter in color; gaster brown to brownish yellow, the infuscation most noticeable dorsally. These differences are based on comparisons between *smithi* and specimens of *floridana* from Pensacola which were determined by Dr. Smith.

## REFERENCES

- Pergande, T., 1895. Mexican Formicidae. Proc. Calif. Acad. Sci., 5: 858-896.
- Smith, M. R., 1941. Two new species of *Aphaenogaster*. Great Basin Nat., 2:118-121.