individuals[5],[8]. Mature forms of many insects have elongated appendages and body structures which can probably be drained of blood only with great difficulty. For such insects one of the indicator methods which have been used on vertebrate animals might be adopted.

AN ERGATANDROUS FORM IN PONERA OPACICEPS MAYR.*

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This description is based on two specimens which were collected by the junior author on August 25, 1930, from a colony of *Ponera opaciceps* Mayr, beneath the bark of a pine tree at Landon, Mississippi. That the specimens are not callow workers, as first supposed by the junior author from a superficial examination of them in the field, is clearly indicated by their 13-segmented antennae, the general shape of their bodies, and the prominent genital appendages at the apex of their gasters.

Ponera opaciceps Mayr.

Ponera opaciceps Mayr, Verh. Zool.-bot. Ges. Wien, Vol. 37, p. 536 (1887), worker and female.
Ponera opaciceps M. R. Smith, Annals Ent. Soc. Amer., Vol. 22, p. 545 (1929), male.

Ergataner: (Plate I., Figures 2 and 3). Length of head .68–.76 mm; length of thorax .935–.965 mm.

Head, including mandibles, longer than broad; posterior border almost straight, and sides subparallel, thus giving the head a more rectangular appearance than with the worker. Mandibles moderately broad, triangular, edentate stubs. Clypeus strongly convex, protuberant. Antennae 13-segmented, gradually but not strongly enlarging distally; scapes short, subcylindrical, approximately equal in length to the second, third, and fourth segments of funiculi taken together. Compound eyes small, almost circular, separated from the base of the mandibles by a space equivalent to approximately one and one-half times their greatest diameter. Thorax short, robust; viewed laterally the pro-mesonotal and meso-epinotal sutures are very distinct, especially

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*Contribution from the Mississippi Agricultural Experiment Station.

on the dorsum; mesonotum strongly gibbous, clearly projecting above the general surface of the pronotum and epinotum. Between the mesonotum and epinotum the suture is represented by a very strong constriction, following which the epinotum forms a rather long and gentle arch terminating at the petiole. The basal surface and declivity of the epinotum merge into each other so gradually that they are hardly distinguishable. Petiole large, robust, anterior and posterior faces convex, superior border rounded. Gaster similar to that of the worker, but bearing prominent genital appendages.

Color sordid yellow; margins of compound eyes and antennal cavities black, articulation of legs and sutures of thorax brown.

Ponera opaciceps Mayr is without doubt the most common species of *Ponera* in the southern part of Mississippi. Farther north in the state it is replaced by *Ponera trigona* var. *opacior* Forel and by *Ponera coarctata* subsp. *pennsylvanica* Buckley. In the Americas it ranges from Brazil and Uruguay to at least as far north as Texas and Mississippi. Although the worker and female were described by Mayr in 1887, and the ants have been taken on numerous occasions since, this is the first time that anyone has observed ergataners as far as we are aware. Ergataners have been found to occur in several other species of *Ponera*, namely: *P. eduardi* Forel, *P. punctatissima* Roger, and *P. ergatandria* Forel. It is therefore not surprising that *P. opaciceps* should have this peculiar worker male-like form. Of the species here mentioned, *P. ergatandria* was the only form in this country previously known to have ergataners.

The writers greatly regret that the two specimens on which this description is based are apparently immature as is evidenced by their extremely pale color, and by the fact that their body wall shrank considerably when the specimens were taken from alcohol and mounted. In shipping, the gaster of each was detached and lost, hence it is not figured here. The authors studied both gasters before they were lost, and are positive that each bore prominent male genitalia at their apex.

EXPLANATION OF PLATE.

Ponera opaciceps Mayr.

Fig. 1. Lateral view of worker.

Fig. 2. Lateral view of ergataner showing head, thorax, petiole and base of gaster.

Fig. 3. Front view of head of ergataner.

Ergataner of Ponera Opaciceps Mayr
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PLATE I.