

but occur in different parts of the large moist logs which form the preferred niches of these species. However, the associated ants are not nearly so closely restricted in their nesting sites as is *P. silaceum*, since they are found in more varied habitats and are more abundant and widespread. Often ants of a wider range of habitat toleration are also found in the logs: *Camponotus herculeanus pennsylvanicus*, *Aphaenogaster fulva aquia picea*, and *Lasius umbratus mixtus aphidicola* Walsh. The logs are good niches for almost any kind of wood-inhabiting ant except such forms as *Crematogaster* and varieties of *Camponotus caryae* Nyl., which regularly nest in hard, dry wood.

### Variations

Three collections contained ants which were darker than the others. These were: (1) a large colony of 55 workers with one dealate female and one ergatogyne (Fig. 4), taken by C. H. K., No. 2618 (6-5-38) in Delaware County, Ohio, in a red, rotten white oak log lying in a shady second growth woods beside Big Walnut Creek; (2) a colony of 25 workers and one dealate female, taken at Catawba by M. T. (7-11-35) in a stump, with wood soft enough to come off in layers, lying under dense trees of an oak-walnut woods; (3) a single worker taken at Catawba by S. R. Williams (7-10-31) from unknown habitat. These answer Wheeler's description of *P. silaceum* subsp. *rugulosum* (from Wyandotte, Ind.) in that they are uniformly darker and more opaque than the other *P. silaceum* seen. However, they could not be distinguished by any uniform intensity of rugosity or any definite anatomical variation from the species. Whether they should be considered as being *silaceum* or Wheeler's Indiana subspecies cannot be decided until they are compared with type specimens.

### Structure

The normal male, queen, and worker are shown in Figures 1-3. Proceratium belongs to the very primitive subfamily Ponerinae, many of which are distinguished by the groove between segments 1 and 2 of the gaster (abdominal segments III and IV). See Figures 1-4 and 16. The genus is further peculiar in the differentiation of the gaster into two regions. See Figures 16 and 17. Abdominal segments III and IV (Segs. 1 and 2 of gaster) are well developed and form most of the visible abdomen but tucked in the apex of abdominal segment IV is a post-abdomen of abdominal segments V to X which usually points cephalad but can be completely retracted into segment IV. This is similar to the anatomy of the higher flies (example, the house fly) but has evolved independently.

The eyes are large in the queen and male but are minute in the almost blind worker (Fig. 3). In the ergatogyne (Fig. 4) they are intermediate in size.

The ergatogyne is not found regularly in Proceratium nests but appears to be one of nature's genetic accidents. The latest evidence (Wheeler, 1937) is that the ergatogyne is a genetic mosaic of the worker and queen castes. We have found these in but one nest, Kennedy coll.,