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Orasema in Nests of Pheidole dentata Mayr (Hymenoptera: Formicidae)

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Within the past few years, two instances of parasitism were found within the nests of *Pheidole dentata* Mayr. In one case the parasites were determined by Mr. A. B. Gahan of the United States National Museum as the chalcid *Orasema robertsoni* Gahan, and in the other case Mr. Gahan determined the parasites as *Orasema* sp., possibly *robertsoni* Gahan. In the latter case insufficient material was available for specific determination.

The first parasitized colony was collected in the Welaka Reserve of northeastern peninsular Florida on September 19, 1949. This nest was in a hardwood stump in mesic hammock (*Magnolia grandiflora—Ilex opaca* association). The number of ants within the nest was 174, including 12 soldiers. Unparasitized pupae and larvae were present, along with an almost equal number of parasitized immatures.

Many different sizes of *Orasema* larvae were found, ranging from small insignificant points on the ant pupae or larvae, through a characteristic striped stage, to the late stage larvae with vesiculate knobs on its lateral borders. All were attached to the anterior portion of a *Pheidole* larva or pupa (fig. 1, A).

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Different size *Orasema* pupae were also discovered (fig. 1, B). These pupae, when they first drop from the ant host, are enclosed in a vesiculate skin, and only later do they become fully formed. There were four fully formed pupae counted within the present nest, and three of these were pigmented. Similar stages of *O. viridis* are well illustrated by Wheeler (1910: 415).

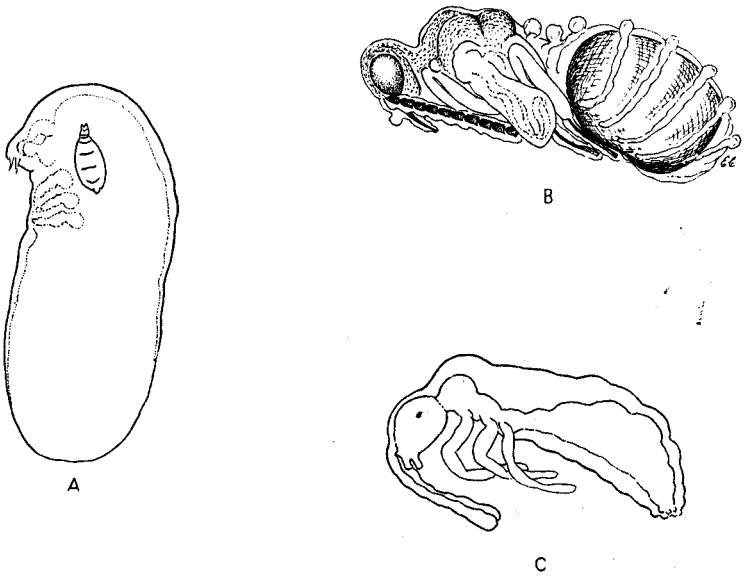

FIG. 1. A, *Pheidole* larva with an *Orasema* larva attached anteriorly; B, fully formed and pigmented *Orasema* pupa; C, phthisergate of *Pheidole* worker.

The other case of parasitism was observed in a nest of *Pheidole dentata* Mayr taken about six miles north of Gainesville, Florida. The colony, collected on October 12, 1946 from a longleaf pine (*Pinus palustris*) log in the late stages of decay, occurred in a longleaf pine flatwoods (*Pinus palustris-Aristida stricta* association). It is noteworthy that both parasitized nests were taken in the fall.

Many deformed phthisergates, or worker pupae which have, through *Orasema* parasitism, lost the necessary body fluids to

develop correctly, were present in both nests (fig. 1, C). No phthisogynes, or similarly affected female pupae, were observed, but several parasitized female larvae were found. According to Wheeler (1910: 418) the ant larvae parasitized by *Orasema* are in many cases able to pupate, but the affected pupae are unable to emerge.

The writer wishes to express his appreciation to Mr. A. B. Gahan for his determinations of *Orasema* and to Miss Esther Coogle for the drawings which appear in this paper.

LITERATURE CITED

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