

# HABITS AND PRESENT DISTRIBUTION IN FLORIDA OF THE EXOTIC ANT, *PSEUDOMYRMEX MEXICANUS* (HYMENOPTERA: FORMICIDAE)<sup>1,2</sup>

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## ABSTRACT

*Pseudomyrmex mexicanus* Roger was first collected in Miami, Florida, in 1960; it is now well-established as far north as West Palm Beach on the East Coast and has been taken in Pinellas County on the Gulf Coast. This species commonly nests in hollowed twigs of low shrubs or in the canes of tall herbaceous plants. Much of its food consists of other insects, especially lepidopterous larvae, but apparently includes fungus spores and honeydew. While the worker and queen will sting if held between the fingers, the small colonies and the solitary foraging habit of individual workers precludes the species from becoming a serious nuisance to people.

Although *Pseudomyrmex mexicanus* Roger is well-known in Mexico and Texas (Wheeler and Bailey 1925, Creighton 1950), to our knowledge, nothing has been published on the presence of the species in Florida. It was first discovered in this state about 1960 by H. F. Strohecker of the University of Miami. The find was made in the yard of his house in southwest Miami, Dade County. Specimens sent to H. A. Denmark of the Division of Plant Industry, Florida Department of Agriculture, and M. R. Smith of the USDA were identified as *P. gracilis mexicanus* Roger. Although still found in the United States only in Florida and Texas, *P. mexicanus* has spread steadily in Florida. In 1964, it was found in Broward County on the East Coast and in Pinellas County on the Gulf Coast. By 1970, it had spread to the counties of Palm Beach and Glades. It now appears to be abundant in all southeast Florida from West Palm Beach southward. In Texas, it also appears to have moved northward and eastward; at present it is not uncommon in the Houston area.

The genus *Pseudomyrmex*, the only new-world representative of the sub-family Pseudomyrminae, is largely confined to tropical areas. The range of 5 species extends into the continental United States, where these species are tropical or subtropical in distribution. Ants of this genus are long and slender, with unusually large eyes, 2 segments in the petiole, and a well-developed sting. The queen and the workers are very active and agile. Except for *P. elegans* F. Smith from British Guiana, as far as known, all species nest in the cavities of plants, especially in the hollow, twigs and thorns of trees and shrubs and in hollow, narrow stems of vines, herbaceous plants, and larger grasses. Many of the exotic species are aggressive and may sting viciously. Fortunately, this is not true of any of the species that occur in the United States. All species of Pseudomyrminae

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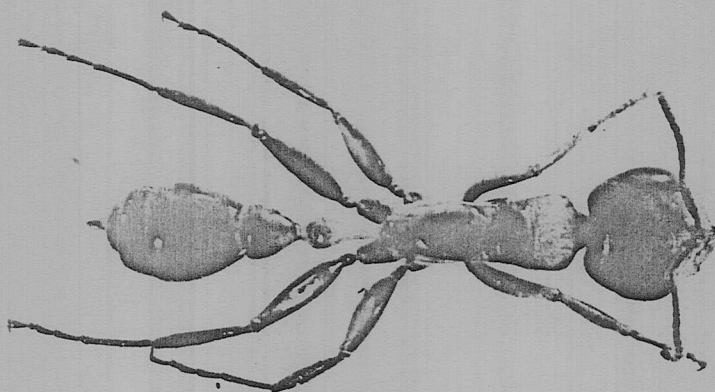


Fig. 1. Worker of *Pseudomyrmex mexicanus* Roger.

feed on both insect and vegetable matter to some extent; living insects, honeydew, and fungus spores are all consumed. Wheeler and Bailey (1925), to determine food habits of this group, studied the contents of the pellets placed in the trophothylaces of the larvae of various species of this genus. They reported that there can be no doubt that small miscellaneous insects form the most important ingredient of the pellets in most species of this subfamily.

*P. mexicanus* is shorter in proportion to its size than most other pseudomyrmecines found in the United States and lacks the long, narrow head, giving it an almost wasp-like appearance (Fig. 1). It is much larger than other Florida members of the genus *Pseudomyrmex*; workers of *P. mexicanus* are 8 to 10 mm in length in contrast to the 4 to 5 mm of both *P. brunneus* F. Smith and *P. pallidus* F. Smith. The orange markings on the thorax and petiole distinguish this otherwise blackish ant from most other Florida ants. It is somewhat more conspicuous than *P. brunneus*, *P. pallidus*, and *P. elongatus* Mayr, contrasting more sharply with the leaf surfaces and branches on which it occurs. In Florida, *P. mexicanus* seems to nest most frequently in shoulder-high shrubs, such as Brazilian pepper tree, *Schinus terebinthifolius* Raddi, although it is commonly found in the hollow stems of composites of the genus *Bidens*. It is especially abundant in dooryard plantings and in fence rows. In sugar-cane fields, it has been found to nest in tunnels of the sugarcane borer, *Diatraea saccharalis* (Fabricius); more commonly the nests are found in the stems of the weeds in the fields. This species may excavate its own cavities but usually depends on tunnels made by cerambycids and other insects. Wheeler and Bailey (1925), in their investigation of the feeding habits of *P. mexicanus*, reported greater quantities of insect fragments, both large and small in the trophothylaces of the larvae than in those of other pseudomyrmecines. In our field observations, workers of this species were observed carrying off various lepidopterous larvae. In laboratory experiments, *P. mexicanus* workers readily accepted eggs and larvae of the sugarcane borer. In the

field, this species was often observed in association with aphids and mealybugs.

Where it has become established, *P. mexicanus* is often the most numerous of the pseudomyrmine ants. However, it shows no evidence of becoming a nuisance or a pest species. It is true that this species is sometimes associated with an increase in aphid and mealybug populations, but in no case has this been shown to be of economic importance. Indications are that it may become an important predator of both pyralid and noctuid larvae. Its aggressiveness toward native ants and other predators should be carefully investigated before definite conclusions are drawn as to its detrimental or beneficial effects on the various ecosystems.

#### LITERATURE CITED

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- Wheeler, W. M., and I. W. Bailey. 1925. The feeding habits of Pseudomyrmine and other ants. Trans. Amer. Phil. Soc., N. S., 22: 235-79.
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Official seals of other entomological societies are illustrated in Downey, and J. C., and J. M. Nelson 1968. "Seals and Emblems of North American Entomological Societies". Bull. Entomol. Soc. Amer. 14(4):265-300.