

Discussion

This species is fairly common in Florida. Its range seems to be from central to northern Florida. It may also occur in southern Georgia. Its preferable habitat seems to be sandy soils, in clear areas among trees, the same habitat as in *P. metallescens*, with which it is very similar to the naked eye.

The colonies have about 60 majors and more than 300 workers. The main chamber is located 30 to 40 cm deep in the soil and is directly connected to a vertical tunnel of about 1 to 2 mm in diameter, which usually is the center of a small crater on the soil surface. The main flights of sexuals occur in the summer in July and August. The species is entirely diurnal. The main sources of food are small seeds, although it also scavenges small dead arthropods. The majors as well as the workers usually forage for food and help carry it back to the colony. It is not an aggressive species. The majors, when disturbed, try to escape to hiding places.

P. adrianoi differs from *P. metallescens* by its ebony black color, absence of reticulate punctation on the head and by its smooth and strongly shining occipital lobes and lack of metallic reflections. *P. adrianoi* also differs from *P. littoralis* by its small head, and the occipital lobes not strongly rounded, sides of head not parallel and mandibles not stout and strongly curved. *P. metallescens* and *P. littoralis* usually have a reddish brown head and thorax, the gaster always darker or blackish as opposed to *P. adrianoi* which has a shining concolorously ebony black body.

2. *Pheidole anastasii* Emery

P. anastasii Emery, 1896. Soc. Ent. Ital., Bol. 28:76. - Forel, 1901. Naturhist. Mus. Hamburg, Mitt. 18:78. - Wheeler, 1932. N.Y. Ent. Soc., Journ. 40:6. - Smith, 1933. Fla. Ent. 17:23. - Creighton, 1950. Bull. Mus. Comp. Zool. 104:169. - Gregg, 1958. N.Y. Ent. Soc. 66:16.

P. floridana Van Pelt, 1956. Amer. Midland Nat., 56:376, 384. Carroll, 1970. Unpublished M. S. thesis, University of Florida, p. 32-34. - Whitcomb, Denmark, Bhatkar, and Greene, 1972, Fla. Ent., 55:133. (*nec* Emery).

Type locality. Jimenes, Costa Rica

Types. None in the United States.

Range. Florida, southern Alabama and Georgia.

Diagnosis

This species is small, yellowish, differing from *P. floridana* in having opalescent surfaces dorsally on the first gastric tergite; differing from *P. moerens* and *P. greggi* n. sp. by having the postpetiole twice as broad as the petiole. Distinct lateral connules are present. It differs from *P. dentigula* in having smooth and shining occipital lobes.

Discussion

Wheeler (1932) reported *P. anastasii* (fig. 17) from Florida. It is unlikely that it is an introduced species as Wheeler suggested. I have found this species throughout Florida from the keys to the Panhandle. Its constant nesting at the base of pines

and the occurrence of two parasites, a mermithid that parasitizes the workers (fig. 46, 47) and a hymenopteran parasite species of the genus *Oraesema*, seem to contradict Wheeler's suggestion that *P. anastasii* is an exotic species.

Due to the close resemblance of this species to *P. floridana* Emery, *P. anastasii* probably has been misdetermined in several records from Florida.

The lack of access to Emery's types of *P. anastasii* makes it difficult to determine if the Florida species is conspecific with the Costa Rican types. Wheeler, however, did have knowledge of the types of *P. anastasii* when he reported it from Florida.

P. anastasii was usually found nesting under the bark at the base of pines or along the roots and only rarely in the soil. The colonies are monogynous and have more than 100 majors and over 500 workers. Several chambers are constructed interconnected by a string of galleries under the pine bark. The workers forage over 4 m from the colony and once food is located majors are recruited to help transport it back to the colony. It feeds on seeds, fruits, and scavenges on small dead arthropods and is predaceous on small live arthropods.

Laboratory colonies are very easy to keep and usually accept members of other colonies. Colonies that have lost their queens will also accept any other queens of *anastasii*. Several times I collected two or three nest founding females found together in one chamber. In the lab one female always killed the others before the first workers were reared.

3. *Pheidole carrolli* - NEW SPECIES

This is a reddish brown species related to the *P. pilifera* group. It differs from *P. pilifera* and *P. pilifera artemisia* by the absence of coarse reticulate occipital rugae and blunt postpetiolar connules. It differs from *P. pilifera coloradensis* by its larger head, strongly convex pronotum and anterior mesonotum, and longer and finer thoracic and gastric hairs. It differs from *P. pilifera pacifica* by its larger size and cephalic rugae extending to the occipital lobes and absence of transverse occipital rugae.

Description of Major

Body length 3.20 to 3.60 mm. Head length 1.80 to 1.90 mm; head width 1.69 to 1.80 mm. Thoracic length 1.36 to 1.44 mm. Scape length 0.77 to 0.82 mm. Scape Index 42 to 44.

Head shape as in fig. 14. Head, excluding mandibles, longer than broad, occipital lobes prominent and well rounded, separated by a broad and deep excision; a furrow present, starting from the frontal area to the occipital excision. Frontal area depressed and bearing a median longitudinal striation. Clypeus with a weak median carinae which is continuous with the frontal area striation; anterior border of clypeus with a shallow weak emargination; frontal carinae divergent; anterior ventral margin of the head without teeth; scapes slender at base, thickening apically and measuring less than half the head length. Mandibles stout, strongly curved laterally and with two apical large blunt teeth, the remaining border edentate, except for a small basal tooth-like lobe. Eyes small, measuring about 0.25 mm in diameter with over 60 facets and located on the anterior third of the head.

Thorax. Seen from the side, thorax smaller than head,