indicate that this species is nocturnal. The workers were observed carrying small seeds, small insects and mites to the nest. Some majors in the chambers might be repletes since they have quite extended gasters full of liquid. Buren *et al.* (In Press) show that this species has stylized defenses against *Solenopsis* (*Diplorhoptrum*) spp.

12. Pheidole littoralis Cole

P. sitarches littoralis Cole, 1952. Ann. Ent. Soc. Amer. 45:443. - Gregg, 1958. N.Y. Ent. Soc. 66:30-39.

Type locality. Lido Beach, Sarasota, Florida

Type. A. C. collection; M.C.Z.; U.S.N.M., A.M.N.H. and W. S. Creighton collection. Both the A. C. Cole collection and W. S. Creighton collection are now at the Los Angeles County Museum of Natural History.

Range. Central Florida

P. littoralis (fig. 20) has a reddish brown head and thorax, the gaster black and shining. It differs from *P. sitarches*, *P. sitarches compestris* and *P. sitarches soritis* by the presence of deep, large piligerous foveolae on the occipital lobes which also have no distinct transverse striae.

Discussion

P. littoralis is a distinct species related to the *sitarches* complex as Cole (1952) suggested. This species was collected nesting in white sand at the Archbold Biological Research Station, where it is very common. It was found nesting side by side with *P. metallescens* and *P. adrianoi* n. sp. The colonies seem to be quite small. Digging to 50 cm deep failed to produce any brood chamber or any sexual forms. At about 10 to 20 cm deep there was always a chamber full with small grass seeds and never more than four majors. The major has a large head which is disproportional considering the small size of the rest of the body. Majors were never observed outside the nest foraging. The small black, shining workers can easily be confounded with *P. metallescens* and *P. adrianoi* n. sp. workers.

13. Pheidole megacephala (Fabricius)

Formica megacephala Fabricius, 1793. Ent. Syst. 2:361.

P. megacephala Emery 1921. Gen. Insect. Fasc. 174, p. 85. - Phillips 1934. (Hawaii Univ.) Expt. Sta. Pineapple Prod. Coop. Assoc. Bul. 15:5-12. - Smith, 1936. Puerto Rico Univ., Jour. Agr. 20:843-844. - Broekhuysen, 1948. Union So. Africa Dept. Agr. Bul. 266:1-40. - Smith, 1951. Cat. Hym. Am. No. of Mex. U.S.D.A. Mon 2:803. - Wheeler and Wheeler, 1953. Ent. Soc. Wash., Proc. 55:75. - Brown, 1958. Act. Hym. 1:47. - Gregg, 1958, N.Y. Ent. Soc. 66:23. - Brown, 1959. Bul. Ent. Res. 50:523. - Weber, 1960. Ent. Soc. Wash., Proc. 62:232. - Taylor and Wilson, 1961. Psyche 68:143. - Kempf, 1962. Studia Ent. 5:18-19. - Haskins and Haskins, 1965. Ecology of 46:737. - Wilson and Taylor, 1967. Pacific. Insects Monog. 14:46-48. - Fluker, Huddleston, and Beardsley, 1968. Jour. Econ. Ent. 61:474. - Fluker and Beardsley, 1970. Ent. Soc. Amer., Ann. 63:1290-1296. - Kempf, 1972. Studia Ent. 15:196.

Oecophthora pusilla Heer, 1852. Stueck 66:15. - Wheeler, 1922. Bull. Amer. Mus. Nat. Hist. 45:812.

P. laevigata Mayr, 1862. Verli. Zool. - Bot. Ges. Wien 12:747. - Mayr, 1870. Vehr. Zool. - Bot. Ges. Wien 20:981.

Type locality. Isle de France (Mauritius)

Type. None in this country.

Range. This species has become a world tramp; in Florida it apparently is largely confined to South Florida.

P. megacephala (fig. 9), is a dark yellow to brownish-ferruginous species that differs from *P. morrisi* by having distinct and sharp propodeal spines. It also differs from *P. morrisi* and *P. dentata* by having a cordate head narrowing toward the mandibular insertion and the mesonotum is not distinctly transversely impressed.

Discussion

P. megacephala is a well known world tramp (Gregg, 1958). It has been present in Florida for 43 years, at least, being reported by Smith (1933) from Everglades, Key West and St. Augustine. I collected this species in downtown Homestead, Florida on November 25, 1975 nesting under a paved sidewalk and at Archbold Biological Research Station. Buren observed large colonies of this species trailing in large numbers from the colony to nearby trees (Personal Communication). Its ecological impact has been studied in relation to another world tramp, *Iridomyrmex humilis*. Flucker *et al.* (1970) reported *P. megacephala* was losing territory to *I. humilis* in Hawaii, although it did not appear to be even remotely approaching extermination. They also found that *P. megacephala* did not seem to occupy territory above 915 m, above which *I. humilis* was usually found. Dieberburg *et al.* (1975) reported that in a 7-year period *P. megacephala* did not loose much territory to *I. humilis* in Bermuda. He also reported that *P. megacephala* prefers clumped food sources and *I. humilis* prefered dispersed food sources. Based on these findings they suggested that an equilibrium between the two species was possible in Bermuda. Brown (1973) suggested that *P. megacephala* was a mortal enemy of *I. humilis* and that the latter was vanquishing *P. megacephala* outside the tropics.

In Florida the two species seem to occupy two distinct areas. *I. humilis*, although not common, occurs in the northernmost and northwest areas of the state. *P. megacephala*, also not common, occurs in the southern area of the state. In the central area of the state I was able to find only *P. megacephala*. At least in Florida the two species are not sympatric and the inability of either of them to increase must be due to some other cause, possibly competition with *Solenopsis invicta* Buren or *Solenopsis geminata* (Fabricius).

14. Pheidole metallescens Emery

P. metallescens Emery, 1895. Zool. Jahrb., Abst. of System. 8:289, 294. - Wheeler, 1908. Amer. Mus. Nat. Hist., Bul. 24:476-477. - Smith, 1930. Fla. Ent. 14:3. - Wheeler, 1932. N.Y. Ent. Soc. 40:7. - Creighton, 1950. Bull. Mus. Comp. Zool. 104:183. - Smith, 1951. Cat. Hym. Am. No. of Mex., U.S.D.A. Mon 2:803. - Gregg, 1958. N.Y. Ent. Soc. 66:23. - Wheeler and Wheeler, 1960. Ent. Soc. Wash., Proc. 62:12.

Type locality. St. George, Florida