

**A New *Solenopsis (Diplorhoptrum)* Species
 from Florida (Hym.: Formicidae)^{1,2}**

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ABSTRACT: A new species of *Solenopsis (Diplorhoptrum)* collected by subterranean trap in Florida is described. This new species closely resembles *S. (D.) carolinensis* Forel, but differs by its dark brown body, pale tan legs and ventral, postpetiolar projection.

No taxonomic progress has been made in the subgenus *Solenopsis (Diplorhoptrum)*, commonly called thief ants, for a number of years. The most recent species description was of *S. (D.) tennesseensis* (= *longiceps* preoc.) by M. R. Smith in 1942. The most recent taxonomic key for North American *S. (Diplorhoptrum)* is that of Creighton (1950) in which he tried to define members of the group and synonymized several names. Baroni-Urbani (1968) raised *Diplorhoptrum* to full generic status on the basis of the male genitalia of *S. (D.) fugax* Latreille. Baroni-Urbani's arrangement cannot be followed at present because males of most of the New World species of *S. (Diplorhoptrum)* have not been collected.

The subgenus *S. (Diplorhoptrum)* is one of 3 subgenera of *Solenopsis* in the United States. The best known subgenus is *S. (Solenopsis)* which includes, among others, the imported (*Solenopsis invicta* Buren) and native [*Solenopsis geminata* (Fabricius)] fire ants. In the United States *Solenopsis (Diplorhoptrum)* differ from *S. (Solenopsis)* by their small size and monomorphic worker caste, and from *S. (Euophthalma) globularia* by their small eyes and small, non-globular postpetiole. In addition, all *S. (Diplorhoptrum)* species have joints 2-7 of the funiculus distinctly broader than long, while in *S. (Solenopsis)* species these joints are longer than broad.

The latest compilation of *S. (Diplorhoptrum)* for North America contains 12 taxa (D. R. Smith, 1979) of which 6 species are reported from Florida. In a study of Florida *S. (Diplorhoptrum)* distribution (Thompson, 1980), 6 subterranean species and 2 arboreal species were found. A new subterranean species of *S. (Diplorhoptrum)* is described herein.

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Solenopsis (Diplorhoptrum) nickersoni n. sp.

DIAGNOSIS: A small (total length 1.2 mm), dark species similar to *S. (D.) carolinensis* (Forel, 1901) in head shape, eye characteristics, thorax and petiole shape. It is unique among Florida *S. (Diplorhoptrum)* species in being brown with pale tan legs and antennae. All other subterranean Florida species have yellow bodies and appendages.

DESCRIPTION OF WORKER: Head length 0.345 ± 0.003 mm; head width 0.30 ± 0.002 mm; head index 86 (=head width \times 100 \div head length); scape length 0.241 ± 0.003 ; scape index 70 (=scape length \times 100 \div head length); funiculus length 0.359 ± 0.004 mm; club length 0.222 ± 0.002 mm; thorax length 0.384 ± 0.004 ; body length 1.2 mm. The preceding measurements based on 18 specimens from 4 different collections.

Head longer than broad with faintly convex sides (Fig. 1B); posterior border straight or excised only in the center. Antennal scapes reaching approximately $\frac{2}{3}$ of the distance from their insertions to the occipital border. Eyes measuring 0.036 mm in longest diameter and with 2 facets. Mandibles with 4 teeth. Head dorsally flattened in profile, slightly convex ventrally.

Promesonotum and propodeum evenly convex in profile. Outline and suturing of thorax similar to *S. (D.) carolinensis*. Petiole large in profile with a prominent ventral swelling (Fig. 1C). From above (Fig. 1D), petiole has rounded sides. Postpetiole from above distinctly trapezoidal and wider than the petiole; postpetiole with sharp anterioventral projection (Fig. 1C); nodes of petiole and postpetiole equal in length.

All surfaces of the body smooth and shining. Small punctures containing hairs barely visible on head (at 80 \times); overall body sheen not interrupted. Hairs in moderate numbers on head, thorax and gaster (Fig. 1D) are shorter on the head. In alcohol, hairs on the head appear very short, but on dry specimens these hairs are seen to be subdecumbent to the head and often parallel to each other (Fig. 1B).

Head, thorax, petiole, postpetiole and gaster brown; legs and antennae pale tan contrasting sharply with the main body color.

The males and females of this species have not been collected.

This new species can be distinguished from other closely related species as follows: A brown main body color which contrasts with the light tan color of the legs. In structure it is similar to *carolinensis* including head shape, eye prominence, thoracic shape, petiole and postpetiole shape. It lacks the prominent head punctures which are typical of *pergandei*. It differs from the widely distributed species *molesta* by its uniformly brown body with pale legs and by the pointed projection on the ventral surface of the postpetiole.

Little is known of the biology of this species except that it has been collected by subterranean bait trapping in both sand pine-turkey oak woods and open field habitats. Many light trap collections have been examined, but sexuals of this new species have not been detected.

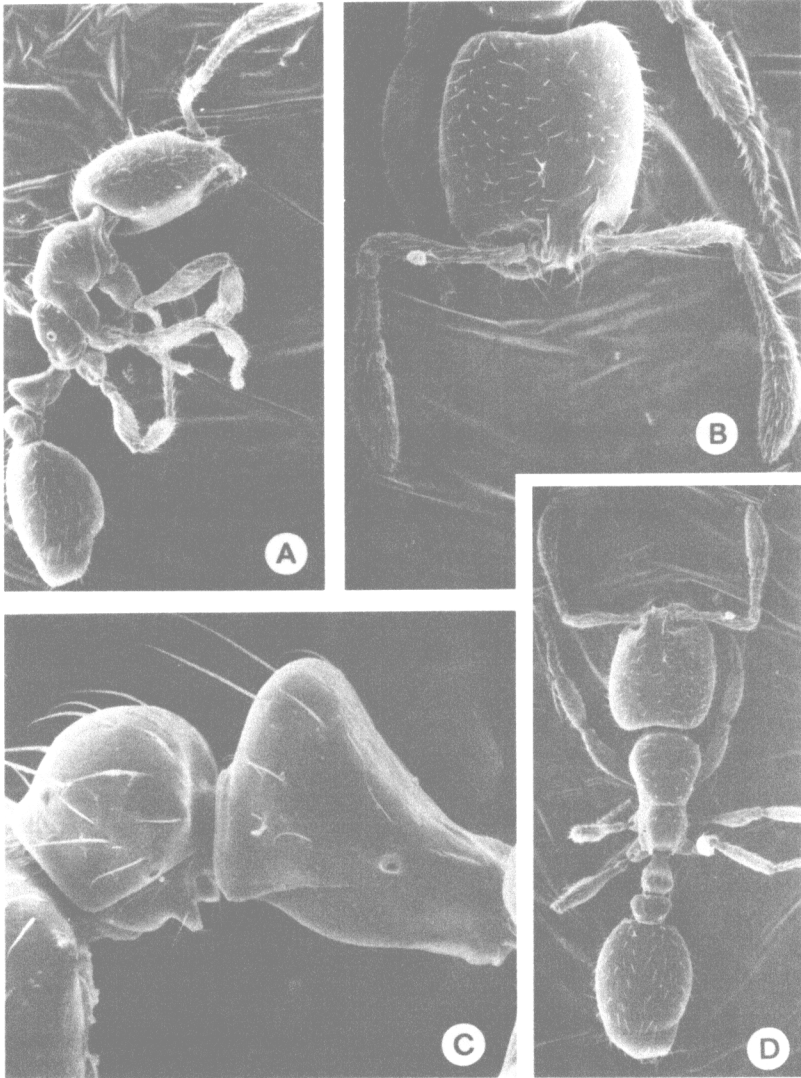


Fig. 1. Electron micrographs of *S. (D.) nickersoni* n. sp. worker in A) lateral view (75 \times), B) head (120 \times), C) petiole and postpetiole (420 \times) and D) dorsal view (65 \times).

This species is named in honor of Dr. J. C. E. Nickerson, in recognition of his contributions to myrmecology.

The holotype of this species is a worker collected by subterranean trap at the Gainesville Airport in Gainesville, Florida on July 10, 1979. Paratype

material comprises 192 workers from the same collection and workers collected from Ocala, Apopka, and Myatka State Park—known range of this species—by the author. The holotype and 95 paratypes are deposited at the Division of Plant Industry, Florida State Collection of Arthropods, Gainesville. Paratypes are also deposited in the Museum of Comparative Zoology, Harvard University, Cambridge, MA.

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