A New Species of Myrmecina (Hymenoptera: Formicidae) from Southeastern North America

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A new species of *Myrmecina* (Hymenoptera: Formicidae) from southeastern North America

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**Abstract**

A new species of ant, *Myrmecina cooperi* sp. nov. (Hymenoptera: Formicidae: Myrmecinae) is described and illustrated from specimens collected in Florida and Alabama, USA. This species is characterized by its small size (under 2 mm length), shagreened gastral tergites, and a strong ventral protrusion on the underside of the postpetiole. It is presently known from a small area in the Florida Panhandle and adjacent Alabama. Habitus illustrations and an identification key are provided for the 3 eastern species of *Myrmecina*.

Key Words: ant; southeastern endemism

**Materials and Methods**

Specimens collected by the author were extracted from leaf litter, using #2831 Berlese funnels (BioQuip Products, Inc., Gardena, California, USA). Leaf litter was brought back intact to the laboratory and sifted with a coarse screen just before extraction. A few additional specimens were sifted from litter in the field. Two specimens were extracted by other collectors, using some type of Berlese funnel. Type material was deposited in the ant collection of the Harvard Museum of Comparative Zoology (MCZ) (Cambridge, Massachusetts, USA) and the arthropod collection of the Archbold Biological Station (ABS) (Venus, Florida, USA).

*Myrmecina cooperi* Deyrup sp. nov. (Fig. 1)

**Diagnosis of Worker**

Length under 2 mm; gastral tergites minutely shagreened (nonglossy); propodeal spines short, triangular; postpetiole with a strong forward-pointing ventral protrusion, color dark reddish brown. Small size and short propodeal spines are also sometimes found in undernourished *M. americana* (Brown 1949); shagreened tergites also occasionally found in *M. americana* (Brown 1949, 1951); postpetiole with a ventral protrusion also found in another undescribed species (Fisher & Cover 2007), but that species lacks carinae on head and pro- and mesonotum, features found in both *M. cooperi* and *M. americana*.
Description of Holotype Worker (Terminology as in Bolton 1994)

Total length: 1.9 mm, head length excluding mandibles 0.51 mm, head width 0.49 mm. Color: dark reddish brown, mandibles and appendages yellow. Head: supraclypeal area smooth, frons to vertex with fine, irregular but continuous carinae, in frontal view those in median third parallel, those in lateral areas diverging posteriorly; in lateral view eye about half the length of the distance between the eye and mandibular insertion, eye with 12 facets, area between eye and mandibular insertion without distinct carinae or rugae. Mesosoma: pro- and mesonotum with 13 fine, parallel, continuous carinae, only slightly irregular, interspaces smooth, at least twice as wide as carinae; sides of pronotum with 6 irregular fine carinae, interspaces smooth; posterior area of mesopleuron and anterior area of metapleuron with 5 carinae, slightly rugose between carinae; propodeal spines triangular, shorter than anterior dorsal face of petiole. Petiole: indistinctly rugose, with 1 fine, lateral carina. Postpetiole: rugose dorsally and laterally, with a strong ventral process whose anterior border in lateral view juts forward. Gaster: tergites and sternites shagreened, dull; 1st tergite and sternite with fine, tapering subreclinate hairs.

Type Material


Queen and Male: Unknown

Etymology

Named in honor of the Robert J. Cooper family of Palm Beach, Florida, USA, in recognition of strong support for the biodiversity program of the Archbold Biological Station.

Remarks

Although the postpetiolar protrusion clearly differentiates *M. cooperi* from *M. americana*, the small size of this species is, in my experience, diagnostic as well. For this study, I examined 597 specimens of *M. americana* in the Archbold invertebrate collection without finding any specimens 2 mm long or less. These specimens include 54 specimens from the 3 Florida counties where *M. cooperi* was found. The collection of *M. americana* includes specimens from the following additional states: Alabama, Arkansas, Georgia, Kentucky, Illinois, Maryland, Missouri, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and Washington, District of Columbia. Although the number of specimens of *M. cooperi* is small, they represent 7 separate collections of specimens with the same suite of character states.

The Florida Panhandle and adjacent areas of Alabama and Georgia constitute 1 of the 6 most significant centers of biodiversity in the United States (Chaplin et al. 2000). The hardwood forests of the Florida Panhandle include relict distributions of Appalachian flora that survived the vicissitudes of the Pleistocene in riverine forests and...
steepheads (Platt & Schwartz 1990). These southern habitats were protected not only from cold during various glaciations but also from Pleistocene drought because they are on seepage slopes of sandy uplands that continue to release water even during dry periods (Platt & Schwartz 1990). Myrmecina cooperi appears to be rare enough that it would be easy to be overlooked if it had a wide range, but at present it can be considered a southeastern endemic with a restricted geographic range.

### Key to Species of Myrmecina in North America North of Mexico

1. — Postpetiole with a conspicuous forward-pointing protrusion (Figs. 1 and 3) ................................................................. 2

1'.— Postpetiole concave below, lacking a conspicuous protrusion (Fig. 2) ............................................ *americana* Emery

2.— Conspicuous parallel carinae on front of head and pro- and mesonotum; length 2 mm or less; color dark reddish brown .... *cooperi* sp. nov.

2'.— Lacking parallel carinae on front of head and pro- and mesonotum; length over 2 mm; color pale reddish brown ........................................... *Myrmecina* sp. (Fisher & Cover 2007)

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### References Cited


