

Reprinted from
 PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF WASHINGTON
 Vol. 75, No. 2, June 1973
 pp. 181-187
 Made in the United States of America

***Purchased by United States
 Department of Agriculture
 for official use***

**TWO NEW SPECIES OF ANTS OF THE GENERA TAPINOMA FOERSTER
 AND PARATRECHINA MOTSCHOUFSKY FROM PUERTO
 RICO (HYMENOPTERA: FORMICIDAE)**

DAVID R. SMITH

Systematic Entomology Laboratory, Agricultural Research Service, USDA,
 c/o U. S. National Museum, Washington, D. C. 20560

ROBERT J. LAVIGNE

Entomology Section, University of Wyoming, Laramie, Wyoming 82070

ABSTRACT—Two new species of ants from Puerto Rico are described, the worker and male of *Tapinoma resenum*, n. sp., and each caste of *Paratrechina* (*Nylanderia*) *cisipa*, n. sp.

No new species of ants have been described from Puerto Rico since M. R. Smith (1936) described *Prenolepis microps* (a species now placed in the genus *Paratrechina*). He listed and keyed 66 species of ants and referred to the previous literature concerning ants of Puerto Rico. Wolcott (1948) summarized the available information on their habits, and provided additional locality records.

During a year's sojourn (1969-1970) in Puerto Rico while working for the Puerto Rico Nuclear Center, the junior author had the opportunity to collect ants, along with other insects, at various localities around the island. Among the ants collected were 2 species not only new to Puerto Rico, but so far as we can determine, undescribed. These species, representing a new *Paratrechina* and a new *Tapinoma*, are described herein.

Tapinoma rasenum, n. sp.

fig. 1-6

Diagnosis: The vestigial petiolar node, many toothed mandibles, and male genitalia place this species in the genus *Tapinoma*. Its large size, coloration, and long antennal scapes which surpass the posterior border of the head separate this species from *melanocephalum* (Fabricius) and *litorale* Wheeler, the only other known species of *Tapinoma* from Puerto Rico, and also from other *Tapinoma* species known to us.

Holotype worker: Length, 3.1 mm; head width, 0.63 mm; head length, 0.65 mm; length of antennal scape, 0.65 mm; eye length, 0.1 mm. Head, thorax and legs pale yellow with head slightly darker; gaster light gray. Moderately shining with vestiture of moderately appressed white pubescence; without erect hairs except for row on posterior margin of each segment of gaster and row on anterior clypeal margin.

Antennal scape surpassing posterior margin of head by distance equal to length of first 2 funicular segments; antenna 12-segmented. Eye small, its length equal to $\frac{2}{3}$ distance between mandibular insertion and eye: 9 facets in greatest diameter and 6 facets in shortest diameter. Clypeus broadly, circularly, and very shallowly emarginated on central $\frac{1}{3}$ of anterior margin. Maxillary palpus long, 6-segmented. Each mandible with 4 large apical teeth and 10 to 12 smaller basal teeth. Thorax evenly curved in profile, interrupted only by shallow mesoepinotal depression. Petiole a slender stalk, without dorsal node. Anal slit ventropical.

Female: Unknown.

Paratype male: Length, 3.9 mm; head width, including eyes, 0.73 mm; head length, 0.6 mm; eye length, 0.31 mm; length of antennal scape, 0.6 mm; forewing length, 3.6 mm. Color pale yellow, head slightly darker; gaster pale gray; genitalia reddish brown; interocellar area black; dorsum of thorax with 2 submesal light gray longitudinal lines. Moderately shining with vestiture of moderately appressed whitish pubescence; erect hairs only on clypeus, apical sternite and genitalia.

Antenna 13-segmented; length of scape equal to first $4\frac{1}{2}$ funicular segments; all funicular segments longer than broad. Each mandible long, with 25 or more small teeth, all of similar size. Anterior border of clypeus without emargination. Eyes large, oval, greatly protruding from side of head in frontal view; ocelli large. No Mayrian furrows. Forewing with radial and cubital cell, no discoidal cell. Petiole low, stout, without dorsal node. Cerci short. Genitalia prominent; parameres separated, each large and rectangular; volsella with triangular lateral flap with many erect hairs and with 2 spinelike inner processes; penis valve pointed at apex, ventral margin with 15 long, curved spines. Ninth sternite densely clothed with hairs, with apical triangular projection at center.

Holotype: Worker, Maricao Forest Reserve, Rte. 120 (K5, H2), Puerto Rico, 18 March 1970 (R. J. Lavigne), Type No. 72174 in the United States National Museum (USNM).

Paratypes: All from same nest sample as holotype, 310 workers, 54 males including male described above. In USNM, University of Wyoming, and University of Puerto Rico, San Juan.

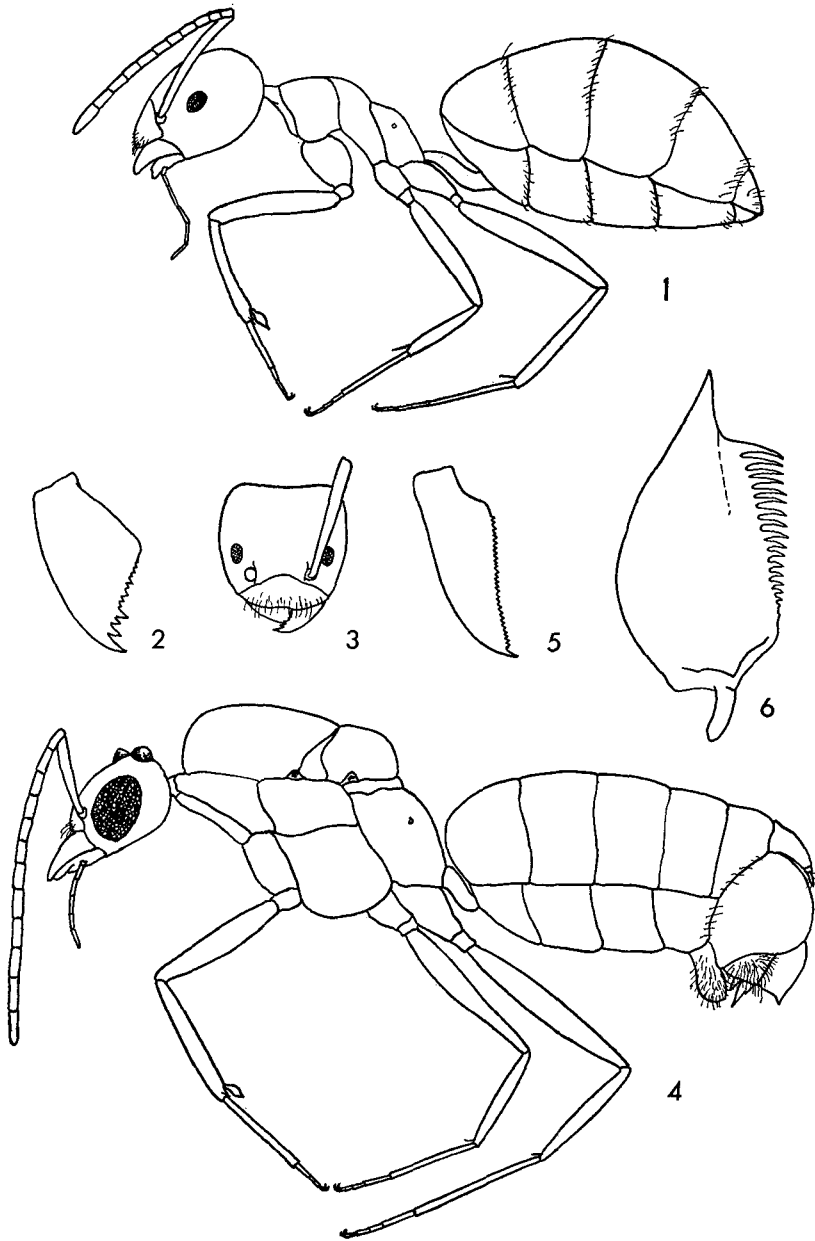


Fig. 1-4. *Tapinoma rasenum*. 1, worker. 2, worker mandible. 3, worker head, front view. 4, male; 5, male mandible. 6, male penis valve.

Habitat: The ants were located on a dead limb of a living tree of unknown species (3' hgt.) on the mountainside just over the edge of an embankment. The ants had established their colony under the bark of the dead limb apparently by using tunnels and chambers originally constructed by termites or carpenter ants. The colony was first discovered during March and workers were collected by pounding on the limb with a steel knife, which elicited an alarm reaction. Pieces of bark were removed from the limb and chambers containing winged males, larvae, and pupae, both worker and reproductive, were uncovered. Eleven large and 3 medium sized workers of *Camponotus ustus* Forel were collected from the same chambers as *T. rasenum* workers when the nest was examined again on 27 May 1970.

Discussion: There was little variation in the nest sample examined; the gaster of both the worker and male was pale gray to almost black.

The species name is an arbitrary combination of letters and is to be treated as a noun.

Paratrechina (Nylanderia) cisipa, n. sp.

fig. 7-12

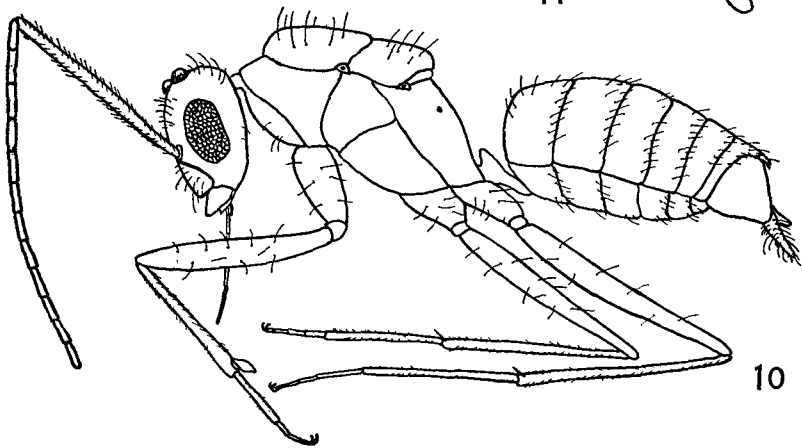
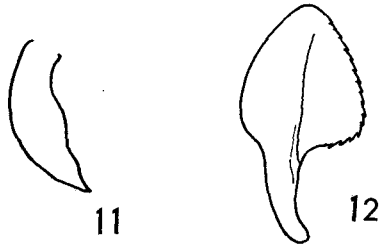
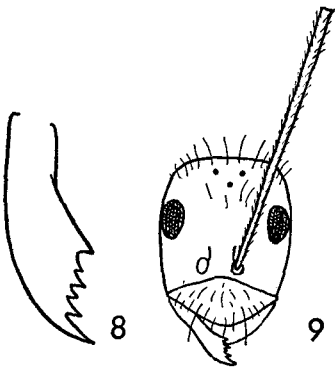
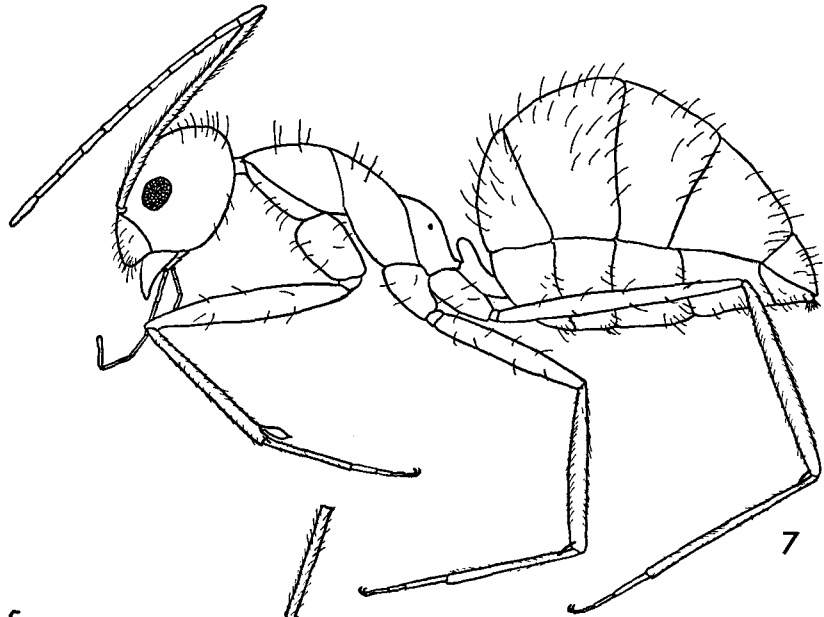
Diagnosis: The long antenna of *P. cisipa* resembles that of *Paratrechina (Paratrechina) longicornis* (Latreille), but we are placing this species in the subgenus *Nylanderia* because of the 6-toothed mandibles and presence of suberect hairs on the antennal scapes and tibiae. It is separated from other species of *Nylanderia* by the long antenna, suberect hairs on all surfaces of the antennal scapes and tibiae, presence of 2 pairs of macrochetae on the pronotum, and the pale yellow coloration. By these characters it is distinguished from *fulva* (Mayr), *vividula* (Nylander), *steinheili* (Forel), and *microps* (M. R. Smith), the only other species of this subgenus known from Puerto Rico. The large eyes will also separate *cisipa* from *microps*.

Holotype worker: Length, 3.3 mm; head width, 0.6 mm; head length, 0.7 mm; length of antennal scape, 1.1 mm; eye length, 0.19 mm. Head, thorax and legs pale yellow, head slightly darker; gaster pale gray, darker than head and thorax. Shining, with dilute, whitish, appressed pubescence; antennal scape with suberect, whitish hairs on all surfaces, not bristlelike as other erect hairs of head and body; macrochetae of head mostly on clypeus, frons and vertex; pronotum with 2 pairs of macrochetae, mesonotum with 2 pairs of macrochetae; each femur with few macrochetae, mostly on inner surfaces; each tibia with fine, suberect hairs on all surfaces, similar to those of antennal scapes; macrochetae on gaster rather evenly distributed on segments.

Antenna 12-segmented; scape long, surpassing posterior margin of head by nearly ½ its own length. Eye with about 11 facets in greatest diameter, 8 facets in shortest diameter; separated from mandibular insertion by distance of about

→

Fig. 7-12. *Paratrechina (Nylanderia) cisipa*, 7, worker. 8, worker mandible. 9, worker head, front view. 10, male. 11, male mandible. 12, male penis valve.



1¼ its greatest diameter. Clypeal border entire, not emarginated; each mandible with 6 teeth; maxillary palpus long, 6-segmented; ocelli distinct. Thorax in profile with mesonotum and pronotum evenly curved; meso-epinotal depression distinct. Petiolar node distinct, inclined.

Paratype female: Length, 5.7 mm; head width, 0.8 mm; head length, 0.7 mm; length of antennal scape, 1.1 mm; eye length, 0.31 mm; eye width, 0.21 mm; forewing length, 5.5 mm. Mostly pale, dirty yellow to orange with gaster a little darker than head and thorax and antenna and legs nearly whitish. Faintly shining, somewhat dulled by appressed whitish pubescence. Bristlelike macrochetæ absent. Suberect hairs present on all surfaces of each antennal scape and tibia; longer erect hairs moderately abundant on head, thorax and gaster and a few on inner surface of each femur.

Antenna 12-segmented; scape long, surpassing posterior margin of head by nearly ½ its own length. Distance between mandibular insertion and eye slightly less than greatest eye length. Forewing with a radial and a cubital cell; no discoidal cell. Most other features as for worker.

Paratype male: Length, 2.6 mm; head width, 0.5 mm; head length, 0.5 mm; length of antennal scape, 0.9 mm; eye length, 0.21 mm; eye width, 1.8 mm; forewing length, 2.8 mm. Pale yellow with head and gaster a little darker than thorax. Moderately shining, somewhat dulled by whitish appressed pubescence. Suberect hairs on all surfaces of each antennal scape and tibia. Macrochetæ short, mostly confined to clypeus, frons, vertex of head, dorsum of thorax, posterior margin of each segment of gaster, each coxa, and few on inner surface of each femur.

Antenna 13-segmented; scape long, surpassing posterior margin of head by ½ its own length; funicular segments each longer than broad; scape equal to length of first 5 to 6 funicular segments combined. Anterior border of clypeus entire; each mandible narrow and curved, pointed at apex, without teeth. No Mayrian furrows. Forewing with radial and cubital cell; no discoidal cell. Petiolar node present, inclined; base of gaster with impression for reception of petiole. No cerci. Genitalia rather prominent; parameres fused, apically slender, digitform; with hairs; volsella with 2 digitform processes; penis valve oblong, with serrated ventral margin.

Holotype: Worker, Luquillo Experimental Forest, El Verde Field Station (PRNC), Puerto Rico, 1500' alt., 1 July 1970 (R. J. Lavigne), Type No. 72175 in USNM.

Paratypes: All from same nest sample as holotype, 415 workers, 9 females, 5 males, including male and female described above. In USNM, University of Wyoming, and University of Puerto Rico, San Juan.

Habitat: The colony was established inside a hollow in the trunk of a living tree (*Roystonea borinquena* O. F. Cook) at a height of 4 feet. The hollow was partly filled with sawdust and/or frass, and the workers had constructed tunnels within. The colony was composed of several hundred workers, probably exceeding a thousand.

Discussion: Little variation is present in the specimens from the nest sample examined.

The species name is an arbitrary combination of letters and is to be treated as a noun.

REFERENCES

- Smith, M. R. 1936. The ants of Puerto Rico. *J. Agric., Univ. Puerto Rico* 20 (4): 819-875.
- Wolcott, G. N. 1948. Formicidae; ANTS, p. 810-839. *The Insects of Puerto Rico — Hymenoptera*. *J. Agric., Univ. Puerto Rico* 32 (4): 749-975.