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REDESCRIPTION OF THE ANT *ECTATOMMA CONFINE* MAYR, 1870 (HYMENOPTERA: FORMICIDAE) AND FIRST RECORD FOR COLOMBIA¹

Tania M. Arias-Penna²

ABSTRACT: *Ectatomma confine* Mayr, 1870 is redescribed and illustrated. This is the first record of the species for Colombia and the first record since the original description.

KEY WORDS: Formicidae, "poneromorph," Ectatomminae, Ectatommini

Bolton (2003) divided the family Formicidae into 21 extant and 4 extinct subfamilies, arranged into six subfamily groups. The genus *Ectatomma* Fr. Smith, 1858, belongs in the "poneromorph" subfamily group, and it is placed in the subfamily Ectatomminae and the tribe Ectatommini.

Ectatomma is confined to the American tropics, where it is abundant and conspicuous in various warm habitats. The species appear to be generalized predators of a variety of small arthropods and earthworms, and they also forage on fallen fruits, nectar, juices from plant sources, and hemipteran secretions (Weber, 1946).

Ectatomma was revised by Brown (1958), who offered a key to the species and indicated several problems that could be solved only when more material was examined. Kempf (1962, 1967) discussed and resolved some of the problems outlined by Brown (1958), but the identity of *E. confine* Mayr, 1870 among other species has remained uncertain. Kugler and Brown (1982) recognized 12 species of Neotropical *Ectatomma* and provided an improved key for species on the basis of the worker caste. Based on examination of numerous specimens from different collections and on the study of *Ectatomma* types, Kugler and Brown (1982) described and synonymized several species. The Central American species, misidentified previously as *E. confine*, was named *E. gibbum* Kugler and Brown, 1982, solving one of the taxonomic doubts outlined by Brown (1958). In their revision Kugler and Brown (1982) considered *E. confine* as a close relative of *Ectatomma ruidum* Roger, 1861 and possibly only an extreme variant of this species. According to these authors, *E. confine* is essentially the same as *E. ruidum*, but differs in the processes of the alitrunk. They suspected that the *E. confine* type series represents a single nest or locality-series of *E. ruidum* with moderately hypertrophied alitrunk processes. The type locality of *E. confine* is "New Granada" (originally given as "Neu-Granada" by Mayr 1870:371), a place that originally embraced a large part of northern South America, including part or all of the present Venezuela, Colombia, Panama and Ecuador.

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Recently the Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH) of Colombia has implemented the project "Hormigas Cazadoras de Colombia," whose objectives are to strengthen and to increase the knowledge of the "poneromorph" subfamilies of the country. As part of this project, the collections of different universities of Colombia have been revised.

This paper offers a redescription of *E. confine* based on newly collected material from Boyacá, Colombia. Specimens of *E. confine* and *E. ruidum* from the same locality in Boyacá were examined, to establish differences among the species. The specimens of *E. confine* examined are from different pitfall trap samples and represent series corresponding to different nests.

SYSTEMATIC ENTOMOLOGY

Ectatomma confine Mayr, 1870 (Fig. 1)

Worker. Measurements: TL 8.65-9.60, HL 1.90, HW 1.50-1.60, (CI 79-84), ML 1.05-1.16 (MI 55-61), eye L 0.50-0.55, apical antennomere L 0.46-0.52, SL 2.10-2.20, (SI 130-140), WL 3.35-3.45, petiole L 0.75, hind femur L 3.13-3.15 mm. n=3, the measurements and abbreviations follow Kugler and Brown (1982).

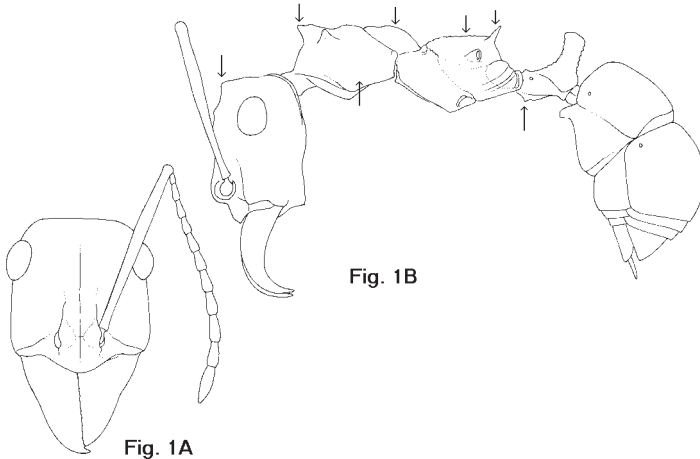


Fig. 1. *Ectatomma confine*. A. Head, frontal view. B. Habitus, left side view, legs omitted. Arrows point to the most diagnostic features as discussed in the text.

Head slightly narrowed posterad in full face view, with prominent convex eyes (Fig. 1A). Head has angulated anterodorsal margins in lateral view (Fig. 1B). Posterior vertex with strong convex transverse crest, weakly indented medially; posterad of crest are 4-5 fine transverse rugulae or costulae and 1-2 fine arched costulae.

Median and lateral pronotal prominences distinctly large and acute in both front and side views; in lateral view, dorsal face of median pronotal eminence lightly convex, anterior face oblique, descending posteriorly; length of median pronotal eminence approximately equal to apical antennal segment and width approximately as long as first antennal segment; lateral pronotal prominences slightly concave and subtriangular. Pronotum slightly longer than high in side view. Mesonotum lightly convex in side view, length of mesonotum three times height. Propodeal anterior face nearly straight in lateral view, paired propodeal teeth, acute and distinctly longer than orifice of propodeal spiracle.

Petiolar node thick in side view, anterior 1/3-1/2 of anterior nodal face smooth and shining, subpetiolar process slightly produced as a triangular lobe.

First gastric tergum transversely costulae, with some arched costulae in the anterior part, remaining tergum strigate-rugose; second gastric tergum with very fine, dense, transverse and oblique striolation.

Body dark brown with coarse piligerous punctures, with light yellowish brown legs.

Specimens examined: One worker, COLOMBIA, Boyacá, Mun. Pto. Boyacá, Inspección Pto. Romero Sector La Fiebrequita 5°58'42"N/ 74°35'23"W, 144 m, pitfall trap, 28.iv.2001 Col. G. Amat (ICN-Hym-4005). 1 Worker, Boyacá, Mun. Pto. Boyacá, 5°58'42"N/ 74°35'23"W, 630 m, pitfall trap, 23.iv.2001. Col. I. Arévalo. ICN-Hym-4006. 1 Worker, Boyacá, Mun. Pto. Boyacá, 5°58'42"N/ 74°35'23"W, 630 m, pitfall trap, 23.iv.2001. Col. I. Arévalo. IAvH 41762.

Two specimens are deposited at the Instituto de Ciencias Naturales (ICN), Universidad Nacional de Colombia, Bogotá D. C., Colombia, and the third in the Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH), Villa de Leyva, Boyacá, Colombia.

***Ectatomma ruidum* Roger, 1861 (Fig. 2)**

Worker. Measurements: TL 7.89-8.95, HL 1.65-1.80, HW 1.34-1.40, (CI 77.77-81.81), ML 0.80-1.05 (MI), eye L 0.45-0.53, apical antennomere L 0.40-0.43, SL 1.60-1.85, (SI 118.51-134.55), WL 2.53-2.95, petiole L 0.60-0.73, hind femur L 2.30-2.65 mm. n=5,

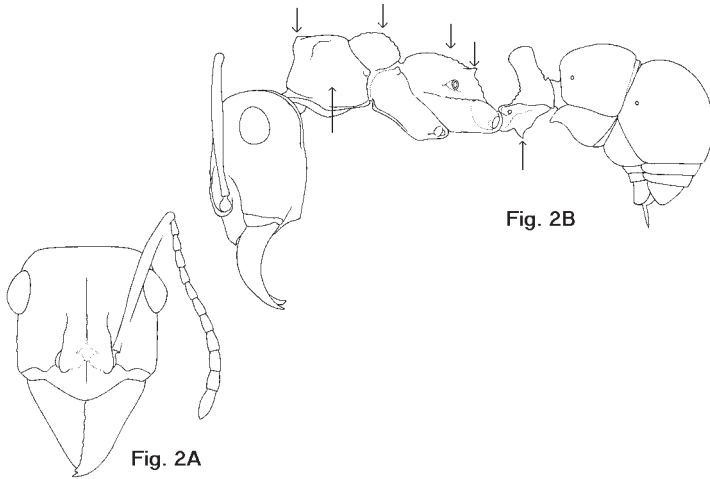


Fig. 2. *Ectatomma ruidum*. A. Head, frontal view. B. Habitus, left side view, legs omitted. Arrows point to the most diagnostic features as discussed in the text.

Head with prominent convex eyes in lateral view, anterodorsal margins rounded (Fig. 2A). Posterior vertex with two weak crests or projections; behind each crest are 3-4 very weakly transverse rugulae or costulae.

Median and lateral pronotal prominences distinctively short and blunt in both front and side views. Pronotum subquadrate in lateral view, dorsal face of median eminence slightly straight. In dorsal view, apex of median pronotal eminence evenly rounded and laterally oblique; lateral pronotal eminence subtriangular. Mesonotum convex in side view, its length two times height (Fig. 2B). Anterior propodeal face rounded in side view; paired propodeal teeth triangular, not longer than orifice of propodeal spiracle (Fig. 2B).

Petiolar node thick in side view, anterior 1/3-1/2 of anterior nodal face smooth and shining, posterior region transversely costulae; subpetiolar process produced as triangular lobe.

First tergum transversely costulae, remaining tergum strigate-rugose, second gastric tergum with very fine, dense transverse and oblique striolation.

Body with coarse piligerouse punctures, dark brown or black, and with light yellowish brown legs.

Specimens examined: Three workers, COLOMBIA, Boyacá, Mun. Pto. Boyacá, Inspección Pto. Romero. El Oasis 5°58'42"N/ 74°35'23"W, 650 m, coprotrampa, 25.iv.2001. 1 worker, Boyacá, Mun. Pto. Boyacá, Inspección Pto. Romero. Fca. Puracé 5°58'42"N/ 74°35'23"W, 350 m, 25.iv.2001. 1 Worker, Boyacá, Mun. Pto. Boyacá, Inspección Pto. Romero. Sector dos Quebradas.

5°58'42"N/ 74°35'23"W, 144 m, 23.iv.2001. Col. I. Arévalo. The specimens are deposited at the Instituto de Ciencias Naturales (ICN), Universidad Nacional de Colombia.

DISCUSSION

Ectatomma confine was reported incorrectly to occur in Brazil by Mann (1916), which was followed by Brown (1958). In this same work Brown incorrectly identified Central American material as *E. confine*. Kugler and Brown (1982) subsequently identified these specimens as a new species, *E. gibbum*. In the present paper *E. confine* is reported for Colombia, representing the first exact locality of this species as well as the first record since the original description. *E. confine* is morphologically very similar to *E. ruidum*, as already pointed out by Mayr (1870), but comparing specimens of *E. confine* and *E. ruidum* from the same locality, it is evident that *E. confine* is very constant in its morphology and clearly differentiated from *E. ruidum*. Although only three specimens of *E. confine* were studied, the dimensions are generally significantly larger than in *E. ruidum*.

E. confine has a large, protruding medial pronotal prominence whereas this process is poorly developed in *E. ruidum*. Additionally the lateral prominences are large and protruding in *E. confine*, much less so in *E. ruidum*. In *E. confine* the mesonotum is slightly convex and the length of mesonotum is 2.20mm in the syntype from MCZ, 3X its height (Fig. 1B), while *E. ruidum* has the mesonotum more convex and the length is two times its height (Fig. 2B). *E. confine* presents the dorsal face of propodeum almost straight and the processes of the alitrunk, i.e., median and both lateral pronotal prominences and the paired propodeal teeth, are distinctly larger and more acute than in *E. ruidum*. *E. confine* has the petiolar node narrow in syntype from MCZ, especially in middle that *E. ruidum* in side view. In *E. ruidum* the subpetiolar process is more produced as a triangular lobe than in *E. confine*.

The specimens of *E. confine* examined come from different samples and represent at least two different nests. The constancy of the diagnostic characters is here considered an argument against Kugler and Brown's (1982) suggestion that the *E. confine* type series represents a single nest or locality series of *E. ruidum* with extreme variation in the truncal processes.

Mayr (1870) described *E. confine* without stating the exact number of specimens, yet it is evident from the range in body length that more than one specimen was studied. Thirteen specimens unequivocally labeled as original types are deposited in the Naturhistorisches Museum in Vienna (12 in very good condition and one with the gaster broken and glued to the locality label), and a single syntype worker specimen is now in the Museum of Comparative Zoology at Harvard University (MCZ). Kugler and Brown (1982), who did not designate a lectotype, gave the measurements of the syntype worker specimen in the MCZ as follows:

TL 8.7, HL 1.88 HW 1.54 (CI 82), ML 0.59 (MI 31), eye L 0.48, apical antennomere L 0.47, SL 1.98 (SI 129), WL 3.08, petiole L 0.66, hind femur L 2.87 mm. The range of measurements of the specimens reported here from Colombia are very similar to those reported by Kugler and Brown (1982) for the MCZ syntype. This supports the status of *E. confine* as a distinct species separate from *E. ruidum*.

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