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PROCEEDINGS

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NEW ENGLAND ZOÖLOGICAL CLUB

A NEW EMERYELLA FROM PANAMA

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FOREL in 1901 described an extraordinary Ponerine ant as *Emeryella schmitti*, from a single worker specimen taken in Haiti and received from Rev. Jerome Schmitt, O. S. B.[1] In 1912 and 1913 several workers and males of this insect were taken on three occasions in two Haitian localities by Dr. W. M. Mann, and a description of the two castes, together with his ethological notes, was published in 1914 in our paper on the ants of Haiti.[2] He found the colonies nesting in the ground under stones, and noticed that the workers prey largely, if not exclusively, on myriopods. The absence of any record of the occurrence of *Emeryella* on the American continent and its rarity even in Haiti seemed to distinguish it as an ancient, aberrant, relict representative of the tribe Ectatommini, surviving only on one of the Greater Antilles. That the genus does occur on the mainland, is now shown by a single deälated female which I find among a number of Formicidae collected by Mr. Nathan Banks during the summer of 1924 on Barro Colorado Island, Panama. The specimen is sufficiently different from the Haitian species, however, to constitute the type of a new subgenus, which I dedicate to my friend Dr. Thomas

[1] A. Forel, Variétés Myrmecologiques. Ann. Soc. Ent. Belg., 45, 1901, p. 334.

[2] W. M. Wheeler and W. M. Mann. The Ants of Haiti. Bull. Amer. Mus. Nat. Hist., 33, 1914, p. 8, figs. 2 and 3.

Barbour, to whose enthusiasm, energy and resourcefulness we owe in great part the present flourishing condition of the Tropical Laboratory on Barro Colorado Island.

Subgenus **Barbourella** subgen. nov.

Female. Differing as follows from the female of *Emeryella*, which is unknown but whose characters can be inferred from those of the worker: Mandibles not longer than the head, with their largest tooth at the middle instead of at the base of the blades. Clypeus shorter, narrower behind. Frontal carinae more approximated, with larger and more horizontal lobes; frontal area more distinct. Second funicular joint of antennae not longer than the first. Epinotum and hind coxae dentate instead of being unarmed as in Emeryella. Antennae and legs shorter. Sculpture much coarser and less regular.

Subgenotype: *Emeryella* (*Barbourella*) *banksi* sp. nov.

Emeryella (Barbourella) banksi sp. nov.

Female (deälated). Length nearly 8 mm.

Head subrectangular, distinctly broader than long, but not as broad as in *E. schmitti*, only slightly broader in front than behind, the posterior border feebly and broadly concave, the sides nearly straight, with the eyes at the middle. The latter rather small for a female, moderately convex, broadly elliptical. Ocelli very small and close together. Clypeus short, vertical, rounded behind; its anterior border straight and transverse in the middle, bluntly dentate and sinuate on each side. Mandibles shaped as in *E. schmitti*, but much shorter and less narrowed toward their tips, the median tooth broad and triangular, the apical denticles more distinct. Antennal scapes curved at the base, their tips reaching beyond the posterior corners of the head to a distance equal to their greatest diameter; funicular joints 1 and 2 subequal, twice as long as broad, 3–10 shorter, about one and one half times as long as broad, terminal joint slightly longer than the two preceding joints together. Thorax twice as long as broad, broader in front than behind, with straight sides. Pronotum narrower than the head, with broadly rounded humeri; mesonotum small, subtriangular, the base of the triangle broadly rounded, the apex extending forward as a blunt point embraced by the pronotum. Scutellum small and rather flat. Mesosternum with a distinct, acute denticle just in front of the insertion of the middle coxa. This denticle is also present in *E. schmitti*. Epinotum higher than long, its base feebly convex, about twice as broad as long and separated from the somewhat

longer, distinctly concave declivity by a distinct transverse ridge connecting the two teeth but not interrupting the sculpture. The teeth are small, slightly longer than broad, very blunt, directed backward and outward. Petiole from above as broad in front as behind, with nearly straight sides, convex and rounded behind; in profile it is shaped much as in *E. schmitti*, being without a peduncle and with the dorsal surface of the node convex and gradually rising and then rather abruptly but roundly trunctated near the posterior border of the segment. The ventral surface

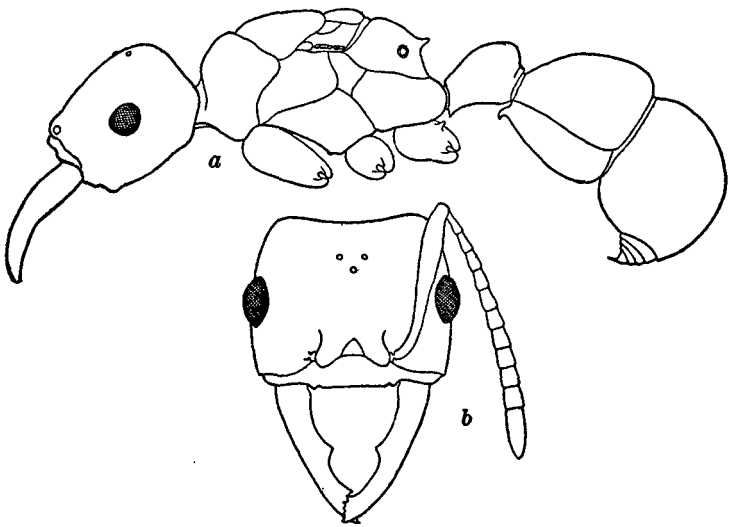

FIGURE 1. *Emeryella (Barbourella) banksi* sp. nov.

of the petiole is feebly concave, with a strong, translucent tooth at the anterior end, directed downward and forward. Postpetiole and gaster very small, together slightly smaller than the thorax, shaped as in *E. schmitti*; the postpetiole as long as broad, campanulate, with a strong, transverse, antero-ventral projection; the first gastric segment longer than broad, directed downward and somewhat forward at its posterior end, which is constricted and encloses the remaining very small, short, telescoped terminal segments. Sting small and slender. Hind coxae with a prominent blunt tooth on the dorsal surface near the base. Tarsal claws slender and dentate in the middle as in *E. schmitti*.

Shining throughout, the scapes and legs somewhat more so than the body. Mandibles coarsely, longitudinally striate, with large elongate punctures between the striae; clypeus, frontal area and antennal foveae rather regularly longitudinally rugose; head coarsely rugose, irregularly and vermiculately behind, somewhat more longitudinally on the front. The rugae are rounded, the spaces between them coarsely foveolate on the vertex and posterior corners, more indistinctly reticulate anteriorly; occiput with a few coarse subtransverse rugae. Anterior impressed portion of pronotum transversely and irregularly rugulose; remainder of pronotum, the mesonotum and scutellum longitudinally and rather regularly subcostate, or coarsely rugose, with coarse elongate, foveolate interrugal punctures; mesopleurae and sides of epinotum with similar but somewhat finer and more irregular or anastomosing sculpture. Base of epinotum coarsely rugose-reticulate on the sides, medially with seven sharp, longitudinal rugae which are continued down over the declivity. Petiole transversely and irregularly rugose; dorsal surface of postpetiole sculptured somewhat like the head, but the rugae are distinctly longitudinal and radiate from the base; the ventral surface more finely, transversely and arcuately rugose. Dorsal surface of first gastric segment with even stronger sculpture, so that it may be described as undulately costate, the intercostal spaces being wider and crossed by feeble rugae, or rugules; the ventral surface vermiculately rugose. Remaining gastric segments transversely shagreened. Coxae sharply and transversely rugose. Scapes and legs with sparse, coarse, piligerous punctures.

Hairs bristly, glistening, yellowish or grayish, erect or suberect, moderately long and abundant, more numerous on the legs, shorter on the scapes. Hairs along the inner borders of the mandibles shorter and less numerous than in *E. schmitti*.

Black. Mandibles, antennae and legs dark red; terminal gastric segments golden reddish yellow; borders of the large subcircular epinotal spiracles ivory yellow; tegulae more piceous.

Described from a single specimen (type, no. 16,177, Museum of Comparative Zoölogy), taken July 24, 1924, by Mr. Nathan Banks within a short distance of the Tropical Laboratory on Barro Colorado Island, Panama, probably running over the ground.

This ant, which is interesting as confirming the supposed connection between the Central American and Antillean faunas, has probably been overlooked by collectors, not only on account of its rarity, but also because in the field it must closely resemble another Ponerine of the same tribe, size and

coloration, namely *Ectatomma ruidum* Roger, a very common species of the jungle floor in Panama and other tropical American countries. There seems to be little doubt that both *Emeryella schmitti* and *E. banksi* are the last dwindling survivors of a once vigorous line of Ectatommini. Other genera of the same tribe, concerning which the same statement may be made, are Emery's genus *Alfaria*, represented by three very rare species in Costa Rica, Colombia and Bolivia, *Opisthoscyphus* Mann, with a single species in Honduras, *Paranomopone* Wheeler, with a single species in Australia, and *Acanthoponera* Mayr, represented by several sporadically distributed species in New Zealand, Australia, South and Central America. In the case of *Emeryella* we actually can detect certain interesting resemblances to fossil forms. Carpenter[1] has recently described a large worker Ponerine from the Miocene shales of Florissant, Colorado, as *Archiponera wheeleri*, and regards it as closely related to the living genera *Streblognathus* of South Africa and *Dinoponera* of South America. In my opinion, however, *Archiponera* is even more closely related to *Emeryella* and especially to its subgenus *Barbourella*. It is probable that the peculiar ribbed, or coarsely rugose gastric sculpture of *Emeryella* is an archaic character. Though rare in living ants, such as certain species of the obviously very ancient paleotropical Ponerine genus *Bothroponera*, this type of sculpture occurs even in certain fossil Myrmicines, as for example, in *Agroecomyrmex duisburgi* Mayr of the Baltic amber (Lower Oligocene) and *Lithomyrmex rugosus* Carpenter from the Miocene shales of Colorado. In *Agroceomyrmex* we find also the curiously deflected tip of the gaster so characteristic of the Ectatommini and Proceratini among the Ponerinae.

[1] F. M. Carpenter. The Fossil Ants of North America. Bull. Mus. Comp. Zoöl., 70, 1930, p. 27, pl. 1.