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Bol. Ent. Venez.
Vol. II (2), 1943

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NEW ANTS FROM VENEZUELA AND NEIGHBORING COUNTRIES

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The following ants were taken in Venezuela, Trinidad, B. W. I., British Guiana, Surinam and the Panama Canal Zone. They are mostly described at this time in order to use their names in non-taxonomic biological studies.

The new *Pogonomyrmex* (*Ephebomyrmex*) from Venezuela is of particular interest in that it bridges the considerable gap in the distribution of these harvesting ants between Guatemala and southern Brazil, Bolivia and Chile. British Guiana is also added to the range through the occurrence of a form, closely related to the Venezuelan species, on the Rupununi Savannahs. The members of this genus and subgenus occur from Texas to Uruguay and Argentina but intermediate records are rare. They are animals of the desert or dry plains and are represented in the Old World by the Biblical harvester, *Messor*, very common in Africa, Southwestern Asia and neighboring regions.

The distinctness of the Venezuelan and British Guiana *Ephebomyrmex*, like the distinctness of two fungus-growing ants from the same two localities (*Acromyrmex* (*Moellerius*) *balzani*, subspecies *planorum* and *myersi* Weber), presents a problem. It would seem that the Venezuelan llanos immediately north of Ciudad Bolívar and the Rupununi Savannahs in British Guiana, although not separated greatly in space, must either afford different ecological niches or have been long separated by other barriers. The Sierra Pacaraima may well be a more important barrier than the rivers between the localities.

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The new *Leptothorax*, from a bat cave in Venezuela and sent by Mr. Pablo J. Anduze, is particularly striking in coloration, sculpturing and large size. It does not appear to have especial morphological adaptations to life in a cave.

The tree ants, *Dendromyrmex*, are rarely seen nocturnal ants living in arboreal carton nests and will undoubtedly be found in Venezuelan Guiana although those here described are from Panama, British Guiana and its boundary with Surinam.

ECITON

Eciton (Neivamyrmex) angustinode Emery, *haskinsi* ssp. nov.

Worker. Extended length 2.9-3.5 mm. (thorax, excluding "neck", 0.9-1.1 mm.) Meso-epinotal suture in side view indicated feebly by the change in the slight convexity of the promesonotum passing into the almost plane epinotum. Eyes faintly indicated by a pale spot 0.029 mm. in diameter in the maxima worker. Smooth and shining except for coarse piligerous punctations and an epinotum which is striate-punctate, the striae extending anteriorly on the thoracic sides above all coxae and on the petiole. Pilosity of scattered, long, fine, yellowish hairs. Rich brown, gaster distinctly, and pedicel less distinctly, paler.

Described from workers found in high rain forest on the slopes of Morne Bleu in the Northern Range of Trinidad, B. W. I. June 23, 1935 (N° 209.2) by my companion, Dr. C. P. Haskins. The ants were exploring tunnels in rotted wood of old stumps.

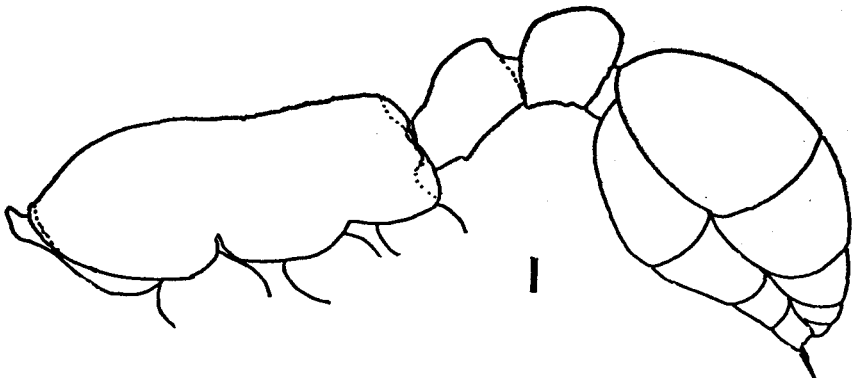


Fig. 1.—Worker of *Eciton (Neivamyrmex) angustinode* ssp. *haskinsi*, ssp. nov.

Differing from the typical *angustinode* in possessing a postpetiole which is broader, when viewed from above, a head much longer with distinctly longer antennal scapes, the meso-epinotal suture much less marked and the body more shining, having a less coarse sculpturing. Differing from cotypes of the subspecies *emersoni* Wheeler in possessing a less marked meso-epinotal suture and a less trapezoidal postpetiole when viewed from above. In general habitus resembling cotypes of *N. adnepos* Wheeler but much larger and darker with a meso-epinotal suture less distinct.

POGONOMYRMEX

Pogonomyrmex (Epebomyrmex) venezuelensis, sp. nov.

Worker. Extended length 4.9-5 mm. (thorax 1.4 mm.) Head in front view excluding mandibles, quadrate, slightly longer than broad back of eyes, occipital margin transverse, anterior clypeal margin feebly emarginate; eyes situated approximately in the middle of the head and moderately convex; mandibles strongly convex, with blunt teeth; antennal scapes failing to attain the occipital corners by less than twice their distal diameter, funicular joints 3-7 about as broad as long. Thorax in side view irregularly convex and with triangular, acute epinotal and similar episternal spines, the latter slightly lower, from above triangular with rounded anterior margin and shoulders. Petiole in side view with long peduncle which bears mid-ventrally an obtuse projection, and an acute, forwardly directed node; from above the peduncle appears laterally compressed and the node rectangular with rounded anterior margin and feebly converging sides. Postpetiole in side view with vertical anterior face, convex dorsum and lobate ventral margin; from above as long as broad, sides converging anteriorly and convex. Gaster ovoid with a large sting variably exerted.

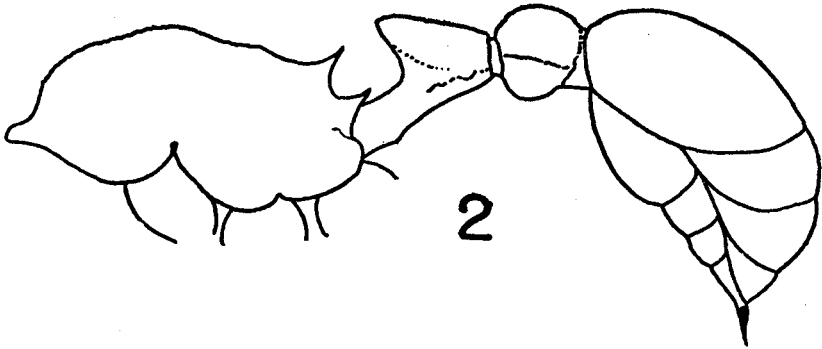


Fig. 2.—Worker of *Leptothorax (Goniothorax) anduzei*, sp. nov.

Coarsely sculptured, finely punctate basally; head striate, becoming reticulate-striate at the occiput and sides; mandibles rugose; scapes striate-punctate; thorax coarsely reticulate, becoming vermiculate posteriorly; nodes of pedicel coarsely reticulate; gaster finely striate-punctate anteriorly, smooth and shining except for piligerous punctations.

Pilosity of scattered, short, coarse, vertical hairs which are for the most part obtusely pointed.

Dark ferruginous except gaster which is blackish brown; hairs basally dark brown, apically paler.

Cotypes: workers of a colony (N° V9b) from the llanos north of Soledad about 15 km., across from Ciudad Bolivar, Venezuela, which I collected January 27, 1935. The ants had crater nests in the sand near the nests of *Acromyrmex (Moe-llierius) balzani* sp. *planorum* Weber previously described and figured (Wheeler, W. M. 1937. Mosaics and other anomalies among ants. Harvard Univ. Press, Plate II, left photograph; Weber, N. A. 1937. Rev. de Ent. 7:408-409). The llanos here consisted of a type referred to by Dr. J. G. Myers as *Trachypogon-Curatella* savannah, *Trachypogon plumosus* and *Curatella Americana* being the dominants. Other characteristic plants were, according to Myers, *Andropogon condensatus*, *Axonopus aureus*, *Aristida* sp. and *Paspalum anceps* among the grasses; *Polygala* sp. and *Paepalanthus capillaceus* among

the herbs; *Bowdichia virgilioides*, *Byrsonima crassifolia*, *B. coccolobaefolia* and *Casearia carpinifolia* among the woody plants. It is possible that seeds of some of these afforded food for the *Pogonomyrmex*, a genus characteristically vegetarian and especially seed-eating.

A worker taken by Dr. J. G. Myers (N° 5606) in British Guiana represents a closely related form which may be called *rupununi*, ssp. nov. It is larger, 5.2 mm. (thorax 1.6 mm.), and darker. The gaster is distinctly more heavily sculptured, being at the base shallowly reticulate-punctate. The ant was taken on the southern Rupununi Savannah November 11, 1935 and it is interesting that a fungus-growing ant, *Acromyrmex (Moe-llerius) balzani myersi* Weber, which he took here differed also subspecifically from those referred to above in Venezuela.

PHEIDOLE

Pheidole opaca Mayr, *apterostigmoides*, ssp. nov.

Soldier. Extended length 8.3-8.5 mm. (thorax 2.1 mm.) Pronotal gibbosities large and blunt, mesonotum with a transverse bidentate carina. Petiole bituberculate above. Postpetiole about one and one ninth broader than long. Dull, densely punctate with longitudinal striae on the head becoming vermiculate to reticulate posteriorly and at the sides and more coarsely so on the thorax and petiole. Pilosity of moderately abundant long, fine, upright hairs which are shortest on the head. Head dark brown with almost black mandibles and adjacent head. Remainder of body paler brown.

Differing from the typical *opaca* soldier in having a longer postpetiole when viewed from above, more coarsely reticulate pro-mesonotum and darker mandibles and adjacent region of the head.

Worker. Extended length 4.7-5 mm. (thorax, excluding "neck", 1.5-1.6 mm.) Occiput of head prolonged slightly as a "neck", antennae long and slender, general habitus as in *Apterostigma urichi* Forel except for long, acute epinotal spines. Dull and densely punctate basally, with scattered vermiculate-reticulate striae on head, thorax and, feebly, on the pedicel. Pilosity of moderately abundant long, fine upright hairs. Brown, head darker than rest of body.

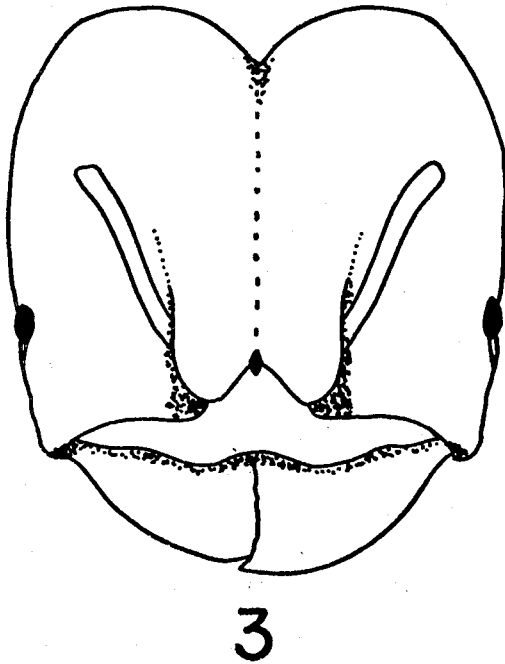


Fig. 3.—Soldier of *Pheidole opaca* ssp. *apterostigmoides*, ssp. nov.

Described from a colony (N° 92) taken in the Basin Hill Forest Reserve, Trinidad, April 1, 1935 by myself. The ants nested close to a colony of *Apterostigma urichi* Forel, moved slowly like the latter and the workers of the two species were remarkably similar.

LEPTOTHORAX

Leptothorax (*Goniothorax*) *anduzei*, sp. nov.

Worker. Length 5.-5.5 mm. (of thorax, excluding neck, 1.6-1.7 mm.) Head in front view, excluding mandibles, longer than broad back of eyes; occipital margin transverse, the corners rounded right angles; sides sub-parallel, feebly converging anteriorly and convex; eyes moderately large and convex, situated approximately in the middle of the head; anterior clypeal margin feebly emarginate medially; man-

dibles stout, convex, with a long, acute apical tooth and three progressively smaller teeth with possibly a fourth occasionally formed from the proximal cutting surface; antennae 12-jointed, the scapes slender and exceeding the occipital angles by fully their distal diameters, club indistinctly 3-4 jointed, the terminal 4 joints distinctly longer, when taken together, than the remaining funicular joints. Pronotal spines distinct, shoulders obtusely angulate, no spines between the pronotal and the epinotal spines, the thoracic dorso-lateral angles being rounded and impressed laterally only at the pro-mesonotum and meso-epinotum. Epinotal spines long, acute, deflected upwards apically. Petiole in side view clavate, the node passing smoothly into the pedicel, dorso-lateral margin bearing 3 well developed spines and the posterior margin with a median pair in addition. Postpetiole rounded above, the sides bearing above each a pair of spines of which the posterior is the longer, posterior margin impressed and bearing a pair of small tubercles. Gaster small, the anterior margin transverse, sting long and fine. Legs long and slender, the femora, markedly incrassate.

Dull, the body including gaster shagreened or densely and finely punctate basally, the mandibles and funiculi alone being feebly shining in a bright light; mandibles striate, head striate to striate-vermiculate, becoming reticulate laterally; thorax coarsely and longitudinally vermiculate; pedicel coarsely but more irregularly vermiculate which on the postpetiole may be transverse or longitudinal; gaster finely striate longitudinally.

Pilosity of sparse, scattered, short, truncate hairs and a scanty fine, appressed pubescence which is absent from much of body.

Thorax and pedicel brownish yellow and contrasting sharply with the head and gaster; head blackish brown, becoming yellowish brown anteriorly and on mandibles and scapes; legs proximally as on thorax, darkening to dark brown on the tarsi; first gastric segment dark brown except for an anteromedian yellowish brown spot, other gastric segments much lighter brown.

Cotypes: workers from San Esteban, Edo. Carabobo, Venezuela, March 28, 1940 taken from a bat cave and sent by Mr. Pablo J. Anduze. Cotypes in my collection and to be sent to the Venezuelan science museum.

This unusually striking *Leptothorax* is noteworthy in several respects. It is of very large size and of strikingly contrasting color. The finely sculptured gaster separates it readily from most *Leptothorax*. This species does not appear to be close to the described species and is markedly different from the widespread *echinatinodis*, whose subspecies *spininodis* Emery occurs in the Orinoco Delta (Caño Horobuhu of Rio Araturi, 9.ii-35, N.A.W.)

There appear no striking morphological adaptations to life in the bat cave. The eyes are of normal size and only the thoracic region is pale colored. Similarly, in caves in the Aripo Valley, Trinidad, inhabited by bats and oil birds (*Steatornis*), I found *Pheidole* and *Strumigenys* ants which also had eyes of normal size and were not unusually pale.

DENDROMYRMEX

Dendromyrmex apicalis Mann, *filiae*, ssp. nov.

Worker. Extended length 7.6 mm. (thorax 2.7 mm.) Eyes situated closer to the occipital than to the anterior clypeal margin. Head densely punctate, becoming striate-punctate dorsally and posteriorly at the sides; densely and transversely striate-punctate on the thorax and petiole; gaster faintly striate.

Female. Length 11.9 mm. (thorax 4.3 mm.) Sculpturing, pilosity and color as in worker except that reddish brown median blotches appear faintly on the gastric segments.

Described from colonies (Nos. 315, 316.1, .2, .3) found in virgin greenheart forest near the Forest Settlement, Mazaruni River, British Guiana, August 23, 1935. The ants formed carton nests on the undersides of leaves of several plants. The subspecies is dedicated to my daughter, Nancy Beth.

The British Guiana workers were compared with the holotype of *apicalis*. Color and size are similar and they are both superficially shining. My workers, however, have the sides in front of the head more convex, the thorax in profile more evenly convex, the pro-mesonotal suture less distinct (the posterior margin of this in the holotype rises as a slight convexity passing smoothly into the general convexity of the thorax), the petiolar crest distinctly sharper and the anterior face of the node passes into the pedicel without as distinct an angle.

Santschi (Bull. Soc. Vaud. Sc. Nat., 1921, 54:99-100) briefly described the var. *guyanensis* from the worker and female caste collected in French Guiana. The description of the worker differs from the present form in that the eyes are stated to be in the middle of the head and the size 9 mm. The sculpturing is evidently more punctate.

Dendromyrmex chartifex F. Smith.

Worker. Extended length 7.9 mm. (thorax 2.8 mm.) Shiny in appearance because of the shallow punctate-striate sculpturing, which, however, becomes much deeper on the epinotum. Piloosity of numerous long, fine, sinuate, upright hairs scattered generally over entire body and particularly numerous on scapes and legs; long, fine appressed pubescence on gaster. Medium brown; head in front of eyes and frontal carina a contrasting brownish yellow, each gastric segment distinctly paler brown between the sutures.

Described from a colony (Nº 313) found at a height of six feet on *Hirtella paniculata* (Rosaceae) at the Forest Settlement, Mazaruni River, British Guiana, August 22, 1935. The ants had a carton nest on top of live leaves. Mr. H. St. J. Donisthorpe of the British Museum kindly examined a worker of this colony and pronounced it to be similar to F. Smith's type.

Differing from *chartifex* workers from Brazil in smaller size and much darker color, from the var. *felis* Mann cotypes also in color, *felis* being as pale as the typical *chartifex* but dull instead of shiny. *D. felis* is of comparable size but has

much denser and deeper sculpturing. A worker (N° 748) which I took on Barro Colorado Island, Panama Canal Zone, resembles N° 313 workers but is generally darker.

Dendromyrmex fabricii Roger *niger*, ssp. nov.

Worker. Extended length 6.7-7.1 mm. (thorax 2.4-2.5 mm.) Densely and deeply punctate on the head and gaster, densely striate-punctate to striate on the thorax and petiole. Pilosity of numerous silvery, long, sinuate reclinate to upright hairs and a long, appressed pubescence which is generally scanty and almost lacking on the gastric dorsum. Black, appendages blackish brown.

Described from workers of a colony (N° 550) taken on the Surinam side of the Courantyne River, roughly 50 miles above Hepsaba, July 9, 1936 by myself.

Differing from Colombia specimens in not having long appressed hairs on the gaster and with more pilosity on the head; the petiole is also drawn out more acutely at the apex. In this latter character differing also from Amatuk, B. G. specimens (Lutz) which have the gastric appressed hairs. Unlike *rufescens* and *picta* workers and with much sparser pilosity, especially of the gastric pubescence, than *io*.

Dendromyrmex fabricii Roger, *isthmicus*, ssp. nov.

Female (Deålata). Extended length 8.8-9.3 mm. (thorax 3.3 mm.) Anterior clypeal margin faintly concave, clipeal median carina conspicuous, continuing posteriorly between the frontal carina as a distinct line; eyes situated closer to the occipital than to the anterior clypeal margin. Epinotum with rounded angles. Petiole in side view with feebly concave anterior and more distinctly convex posterior face, the crest acutely angular, viewed from behind the crest is convex above. Head densely punctate, thorax striate-punctate. Petiole densely striate; gaster finely and shallowly striate-punctate. Pilosity of abundant long, fine, sinuate hairs which are reclinate to upright and an abundant long, appressed pubescence, especially on the gaster.

Dark brown, especially on the head where nearly black; distal funicular segments, legs and pronotum lighter brown; hairs yellowish white, pubescence yellowish.

Cotypes: two females (Nos. 887 and 897) which I took June 29, 1938 on Barro Colorado Island, Panama Canal Zone.

Dendromyrmex fabricii Roger, *io*, ssp. nov.

Worker. Extended length 6.4 mm. (thorax 2.3 mm.) Head, thorax and petiole densely punctate, being conspicuously transversely striate-punctate on sides of thorax and on epinotum and petiole. Pilosity of abundant long, fine, upright hairs; gaster in addition with a long appressed pubescence. Gaster less deeply but densely punctate. Dark brown, the mandibles, cheeks, funicular joints and legs distally, and the coxae markedly lighter brown.

Differing from the typical *fabricii* as found in Panama and Colombia in having a more acute and anteriorly directed petiolar crest, more abundant pilosity, especially of the appressed gastric hairs and in having the anterior part of the head lighter. Differing from var. *rufescens* specimens which are probably cotypes (Tukeit, B. G. - Lutz 1911 coll.) in smaller size and color.

Holotype: one worker (N° M5631) from the Cuyuwini River, Upper Essequibo, British Guiana, taken by Dr. J. G. Myers November 15, 1935.

RESUMEN

Las hormigas descritas en este trabajo provienen de Venezuela, Trinidad, Guayana Británica, Surinam y de la Zona del Canal de Panamá. El *Pogonomyrmex* (*Ephebomyrmex*) nuevo de Venezuela es particularmente interesante desde luego que cierra el vacío que existía en su distribución desde Guatemala

al Sur del Brasil, Bolivia y Chile. También se agrega a la Guayana Británica, con el hallazgo en las Sabanas de Rupununi, de otra subespecie muy cercana a la especie venezolana. Las diferencias de los *Ephebomyrmex* de Venezuela y Guayana Británica, como las diferencias de las dos especies de bachacos de las mismas localidades presentan un problema. Parece que los llanos venezolanos al Norte de Ciudad Bolívar y las Sabanas de Rupununi en la Guayana Británica que no están separados por un espacio tan grande ofrecen diferentes nichos ecológicos o han sido separadas por mucho tiempo, por otras barreras. La Sierra de Pacaraima por lo visto puede ser una barrera más importante que los ríos que separan las dos localidades.

El nuevo *Leptothorax* de Venezuela encontrado en cuevas de murciélagos no parece haber sufrido cambios morfológicos que la adapten a la vida de cuevas. Es de gran tamaño y su colorido y esculturación llama la atención.

Las *Dendromyrmex* que viven en nidos arboreos de cartón seguramente han de encontrarse en Venezuela. Las descritas aquí provienen de Panamá y la Guayana Británica.