

(Reprinted from the Proceedings of the Entomological Society of Washington,
Vol. 45, No. 4, April, 1943.)

**THE QUEEN OF A BRITISH GUIANA ECITON AND A NEW ANT
GARDEN SOLENOPSIS.**

(Hymenoptera: Formicidae.)

By NEAL A. WEBER, *University of North Dakota.*

From the bivouac of an army ant in British Guiana I secured the queen for which a new subspecies of the tropical American *Eciton* (*E.*) *burchelli* (Westwood) was erected and briefly described as *jeanae* in the American Midland Naturalist (26:329, 1941). Although the soldiers and workers were similar to the common form, the queen differed distinctly from that caste figured and described by Wheeler (Proc. Amer. Acad. Arts Sc., 56:297-307, 1921) and that of a Trinidad colony of a form long known as the subspecies *urichi* Forel which I also briefly described in 1941. A figure of the head of the queen of the new subspecies and descriptions of the castes follow.

The *Solenopsis* is described at the present time in order to use the name in a paper on the ant gardens of South America.¹

***Eciton* (E.) *burchelli* (Westw.), ssp. *jeanae* Weber (Fig. 1).**

Eciton (E.) *burchelli* ssp. *jeanae* Weber, 1941, Amer. Midl. Nat., 26:329.

Female.—Length 21 mm. (of thorax 4.9 mm.). Head in front view, excluding mandibles, slightly broader than long, occipital margin distinctly impressed medially, sides in the form of two convexities, the posterior being slight, that in front of the eyes being more pronounced, anterior clypeal margin convex; eyes situated posterior to the middle, convex, 0.21 mm. in diameter; frontal groove distinct, terminating anteriorly in an expanded depression, continued to the occipital margin from a level with the eyes in a faint impression; occiput in side view with a faint protuberance on each side; mandibles linear, slightly expanded in the basal half, feebly curved apically; antennal scapes stout, slightly curved towards the head; 1st funicular joint, excluding attachment, slightly broader than long, 2nd joint $1\frac{3}{4}$ times longer than broad, following joints successively shortening to the terminal joint which is the longest of the funicle and is $3\frac{1}{2}$ times longer than broad. Thorax in side view broadly convex to the epinotum, slightly raised at the anterior margin, distinctly impressed at the pro-mesonotal suture; from above the mesonotum is seen to be longitudinally and broadly impressed; meso-epinotal impression broad and deep, the metanotum being distinctly indicated and margined by sutures from the adjacent segments; from above the mesonotum appears compressed and is bordered in front by large, protuberant spiracles and behind by less protuberant spiracles, mesonotum expanded ventrally where joined by the coxae and bearing large, apparently open, stigmata; dorsal surface of epinotum erected in the form of two blunt, backwardly directed cones; sides with large slit-shaped stigmata. Petiole with a pair of much higher cones, also backwardly directed, which are horn-shaped and blunted. Gaster 11 mm. long in the preserved state, anterodorsal angle feebly impressed medially, sting stout, not exerted beyond the dorsal segments when preserved. Legs long, femora and tibiae somewhat compressed, claws large and stout, with two well developed teeth and a variably developed third, more minute, tooth at the base.

Surface of body dull to lucid, being finely and densely punctate dorsally and less so ventrally, dorsal surfaces also with numerous large, scattered, shallow pits, at least some of which were piligerous originally. Pilosity sparse, consisting of short, fine hairs which are most numerous at sutures, ventrally and on appendages, including the entire mandibles, these hairs are very short and fine on the ventral portions of body and coxae. Reddish brown, gastric segments brown anteriorly and ventrally. Color of head and thorax in life dull red brown, the gaster darker brown except for the posterior parts of the segments which were blotched with lighter brown, epinotal protuberances bright and shiny light red brown.

¹ This paper, "Parabiosis in neotropical ant gardens," is to be published in the journal, *Ecology*.

Soldier.—Extended length 16–17 mm. (thorax 4.4 mm.). Differing from the typical *burchelli* chiefly in the antennae. The scape in the typical form is, according to Borgmeier, much narrower at the distal end and does not completely hide the first funicular joint when this is extended at right angles. Resembling in this the ssp. *foreli* Mayr to which Borgmeier ascribes the Trinidad, Kartabo, B. G., and Barro Colorado I., C. Z. ants. The present subspecies differs from Trinidad specimens in having a markedly greater dilatation of the scape at the end and a petiolar node shorter and more rounded above. Kartabo specimens have a broader pedicel and have the epinotal carinae more widely separated in front and behind; Barro Colorado I. specimens have longer frontal carinae and shorter scapes.

Brood. Eggs elliptical, 0.23 x 0.51 mm., white. Larvae slender, curved, with numerous fine, flexuous hairs which are mostly simple and of variable size but are sometimes bifid, trifid or multifid; mandibles slender, falcate.

Described from a colony (No. 582) in rain forest close to the Oronoque River, Courantyne system, British Guiana, July 21, 1936. The ants had formed a bivouac at the base of a tree stump and hanging from branches of small saplings, dry leaves, etc., close to it. The brood was well above the ground and appressed to the stump. Two staphylinoid ecitophiles were taken in unburdened ant files going away from the bivouac.

***Solenopsis parabiatica*, sp. nov. (Fig. 2).**

Worker. Length 2.0 mm. (of thorax 0.54 mm.). Head in front view with moderately convex sides which attain their greatest distance apart posterior to the eyes, occipital margin transverse to faintly concave, corners broadly rounded; eyes 0.046 mm. in greatest diameter; anterior clypeal margin with a minute tooth on each side of the median pair; mandibles 4-toothed, the basal tooth being much the smallest, the median pair sub-equal and the terminal tooth much the longest; antennae moderately impressed at the meso-epinotal suture, the anterior convexity slight and descending gradually to the anterior margin, the posterior convexity more marked and without angularity; from above broadly and gently impressed at the meso-epinotum. Petiole in side view 0.17 mm. high with high, conic node rounded above, ventral margin anteriorly bearing a small, triangular tooth; postpetiole $\frac{3}{4}$ height of petiole, rounded above, slightly broader than petiole with sides evenly convex. Gaster of moderate proportions with anterior margin concave and terminating posteriorly in a long, fine sting. Legs long and slender.

Smooth and shining except for scattered piligerous punctations. Pilosity of scattered, fine hairs, mostly long on thorax, gaster and legs, mostly shorter on head and funiculi. Pale brownish yellow, margins of mandibles infuscated.

Female. Length with gastric segments extended 4.0 mm. (of thorax 0.95 mm.). Similar to the worker except for the usual sexual differences.

Petiolar node proportionately more compressed anteriorly-posteriorly. Smooth and shining except for more numerous piligerous punctations; pedicel striatepunctate except on dorsum of nodes. Pilosity more abundant than in worker and color much darker, being a bright, medium brown with the appendages paler.

Cotype workers from colony No. 347.2 and holotype female from colony No. 295, all from the forest back of the Forest Settlement, Mazaruni River, British Guiana, September 3 and August 19, respectively, 1935. The ants were dwelling in the thin partitions separating the chambers of ant gardens inhabited by *Crematogaster limata parabiatica* Forel and *Camponotus femoratus* (Fabr.). The workers of colony No. 295 vary in color in the dried state from brownish yellow to brown although in life they appeared yellow and were so recorded in field notes.

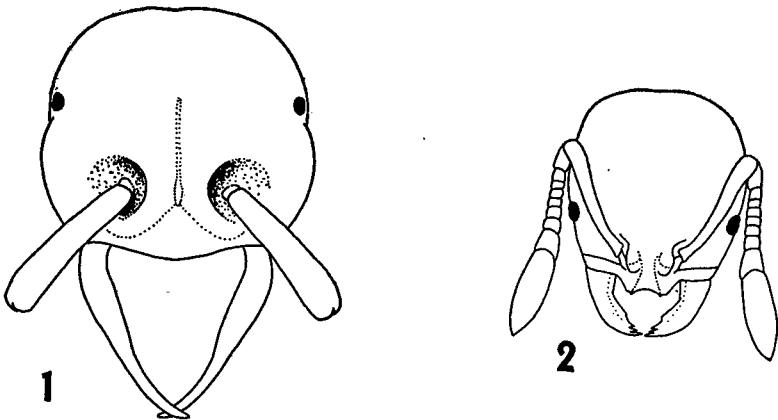


Fig. 1. Head of female of *Eciton* (*E.*) *burchelli* ssp. *jeanae* Weber.

Fig. 2. Head of worker of *Solenopsis parabiatica*, sp. nov.

This species runs to *S. helena* Em. of Chile in Emery's 1896 key but this species has the sides of the head less convex, the scape and the terminal antennal joint are longer and the size is smaller. It appears also close to *S. pollux* For. of St. Thomas but this species is still smaller, the terminal antennal joint longer, etc. Wheeler (Zoologica, 3:157-158, 1921) has described two subspecies of *helena* from British Guiana without figures. Judging from the brief descriptions the subspecies *hermione* is smaller and has smaller eyes, the subspecies *ultrix* is smaller, has longer antennal scapes and is darker colored.