

the introduction of a foreign body into the openings of their dwelling, they seek to satisfy themselves as to what is going on above.

The workers *minores*, (to return to the subject,) endowed with great activity and better formed for this end, are charged with the *razzias* destined to provide food for the larvæ, and perhaps they are guided in their course by the individuals of the second category which appear sometimes to rule by their movements the march of the column.

I have never seen the *tepeguus* transporting vegetable debris as do the *Oecodoma*, and it is to be presumed that the food of their larvæ is exclusively insectivorous. No doubt, also, they employ to garnish the interior of their nest, the fragments of wood from the tree which protects them, for they exhale a strong and nauseating odor like all the *Formicidæ* which live in decaying trunks.

No. 77 very closely resembles species No. 4, to which it seems to be allied by its form and habits.

It is distinguished from it by its light color, which is of a reddish-yellow, uniform in all parts; by the polished surface of the head of the workers *majores*; by the light color of the scape of the antennæ, &c. It is also more rare and more solitary in its habits. I have only found it at Potrero, in the great virgin forests which border the Rio Atoyac. Here also, I met No. 69, which is doubtless a brown variety of No. 4. This last, as well as No. 6, is of an irascible and nomadic character, and hunts also in disorderly masses. Nos. 39 and 40 have, on the contrary, quiet and timid habits. The march of their columns is made with much regularity. I have often taken the species, No. 39, at evening in my habitation, which they entered in small numbers, but whence they withdrew with haste when the lights were produced. The size of the individuals only, can serve to establish a distinction between the great and little workers, for the head and the mandibles do not present any remarkable difference.

HACIENDA DE POTRERO, 21st February, 1868.

REMARKS BY EDWARD NORTON.

The species of *Eciton* forwarded by Prof. Sumichrast may be temporarily classified as follows. (One species, No. 5, is not mentioned by him in the present paper.)

MEXICAN HYMENOPTERA.

[June 1868]

Data from Bolton

A. *Metathorax*: more or less spinose.

1. Three classes of workers. Worker major with long mandibles.

No. 68. *Eciton hamata*, Fabr.

All classes have the head white and shining and the remainder of the body whitish-ferruginous. The antennæ are subfiliform.

This is abundant in Panama and Brazil.

No. 36. *Eciton mexicana*, Guér.

In the major and intermediate workers, the color of the head is pale brown, the thorax ferruginous and the abdomen nearly black. In the minor workers the head and whole body are black, with ferruginous tints. This closely resembles the *E. hamata*, but differs as follows: The antennæ are longer and the joints of the flagellum longer and more slender. The mandibles of second and third workers are in *hamata* aciculate longitudinally and toothed on the inner edge; in *mexicana* not aciculate longitudinally and with the biting edge smooth. The spines or angles at the back of the head of *hamata* are acute and curved outwardly. In this they are not acute. The spinose points on the metathorax of *hamata* are the termination of rather prolonged side carinæ. In this the carinæ are shorter and less prominent. In *hamata* the first node is one-half longer than wide; in this it is nearly as wide as long.

2. Two classes of workers, none with long mandibles yet taken.

No. 5. *Eciton rapax*, Smith. = *brunnea*, Norton, Am. Nat. II, 1868, p. 62. Proc. Essex Inst.

The antennæ are intermediate between No. 68. and 36, the mandibles coriaceous above, with their biting edge irregularly toothed and a large tooth towards the apex. The spines at the back of head are like those of *hamata*, of the metathorax longer. The color of the head and thorax blackish-brown, of the abdomen a clear brown.

This is found also in Brazil.

No. 39. *Eciton crassicornis*, Smith.

The color of this is a dull, dark reddish-brown, abdomen shining. Antennæ short, thickened, scape clavate, all the joints of the flagellum short, from middle to apex wider than long, paler beneath.

This is found in Brazil.

B. *Metathorax*: unarmed with spinose processes.

a. Back of head widely emarginate, with acute angles.

No. 40. *Eciton sumichrasti*, Norton, Am. Nat. II, 1868, 62. Proc. Essex Inst.

This is remarkable in having the back of head nearly as wide as the middle, the head, thorax and nodes very rugose and the abdomen polished. But one size of workers yet examined.

b. Back of head slightly emarginate, without spines or angulate corners.

No. 4. ***Eciton tepeguas***, n. sp. Species nigra.

Worker major.—Length 0.40 inch. Deep black, shining, the flagellum, sides and apex of metathorax and legs below knees, ferruginous; antennæ as usual. Head large, slightly emarginate behind, not angulate, but somewhat rounded, and lobed at sides; mandibles rugose, running into longitudinal striæ, the inner edge with two large inner teeth, and with small pits along the inner edge. Antennæ inserted as in *E. legionis*, viz., the margin of a cavity raised about each at the front and sides and a deep channel down the middle of face. Eyes very small. Head and whole body shining, delicately reticulate and with larger scattered subobsolete pits. Parts of thorax distinct, with no acute angles. First node longer than second, compressed, second node widest, globose, both truncate behind, with no spine beneath, but a short tooth extending forward from apex of second. Abdomen covered with fine short pale hair, the whole body with longer reddish hair; edge of each segment of abdomen golden. The tips of hinder femora as long as the apex of abdomen.

No. 69. ***Eciton tepeguas***. Var. ***ferruginea***.

Worker major.—Color almost wholly ferruginous, abdomen blackish, surface dull, only the abdomen shining.

Probably a variety of No. 4.

No. 52. ***Eciton clavicornis***, n. sp.

Only the *Worker minor*. Length 0.18 inch. Polished and shining. Color piceous-black, the flagellum and legs below the knees pale brown. Antennæ short, as in *E. crassicornis*, the scape hardly clavate, the flagellum quite so, apex of scape and the flagellum, nasus and mandibles yellow-red. Mandibles with longitudinal striæ arising from little punctures along the inner edge. Cutting edge falcate, smooth. Basin of antennæ large and deep. Eyes minute. Head emarginate behind, the angles distinct, not acute (about 90 degrees.) Nodes nearly equal; the first with a long spine at base beneath curving backward, the second with a tooth extending forward. Apex of metathorax and nodes beneath rufous, legs rather short, below the tips of knees yellow-rufous. Claws slender, their inner tooth small, near the base.

This is much like *E. similima* Smith, but differs in form of metathorax, &c.

No. 77 appears to be a species of *Myrmica*.