THE STANFORD EXPEDITION TO BRAZIL, 1911.

J. C. BRANNER, *Director*.NOTE ON A GUEST OF *ECITON HAMATUM* FABR.

BY WILLIAM M. MANN,

Bussey Institution, Harvard University.

In 1908 Dr. Nils Holmgren described as *Mimopria ecitonophila*, a remarkable wingless Proctotrupid which was taken with a column of the legionary ant, *Eciton hamatum* Fabr., at Chaquimayo, Prov. de Carabaya, in Peru.¹

In September, 1911, at Porto Velho, on the Rio Madeira, in Brazil, I had opportunity to observe living specimens of this interesting ecitonophile. The host ant was one of the most abundant in that vicinity and almost certainly to be found during a morning's walk through the woods. It travels in immense armies and the large size and bright color of the individuals make the columns very conspicuous. One extraordinarily large army remained in one circumscribed locality in the woods near Porto Velho for two days, during which time one could walk scarcely a dozen yards along the trail without meeting individuals. Small columns were seen ascending the highest trees, and returning laden with the larvæ, pupæ, and even adults of other ants, from arboreal nests that they had raided. It was interesting to note that they brought down adults of *Dolichoderus lugens*, while other adult ants, as *Cryptocerus*, were not molested, and the *Cremastogasters* were always avoided, even when encountered by a column.

Unlike some of the other *Ecitons*, *hamatum* is readily observed. The species travels above ground, often using the top of a log as a runway, and at such times one could sit by the log and watch the column quite comfortably, the only drawback being the frantic haste with which the ants marched along. The only other objection one could have to *hamatum* was the scarcity of guests. I watched many columns before finding any iniquilines. This was very disappointing, for many *Ecitons* are known not only to be

¹ Über einige myrmecophile Insekten aus Bolivia und Peru. Zoolog. Anzeiger. Bd. XXXIII No. 11, p. 337-349

accompanied by numerous species of guests, but these guests are numerous in individuals.

The first *Mimopria* was found with the large army mentioned above. It was running along the column in a manner exceedingly ant-like, a good mimic of the small worker form, but darker in color. After an interval of several minutes another followed. This for some reason stopped. It was immediately surrounded by *Ecitons* feeling of it with their antennæ. Then one, a medium

Fig. 1. *Eciton hamatum* Fabr. (small worker), and guest, *Mimopria ecitonophila* Holm.

sized worker, seized it by the thorax and resumed the march with the *Mimopria* extending backward beneath its body. It seemed possible that the Proctotrupid had been taken as prey, but when placed in the collecting bottle it was seen to be uninjured. Many of the *Ecitons* were carrying objects, generally dead insects and ant pupæ, and by watching the column in profile, I found two more *Mimoprias* that were being carried in the same manner.

Later, at another camp further up the river, I found another specimen with an army of the same ant species. From these

records, and those of Holmgren, this ecitonophile seems to be characteristic of *hamatum* armies and widely distributed, though the number of individuals in a colony is not large.

Mimopria is undoubtedly parasitic on its host, probably on the immature phases. Like many other ecitonophiles it closely resembles the ant both in form and in manner of progression and in the possession of some quality that ingratiates it with the host. *Eciton* being altogether carnivorous it is possible that *Mimopria*, like certain other myrmecophiles, takes no food during the imaginal stage of its existence.

SPHEX OVERCOMING OBSTACLES.

BY C. H. TURNER, PH.D.,

Sumner High School, St. Louis, Mo.

The front yard of one of the public schools of Wellston, Missouri is bordered on the south by a low picket fence and on the west by a four-foot fence constructed of upright boards placed close together. Between the school house and the front fence there is a fifteen foot lawn. About ten feet west of the board fence and at about the same distance from the street as the school there is a wooden cottage the first floor of which is about four feet above the ground. The space beneath this house is walled in so as to form a cellar.

At about noon, June 28, 1911, I discovered a digger wasp (*Sphex* sp. ?) moving backward and dragging a spider across this school lawn. The wasp continued her westward course until she had backed into the wooden fence. Then, after depositing the spider in the grass, *Sphex* flew over the fence and descended obliquely towards the northwest until she had reached the door of the cellar mentioned in the first paragraph. After pausing there a moment, the wasp returned to the school yard, picked up the spider and began to climb backwards up the fence. Everything moved along smoothly until the upper scantling to which the fence boards were attached was reached. (Inequalities in the lawn made it possible for the wasp to mount the lower scantling.) *Sphex* tried and tried but she could not back over that scantling with her burden. She