

A NEW SPECIES OF APHOMOMYRMEX FROM BORNEO.¹

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Among the Camponotine ants of the Old World tropics there are two remarkable genera, *Aphomomyrmex* and *Dimorphomyrmex*, concerning which comparatively little is known. *Aphomomyrmex* was based by Emery² on *A. afer* from Kamerun, represented by male, female and worker specimens. He was in some doubt as to whether the worker, which had nine-jointed antennæ, was cospecific with the female and male, in both of which the antennæ were ten-jointed. He regarded the genus as allied to the neotropical *Myrmelachista* Roger, which comprises a number of species, with nine- to ten-jointed antennæ, and to *Dimorphomyrmex* Ern. André, which is represented by *D. janeti* described by Ern. André from Borneo³ and *D. theryi* subsequently discovered by Emery in the Baltic amber.⁴

Myrmelachista differs from *Aphomomyrmex* in having a differentiated antennal club in the worker and female, better developed frontal carinæ and more laterally placed eyes, while *Dimorphomyrmex* is peculiar in possessing large, reniform eyes in the worker and presumably also in the female; which is still unknown. *D. janeti*, according to André, has dimorphic workers, a large form (soldier) measuring 6 mm., with ocelli and a large, oblong head, and a small form (worker proper), measuring only 3.5 mm., without ocelli and with a proportionately shorter head. Emery says that he has seen a worker of this species from Sumatra measuring 4.5 mm. and therefore intermediate in size between the soldier and worker of Janet. This observation seems to indicate, as Emery has asserted, that the worker is really polymorphic in *D. janeti*. Through the kindness of Prof. R. Klebs and Prof. A. Tournquist I have been able

¹ Contributions from the Entomological Laboratory of the Bussey Institution, Harvard University. No. 25.

² Fourmis d'Afrique, Ann. Soc. Ent. Belg. XLIII, 1899, pp. 493-496.

³ Voyage de M. Chaper à Borneo. Catalogue des Fourmis et Description des Espèces Nouvelles. Mém. Soc. Zoöl. France, V, 1892, pp. 49-51.

⁴ Deux Fourmis de l'ambre de la Baltique. Bull. Soc. Ent. France, 1905, No. 13, pp. 188-189.

to examine quite a number of specimens of *D. theryi* of the Baltic amber, but all of these were monomorphic.

In 1894 Emery described a female ant from Borneo as *Dimorphomyrmex andrei*¹ with eight-jointed antennæ, but he concluded that this was an *Aphomomyrmex* after he had seen *A. afer*. Each of the two genera is therefore represented by two species, as follows:

Dimorphomyrmex Ern. André.

1. *D. janeti* Ern. André, Mém. Soc. Zoöl. France, 1892, pp. 49-51, Figs. 4 and 5, soldier, worker; Emery, Ann. Soc. Ent. Belg. XLIII., 1899, p. 494, *nota*, worker; Borneo; Sumatra.
2. *D. theryi* Emery, Bull. Soc. Ent. France, 1905, p. 188, Fig. 1, ♀; Baltic amber.

Aphomomyrmex Emery.

1. *A. afer* Emery, Ann. Soc. Ent. Belg. XLIII., 1899, pp. 493-496, 1 fig. worker, ♀ ♂; Kamerun.
2. *A. andrei* Emery, Ann. Soc. Ent. Belg. XLIII., 1899, p. 894, ♀ = *Dimorphomyrmex andrei* Emery, Ann. Soc. Ent. France, 1894, p. 73, ♀; Paulo-Laut, Borneo.

Among some Bornean ants collected and recently sent me by Mr. John Hewitt of the Transvaal Museum, I find two females and several workers of a third species of *Aphomomyrmex* of which I subjoin a description.

Aphomomyrmex hewitti sp. nov. (Fig. 1.)

Worker maxima. Length 3-3.5 mm.

Head flat, nearly as convex below as above, subrectangular, longer than broad, with straight subparallel sides, rounded posterior and blunt anterior corners. Eyes small, elliptical, flat, placed near the middle of the sides of the head and not on its upper surface. Ocelli present in some specimens but very small. Clypeus large, feebly convex behind, depressed in front, its anterior border rounded in the middle, not projecting, its posterior border not projecting back between the frontal carinæ to any appreciable extent. Frontal carinæ very small and short, the distance between them little more than half the distance between each of them and the corresponding lateral border of the head. Frontal area obsolete, frontal groove tenuous, but distinct. Mandibles small, with parallel internal and external borders and four sub-equal teeth; outer border with a blunt tooth near the base. Antennæ 8-jointed, short; scapes rather slender, straight, reaching only a short distance behind the eyes; first funicular joint slender, twice as long as broad, remaining joints slightly enlarged towards the tip of the antenna; joints

¹ Descriptions de deux fourmis nouvelles. Ann. Soc. Ent. France, 1894, p. 73.

2-6 as broad as long, terminal joint shorter than the three preceding joints together. Thorax thickset, depressed, as long but not as broad as the head, broader in front than behind. Promesonotal and mesoëpinotal sutures distinct; mesonotum somewhat higher than the pronotum, feebly convex, forming a regular transverse ellipse. Mesoëpinotal constriction short but distinct, its bottom formed by the mesoëpinotal suture only. Epinotum a little broader than long, with feebly rounded sides, its base very short and horizontal, passing through a rounded angle into the much longer, sloping and flattened declivity. Petiole somewhat lower than the epinotum and only about one-third as broad, as long as high and wide, with an erect, transverse node, which has flat anterior and posterior surfaces and a rounded

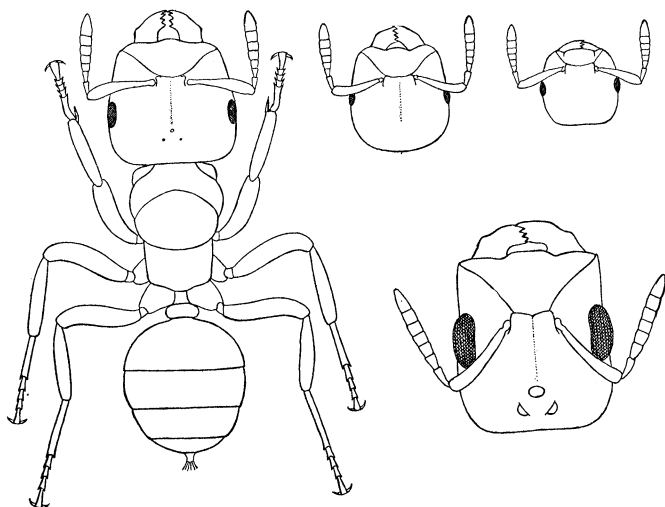


Fig. 1. Worker maxima of *Aphomomyrmex hewitti* sp. nov.; heads of worker media, worker minima and female, all drawn to the same scale.

upper surface. Gaster very broadly elliptical, smaller than the head, flattened dorsoventrally, with well-developed anal cilia. Legs long and robust; fore femora somewhat incrassated; claws and empodia large.

Body shining. Mandibles, clypeus and cheeks subopaque, punctate and finely striate, except the middle of the clypeus, which is opaque and coarsely punctate. Head sparsely, thorax and gaster more densely punctate and less glabrous.

Hairs yellowish, rather long and abundant, erect or suberect on all parts of the body and appendages, including the antennal funiculi. Pubescence yellowish, sparse and rather long, distinct on the thorax and gaster only in certain lights.

Dark brown or black; mandibles, cheeks and clypeus deep red; articulations of legs and thorax, antennal funiculi and tarsi more yellowish.

Worker media. Length 2.8 mm.

Closely resembling the worker maxima, but the head is somewhat smaller and distinctly narrowed anteriorly, and the clypeus and cheeks are less deeply punctate and striate and therefore more shining. Ocelli absent. Antennal scapes reaching about half way between the eyes and the posterior corners of the head. Tooth on the external border of the mandibles obsolescent.

Worker minima. Length 2 mm.

Resembling the worker media, but the head is smaller, only a little longer than broad, as broad in front as behind, with feebly rounded sides, straight posterior border and rounded posterior corners. Ocelli absent. Clypeus convex and shining, its sides and the cheeks scarcely striate. Mandibles small, without a tooth on their external borders. Joints 2-6 of the antennal funiculi a little broader than long; scapes reaching half way between the eyes and the posterior corners of the head. Thorax not constricted in the mesoepinotal region above. Gaster as large as the head. Mandibles, clypeus, antennae and petiole yellowish like the articulations of the legs and thorax.

Female. Length 6-7 mm.

Body long and narrow. Head like that of the worker maxima but larger and with much larger eyes and well-developed ocelli. Clypeus very flat. Antennae 8-jointed; scapes reaching about one-third the distance from the eyes to the posterior corners of the head. Second funicular joint as long as the first, which is fully twice as long as broad; joints 3-6 subequal, fully as long as broad and not increasing in width distally, terminal joint shorter than the two preceding joints together. Thorax as broad as the head, but twice as long, from above regularly elongate-elliptical, dorsally depressed, evenly and feebly rounded. Sides of neck much swollen and projecting anteriorly. Mesonotum and scutellum each somewhat broader than long; epinotum very feebly rounded above, uniformly sloping, without distinct base and declivity. Petiole nearly as high as the epinotum, as long as high and broad, its node thick and cuboidal in profile, seen from above transversely elliptical. Gaster elongate elliptical, nearly as large as the thorax. Legs long and stout, with large claws and empodia. Wings moderately long (6 mm.); venation as in *Plagiolepis*.

Sculpture and pilosity like those of the worker maxima.

Black; mandibles (except the teeth), clypeus, antennae, tarsi, metanotum, anterior border of scutellum, articulations of the thorax, wings and legs, red; wings uniformly infuscated, with brown veins and blackish stigma.

Described from two females, six maxima workers, one media and one minima, taken by Mr. John Hewitt at Bidi, Borneo, during August, 1907, "in the swollen internode of a shrub." This remark,

together with the strong development of the claws and empodia and the peculiar head of the maxima and female, so like the conditions in certain wood-inhabiting *Camponoti* and *Colobopsis*, shows that *A. hewitti* is a timid tree-ant, which habitually nests in small colonies in vegetable cavities.

Judging from Emery's description, *A. andrei* must be very closely related to *hewitti*, but only the females of the two forms can be compared as the workers of Emery's species are unknown. The female of *andrei* is of a brown color and measures only 5-6 mm., its antennal scapes scarcely surpass the posterior borders of the eyes, the median joints of the antennal funiculi are broader than long and the petiole is longer than high and broader than long. In other respects the two species are very similar.

On comparing *A. hewitti* and *andrei* with Emery's description of *A. afer* one is tempted to conclude that the two Bornean species may be generically, or at least subgenerically distinct, since the African species differs from them in having three-toothed mandibles, nine- to ten-jointed antennæ, the eyes less laterally situated and the frontal carinæ longer and further apart. I have thought it best, however, not to place the Bornean and African species in different genera or subgenera till more material of the latter is available and till the males of the Bornean species are brought to light.

LEPIDOPTERA ON MILKWEED.

The following species of Lepidoptera were collected at Wales, Maine, July 11, 1904, with the aid of a common lantern, from the drooping flower heads of the milkweed (*Asclepius incarnata* L.): *Autographa rectangula*, three specimens; one specimen each of *Acronycta*, *innotata*, *Hadena vultuosa*, *H. remissa*, *Noctua lubricans*, *N. haruspica*, *Mamestra atlantica*, *M. subjuncta*, *Leucania insueta*, and *L. commoides*; several specimens each of *Euxoa redimicula*, *Acronycta interrupta*, *Heterophleps triguttaria*, and *Synelys enucleata*.

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