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A NEW *HERMETIA* OF POTENTIAL ECONOMIC IMPORTANCE (Diptera: Stratiomyidae)[1]

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Abstract: *Hermetia palmivora*, new species, a potential pest of Oil Palm, is described from the Bismarck Archipelago, New Guinea, and North Borneo.

The following species, of possible economic importance, is being described here in order to make its name available for publication of further studies. I am grateful to Dr Jeffrey N. L. Stibick for supplying me with material for study and for calling my attention to the possible economic implications. Other specimens of the type series are from the collections of the Bishop Museum, Honolulu; the Commonwealth Institute of Entomology, London; and the University Zoological Museum, Copenhagen.

Hermetia palmivora James, new species Fig. 1, 2.

A predominantly blue-black species of the general size and overall appearance of *Hermetia illucens* (Linnaeus) but with the eyes densely pilose, wings strongly clouded on the apical half, and no translucent pale areas on the second abdominal segment. In Brunetti's (1923) key it traces best to *albitarsis* Wulp (erroneously "Macq." in the key) but the abdominal segments are not pale on their hind margins. *Hermetia brunettii* Lindner (1937), from the Solomon Islands, is very similar but the scutellum is largely to wholly yellow, the mesonotum is marked by two pairs of yellow to green lateral spots, one immediately presutural and the other on the postalar callus, and the abdominal segments have distinct apical cross-bands of white to yellow pile.

♀. Head black with bluish reflections. Frons (fig. 1) in lateral profile evenly convex 3/4 way from anterior ocellus to antennal bases, then with a broad, shallow, transverse depression (in position of the callus), frons below this depression and continuous with upper part of face convex, lower part of face projecting ventrad below lower margin of eye; upper frons also evenly convex transversely, without any tubercles; a deep though narrow furrow beginning just above antennal bases, extending between them, and dividing upper part of face; lower median part of face projecting downward cone-like, as in *illucens* and similar species. Vertex 0.30 head width, frons widening to 0.40 head width at antennal bases. Pile of vertex, frons, and middle of face erect, long and black on vertex, shorter on frons and face, brown and dense on upper half of frons, white and moderately sparse on lower part, black in middle of face, white, conspicuous, and semi-appressed on sides of conical projection of face and on lower occular orbits, white and semi-erect on gena. Antenna with scape and pedicel yellow to brownish yellow, flagellum brownish black; hairs of scape and pedicel and fringes of style

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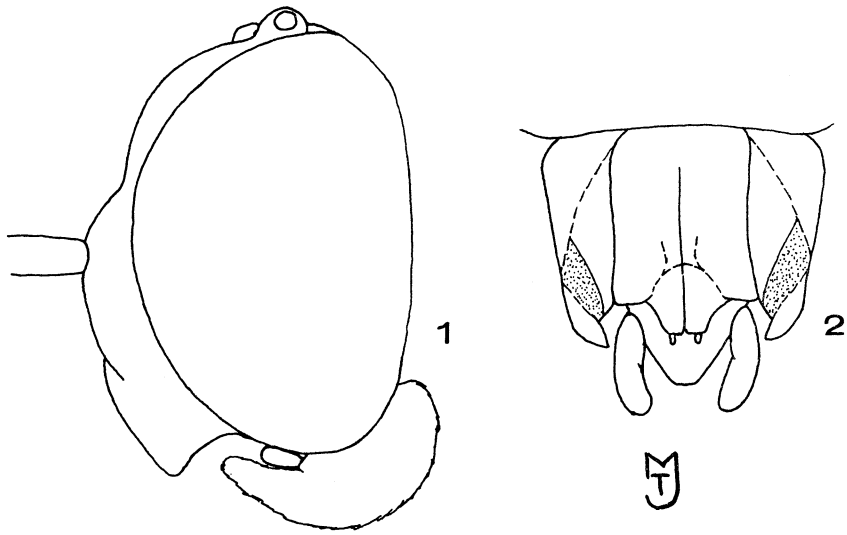

Fig. 1-2, *Hermetia palmivora*: 1, head of ♀, lateral profile; 2, ♂ genitalia, ventral view. Hairs and setulae omitted for sake of simplicity.

black; ratio of scape, pedicel, flagellum (less style) and style 8 : 3 : 18 : 24. Proboscis and palpi brown.

Thorax wholly black with slight bluish reflections in certain angles, at most postalar callus, humerus, and extreme rim of scutellum with some brownish black; pile of thorax predominantly white, mostly appressed except laterally and on metapleuron; some inconspicuous short black pile on prescutum and postscutum, producing the impression of 4 large, irregularly-defined, darker areas, one on each side of the mid-dorsal area before and again behind the suture; lower pile of mesopleuron and hypopleuron and some on pteropleuron and metanotum to a variable extent black; a conspicuous white-pilose band on posterior part of mesopleuron from notopleural suture to near middle coxa. Coxae and femora black with black hairs; tibiae and tarsi white to yellow with mostly black hairs; hind tibia blackish to dark brownish black on apical half; other tibiae on apical half and tarsi on apical tarsomeres becoming brownish. Wing subhyaline on basal half and including at least most of discal cell, area beyond stigma and discal cell, also extending basad posterior to discal cell and including cell Cu_1 and apical half of 2nd A, brownish, the darkening clearly evident to naked eye but not sharply defined and somewhat variable in extent. Discal cell strongly tapering toward apex and narrow there, veins forming bases of 3rd and 4th posterior cells forming almost a straight line. Halter a little darker on stalk than on knob, overall yellow.

Abdomen black with distinct bluish reflections; hairs black, semi-erect on sides of tergum 1 and on ovipositor, mostly short, appressed, and inconspicuous; at most, some white hairs on cerci and at apex of ovipositor; abdomen consequently without any trace of white-pilose markings or cross-bands. Abdominal terga 4 and 5 sometimes showing tendency toward development of pale areas, especially on sides but sometimes dorsally.

Length, 9.0-16.0 mm, of holotype 13.5 mm.

♂. Antenna a little shorter than in ♀; ratio 10 : 4 : 14 : 24. Clouded areas of wing more extensive, usually including all of discal cell. Abdominal segments 3-5 reddish brown, pile of these segments tending to become yellow or yellowish ventrally. Genitalia as in fig. 2. Length,

14.5-15.5 mm, of allotype 15.5 mm.

Holotype ♀ (BISHOP 9541), NEW BRITAIN, Mt. Sinewit, Gazelle Pen., 7-16.XI.1962, J. Sedlacek. Allotype ♂, Vunakanau, Gazelle Pen., 4.V.1956, J. L. Gressitt. Paratypes : 1 ♀, same data as holotype ; 1 ♂, same data as allotype but 11.V ; 1 ♀, same data as allotype but 16.V ; 1 ♀, Gaulim, 140 m, Gazelle Pen., 19-20.XI.1962, Sedlacek ; 2 ♀♀, Cape Hoskins, Dami Oil Palm Preventive trial, 10.XI.1970 ; J. Stibick, nos. 15173-4 ; 1 ♀, Cape Hoskins, Dami Oil Palm Research Sta., VI.1970, from Oil Palms, Stibick, no. 14199 ; 1 ♂, 1 ♀, Lowland Experiment Station, Kerawat, secondary forest, 17.V.1954, J. J. H. Szent-Ivany, nos. 14139, 14193 ; 2 ♀♀, same, bred ex rotting heart Oil Palm, 27.II.1970, D. F. O'Sullivan, nos. 13213, 13216 ; 1 ♀, Bita Paka, 15 km SE Kokopo, 10. VII.1962, Noona Dan Exp. 61-62. NEW IRELAND : 1 ♀, Kandan, 25.XII.1959, W. W. Brandt. LAVONGAI : 1 ♀, Banatam, 22.III.1962, Noona Dan Exp. 61-62. DYAUL: 1 ♀, Sumuna, 9.III.1962, Noona Dan Exp. 61-62. SE NEW GUINEA : 1 ♀, Mt. Giluwe, 2550 m, 27.V to 6.VI.1963, J. Sedlack, Malaise trap. NORTH BORNEO : 1 ♀, South Coast, XI.1952.

The female was selected as the holotype because of its better state of preservation. The New Guinea record is somewhat surprising because of the altitude at which the specimen was taken. The geographical range of the species, however, seems to be fairly extensive, not limited to the Bismarck Archipelago, as was first thought to be the case.

Dr Stibick has added the following information, with authorization for its publication in this paper. *H. palmivora* has been implicated in the death of 1 per cent of 3-4 year old Oil Palms (*Elaeis guineensis*) in West New Britain. The female (perhaps after a palm has been attacked by some unknown pathogen or other primary agent) oviposits in the spear of this growing palm. The larvae bore their way into the bud, killing it. Oviposition also occurs in discarded, wet and shaded inflorescences. The Department of Agriculture, Stock and Fisheries, Territory of Papua and New Guinea, is now studying this pest.

LITERATURE CITED

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Lindner, E. 1937. Indo-Australische Stratiomyiiden (Diptera). *Ann. Mag. Nat. Hist.* (10) **20** : 370-394.