A Redescription of *Aedes (Stegomyia) amaltheus* De Meillon and Lavoipierre with a Note on its Assignment to the *aegypti* Group of Species (Diptera: Culicidae)[1]

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ABSTRACT. *Aedes (Stegomyia) amaltheus* De Meillon and Lavoipierre is transferred to the *aegypti* group. The male and female are redescribed and illustrated.

Aedes (Stegomyia) amaltheus was described by De Meillon and Lavoipierre (1944) from Livingstone, Northern Rhodesia. Mattingly (1952, 1953) stated the difficulty of fitting it into Edwards' (1932) system as this species possesses mesonotal markings typical of Edwards' Group A and male terminalia of the type found in his Groups B and C and pointed out the need for a new system of grouping.

Mattingly (1965) began a revision of the main groups of the subgenus *Stegomyia* Theobald as defined by Edwards (1932) and summarized the characteristics of the species groups (A, B and D) and subgroups. He recognized 3 subgroups in Group B (*w-albus* group) and assigned *amaltheus* to subgroup B3 (*amaltheus* subgroup). In this subgroup, he included the following 3 species: *amaltheus* (from Southern Africa), *aurotaeniatus* Edwards (from Philippines) and *galloisi* Yamada (from Japan). Huang (1970) transferred *aurotaeniatus* to the subgenus *Paraedes* Edwards and (1972) placed *galloisi* in the *scutellaris* group of subgenus *Stegomyia*. Based on the great similarity to members of the *aegypti* group I am, therefore transferring *amaltheus* to the *aegypti* group.

A. amaltheus is an Ethiopian taxon and is unlikely to be found in Southeast Asia. It appears appropriate to give a full description of this species and a note on its assignment to the *aegypti* group independently. A revisionary work of the *w-albus* group of species is in progress and the full result will soon be published.

The following description is based on paratype male A58/43(1/5) with associated terminalia on slide (SEAMP 314, 72/901) and paratype female A58/43 (1/2) with associated terminalia on slide (SEAMP 314, 72/899), all from Livingstone, N. Rhodesia, 9-12-1942. (J. Muspratt, South African Institute

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for Medical Research). Since associated larval and pupal skins are not available, therefore, the larval and pupal stages are not described.

The terminology of the structural parts of the adult as used in this paper largely follows that of Belkin (1962) with subsequent modification by SEAMP.

Aedes (Stegomyia) amaltheus De Meillon and Lavoipierre

(Fig. 1)

Aedes (Stegomyia) amaltheus De Meillon and Lavoipierre, 1944, J. Entomol. Soc. S. Afr. 7:52(♂*, ♀, L*). Type locality: Livingstone, Northern Rhodesia.

MALE: *Head.* Proboscis dark scaled, without pale scales on ventral side, slightly longer than fore femur; palpus dark, slightly longer than proboscis, with white basal band on each of segments 2-5; those on segments 4,5 incomplete dorsally; segment 5 with white basal band on ventral side unusually long, occupying about basal 3/4; segments 4,5 subequal, slender, upturned, and with a few short hairs; antenna plumose, shorter than proboscis; clypeus bare; torus covered with white scales except on dorsal side; decumbent scales of vertex all broad and flat, erect forked scales dark, not numerous, restricted to occiput; vertex with a median stripe of broad white scales, with broad dark ones on each side interrupted by a lateral stripe of broad white scales followed by a patch of white broad scales ventrally. *Thorax.* Scutum with narrow dark scales and a prominent small median white spot of narrow scales on anterior border followed by a narrow median longitudinal stripe of similar white ones, median stripe reaches to prescutellar space; prescutellar white lines present; a large patch of broader (crescent-shaped) white scales on the fossal area; posterior dorsocentral white liens present and reach to middle of scutum; a patch of narrow white scales on lateral margin just before level of wing root, extending inwards towards posterior dorsocentral white line; acrostichal bristles absent; dorsocentral bristles present; scutellum with broad white scales on all lobes; anterior pronotum with broad white scales; posterior pronotum with a small patch of broad white scales and some dark narrow ones dorsally; paratergite with broad white scales; postspiracular area without scales; patches of broad white scales on propleuron, on the subspiracular area, on the upper and lower portions of sternopleuron and on the mesepimeron; upper sternopleural scale patch does not reach to anterior corner of sternopleuron; lower mesepimeron without bristles; metameron bare. *Wing.* With dark scales on all veins except for a minute basal spot of white scales on costa; first forked cell 1.5 times as long as its stem. *Halter.* With dark scales. *Legs.* Coxae with patches of white scales; knee-spot absent on fore femur, present on mid and hind femora; fore and mid femora anteriorly dark; hind femur anteriorly with a broad white longitudinal stripe which widens at base and on about the basal 3/5; fore tibia anteriorly dark with a basal white band; mid and hind tibiae anteriorly dark; fore and mid tarsi with basal white bands on tarsomeres 1,2; hind tarsus with basal white bands on tarsomeres 1, 2; tarsomeres 3 and 5 all dark; tarsomere 4 all white; fore and mid legs with tarsal claws unequal, all toothed; hind leg with tarsal claws equal, simple. *Abdomen.* Abdominal segment I with white scales on laterotergite; terga II-VI each with a basal white band and basal

lateral white spots; the lateral spots do not connect with the basal bands; sterna III-VI with basal white bands and lateral white spots which do not connect with the basal bands. *Terminalia.* Basimere 4 times as along as wide; its scales restricted to dorsolateral, lateral and ventral areas; with numerous hairs on the mesal half of dorsal surface; claspette simple, short, reaching to 0.43 of basimere, rounded apically, with numerous setae on the slightly expanded distal part; distimere simple, elongate, about 0.8 as long as basimere, with a spiniform process near apex and a few hairs on apical half; aedeagus strongly toothed; paraprocts without sternal arms; cercal setae absent; tergum IX deeply concave medially and with 3 hairs on each lateral lobe; sternum IX without bristles.

FEMALE: Essentially as in male, differing in the following respects: *Head.* Palpus 1/5 of proboscis, with white scales on less than apical half. *Thorax.* Scutum with median white stripe indistinct or incomplete at anterior half. *Wing.* With first forked cell about 2 times as long as its stem. *Legs.* Fore and mid legs with tarsal claws equal, all toothed. *Abdomen.* Tergum I with a small median white spot; tergum VII with a basal white band and lateral white spots which do not connect with the basal bands. *Terminalia.* Segment VIII largely retracted; sternum VIII with a deep notch at middle and with conspicuous rounded lateral lobes; tergum IX with well developed lateral lobes and with 4 hairs; post-genital plate with a shallow notch; cerci short and broad; three spermathecae, one larger than the other two.

TYPE DATA: *Aedes (Stegomyia) amaltheus* De Meillon and Lavoipierre, holotype male, allotype female in South African Institute for Medical Research, Johannesburg, Union of South Africa; type locality: Livingstone, Northern Rhodesia (De Meillon and Lavoipierre 1944).

DISTRIBUTION: N. Rhodesia. *Livingstone; Balovale.* Bechuanaland. *Kasane* (Mattingly 1953).

TAXONOMIC DISCUSSION: Mattingly (1952: 238) stated that *Aedes amaltheus* is an annectant species between Groups A and B, and (1953: 51) that it is also annectant between Groups A and C. However, it was assigned to Group B (*w-albus* group) by Mattingly (1965). After a critical examination of this species and comparing it with other members of Groups A, B and C, I agree with Mattingly's (1953: 51) statement that it is an annectant species between Groups A and C. It has palpi with white scales, scutum with a large patch of broader crescent-shaped white scales on fossal area, dorsocentral bristles present, aedeagus strongly toothed and tergum IX of male terminalia deeply concave medially which are characteristics of Group A; distimere simple, elongate, about 0.8 as long as basimere, with a spiniform process near apex and paraprocts without sternal arms which are characteristics of Group C.

The adult of this species is extremely similar to *A. chemulpoensis* Yamada, a Palearctic species of the *aegypti* group, especially, the female of *amaltheus* where the median white stripe of scutum is indistinct or incomplete at anterior half. However, it can be distinguished from *chemulpoensis* by the presence of prescutellar white lines and by the absence of pale scales scattered on anterior surface of fore and mid femora.

Based on the great similarity to *chemulpoensis* and since it has a greater number of attributes of the *aegypti* group than the C Group it is believed appropriate to transfer *amaltheus* to the *aegypti* group.

The male terminalia of this species have the claspette simple, short, reaching to 0.43 of basimere, rounded apically, with numerous setae on the slightly expanded distal part and paraprocts without sternal arms which differ from all other species described in this group.

BIOLOGY: Known only from tree-holes. A few specimens were taken biting on the forest floor at Kasane (Mattingly, 1953).

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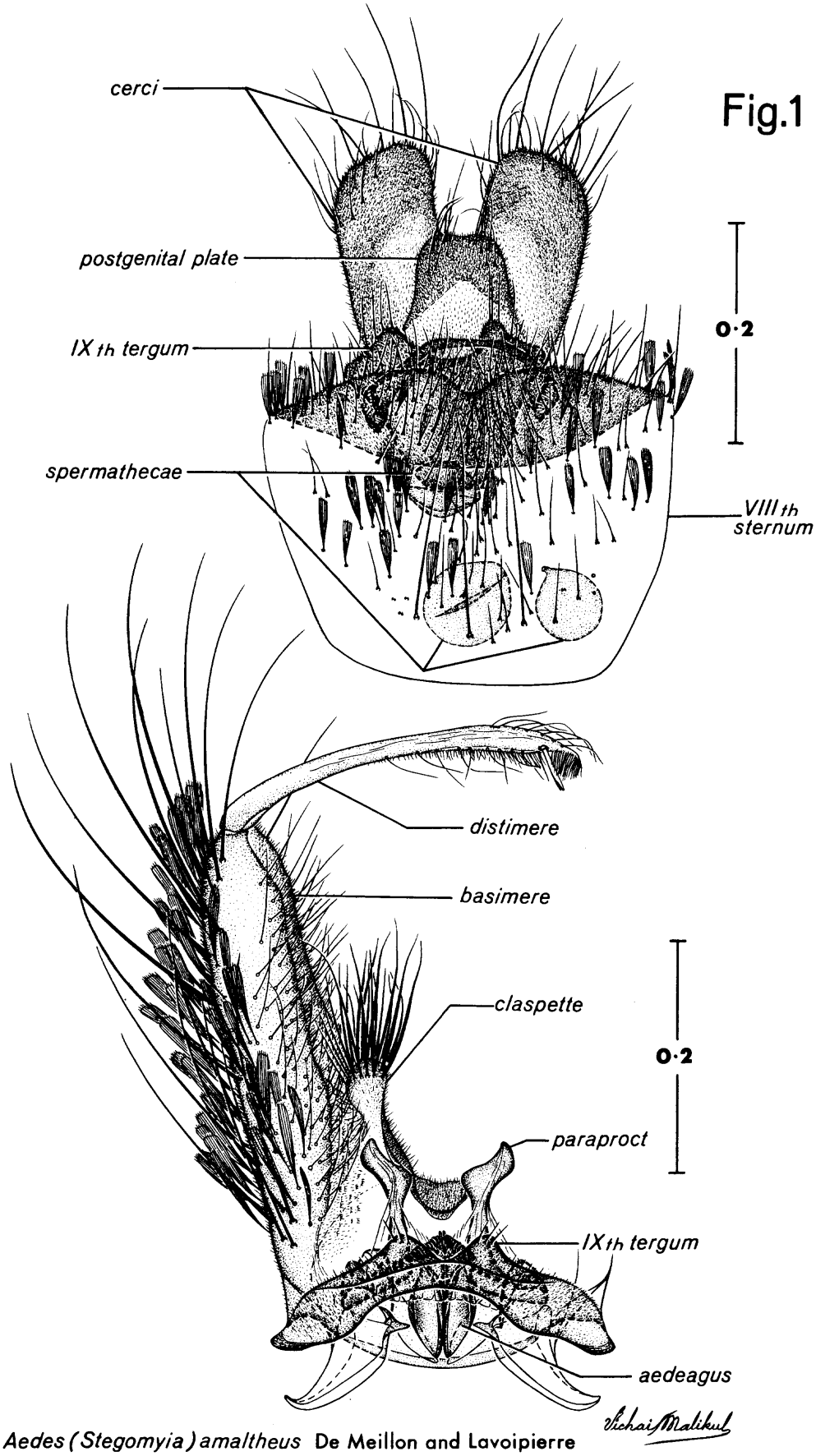

Fig.1

Aedes (Stegomyia) amaltheus De Meillon and Lavoipierre