

## REVIEW OF THE GENUS *AMMOPHILOMIMA* (=*LAGYNOGASTER*) (Diptera: Leptogastridae)<sup>1</sup>

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*Abstract*: The type of *Ammophilomima imitatrix* Enderlein has on the posterior side of the hind femora a hair flocke not described by Enderlein. The type of *Lagynogaster fuliginosa* Hermann, a synonym of *Ammophilomima*, has a similar hair flocke. Both taxa have a petiolate anal cell, bifid epandria, and has processes at the base of the dististyli. The notched free hypandrial apex, rather than the dististyli, serves as a guide for the aedeagal sheath. The dorsal bristles of the hind tibia, mystax bristles, and other characters divide *Ammophilomima* into several distinct, but informal groups.

Separate keys are given for Ethiopian and for Oriental *Ammophilomima*. Seven new species are described; 27 species are redescribed or translations of the original descriptions given.

The identification and the status of *Ammophilomima* Enderlein (1914) and of *Lagynogaster* Hermann (1917) have been confusing because a hair flocke, which is on the hind femora of the type-species of *Ammophilomima*, *A. imitatrix* Enderlein, was not described. Hermann described a hair flocke for the type-species of *Lagynogaster*, *L. fuliginosa* Hermann, but he did not mention *Ammophilomima* neither in his 1917 paper on *Lagynogaster* nor in his 1926 paper on a review of the genera of Leptogastridae.

Authors identified *Ammophilomima* and *Lagynogaster* by descriptions without referring to the type of *A. imitatrix*. Some believed that both genera had a hair flocke, while others erroneously assigned species both with and without a hair flocke to *Ammophilomima* and to *Lagynogaster*.

This review, which treats *Lagynogaster* as a junior synonym of *Ammophilomima*, is based on 16 described species at hand, seven of which are new. The discussion of generic characters is based on these species and also on several species not described here.

Either translations to English of French and German original descriptions of *Ammophilomima*, *Lagynogaster*, and *Leptogaster* species included in *Ammophilomima*, or redescriptions of paratypes at hand, and rewritten English descriptions, are included here. Separate keys to the Ethiopian and to the Oriental species of *Ammophilomima* were made with the species at hand and with descriptions.

*Acknowledgements*: I am indebted to various persons in the preparation of this manuscript. Professor Doctor E. Janssens, Institut royal des Sciences naturelle de Belgique, exchanged paratypes and named species of *Ammophilomima* on which he based part of his 1953 paper; Dr/H.Schuman, Humboldt University zu Berlin, D. D. R., helped locate

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a type; Frau Dr A. Draber-Mońko, The Polish Academy of Science, Warsaw, examined the type-specimen of *Ammophilomima imitatrix* Enderlein for me; Drs D. E. Hardy and M. D. Delfinado, University of Hawaii, furnished a rare paper; Drs W. W. Wirth and L. Knutson, United States National Museum of Natural History, loaned helpful specimens of *Ammophilomima* and of *Lagynogaster* from the collections of the late Drs S. W. Bromley and A. E. Pritchard; Dr Sutharm Areekul Kasetsart University, Bangkok, Thailand, kindly permitted deposition of his two holotypes in the Bernice P. Bishop Museum.

Types are in the Bernice P. Bishop Museum (BISHOP); the United States National Museum of Natural History (USNM); paratypes in Kasetsart University Museum (KUM).

#### Genus *Ammophilomima* Enderlein

*Ammophilomima* Enderlein, 1914 : 155 (Type-species, *imitatrix* Enderlein (orig. des.). Type-locality : Africa, Barombi, Cameroon).—Hull, 1962 : 303.

*Lagynogaster* Hermann, 1917 : 12 (Type-species, *fuliginosa* Hermann (orig. des.). Type-locality : Kanshirei, Formosa. Janssens' (1953) synonymy); 1926 : 144 (Review of the genera of Leptogastridae).—Hull, 1962 : 305.

*Leptogaster* (*Ammophilomima*) : Frey, 1937 : 40.

*Leptogaster* (*Lagynogaster*) : Frey, 1937 : 40.

*Ammophilomima* (*Ammophilomima*) : Oldroyd, 1972 : 217.

*Ammophilomima* (*Lagynogaster*) : Oldroyd, 1972 : 217.

#### CHARACTERS OF AMMOPHILOMIMA

Hind femora. The long hind femora of *Ammophilomima* is more strongly clavate in some species than in others.

Hair flocke (Haarflocke, Hermann, 1917). Five authors express three different opinions on the presence or absence of the hair flocke.

Frey (1937) claimed that *Ammophilomima* and *Lagynogaster* are both with and without a hair flocke, but that fewer species of the former than of the latter have hair flocks. Hence, according to Frey's opinion the hair flocke would be useless as a character to identify either genus. Frey errors in stating that the hair flocke is on the ventral side (Unterseite) of the hind femora.

Apparently because Enderlein did not mention a hair flocke, Hsia (1949) and Oldroyd (1972) assumed that *Ammophilomima* was without a hair flocke, but that *Lagynogaster* had one.

Janssens (1953; 1955) assigned eight species from Africa to *Ammophilomima*, all with a hair flocke. He synonymized *Lagynogaster* with *Ammophilomima*.

Hull (1962) stated that both *Ammophilomima* and *Lagynogaster* have hair flocks.

By correspondence, I located the type *Ammophilomima imitatrix* Enderlein at the Polish Academy of Sciences, Warsaw. In replying to my inquiry about the hair flocke, Frau Dr A. Draber-Meńlo stated "In our collections only *Ammophilomima imitatrix* Enderlein, one ♀ (the type) is present; it possesses a whitish yellow 'Haarflocke' on the posterior surface of the hind femora." Hence, the type-species of both *Ammophilomima* and of *Lagynogaster* have hair flocks.

Sixteen of the 20 species of *Ammophilomima* and *Lagynogaster* that Hull (1962) listed, are treated here as *Ammophilomima*. At present, 1973, there are at least 36 species, including six undescribed here, with the ammophilomima-type of a hair flocke. In addition, three species of *Leptogaster* and *A. triangulata* Enderlein probably have a hair flocke. Hence, the hair flocke is more common than was believed in the past.

The hair flocke of *Ammophilomima* consists of 6 to 25 or more bristles in 2 to 4 short to long rows on the posterior side of the hind femora, located halfway or less from the base, and usually with the bases of the bristles closer to the dorsal than to the ventral surface. The bristles are usually close set, but in some species are sparsely set, usually are erect, but sometimes are recumbent. The color of the bristles is usually yellowish which causes them to be difficult to see on some species.

Other genera have hair flockes, but the position and pattern differ from that of *Ammophilomima*. For example, *Sinopsilonyx* Hsia has a dense pile-like flocke close to the coxa of the hind femora and covering a larger area than on *Ammophilomima*.

An unnamed African genus has a dense pile-like flocke in 6 or more rows on the apical rather than the basal half of the hind femora; its bifid epandrial arms also differ from *Ammophilomima* in that the dorsal arm is much shorter than the ventral.

Bristles on the hind tibia. Frey (1937) used the bristles on the dorsum of the elongate hind tibia as a major character for his three subgenera in *Leptogaster*. According to Frey (1937), the subgenus *Ammophilomima* has 0-2 dorsal tibial bristles on the hind leg. Both subgenera *Lagynogaster* and *Mesoleptogaster* Frey have a row of dorsal tibial bristles, but the latter has an open rather than the petiolate anal cell of *Ammophilomima* and *Lagynogaster*.

Oldroyd (1972) recognized *Ammophilomima* as a genus without dorsal hind tibial bristles and *Lagynogaster* as a subgenus of the former with a row of several bristles on the hind tibia.

My specimens of *Ammophilomima* fall into both of Frey's two groups of hind tibial bristles, both groups having hair flockes as is true of both type-species of *Ammophilomima* and *Lagynogaster*. Both groups have the same type of ♂ genital characters. These characters indicate that *Ammophilomima* and *Lagynogaster* are inseparable.

The heterogeneous genus *Leptogaster* with 0-4 tibial bristles and those *Leptogaster* with a petiolate anal cell could be mistaken for either *Ammophilomima* or *Lagynogaster*, if the hind tibial bristles were a major character.

In other genera of Leptogastridae the number of tibial bristles also ranges from 0-7. Other characters either mentioned in the continuing discussion, or used in keys, also divide *Ammophilomima* into equally distinctive groups, but the variable characters do not correlate so as to have generic value.

In my limited data the variability of the number of dorsal tibial bristles is similar. In *Ammophilomima auripennis* E. Janssens the number of bristles on 10 specimens ranged from 3-5; on 20 specimens of *A. indiae* Martin the range was 3-6; on five specimens of *A. thailandae* Martin the range was 4-6. On eight specimens of an unnamed species the range was 3-6.

Mystax. The two groups of *Ammophilomima* formed by the mystax do not correlate with the two groups formed by the hind tibial bristles. An Ethiopian-Oriental group has

4-12 bristles; an Oriental group has 20-30 bristles.

Antennal segment 3. Hermann (1917) considered an elongate 3rd antennal segment with a short style as a generic character for his *Lagynogaster*. In my series of 20 species of *Ammophilomima*, the length of the style ranges from 1/4 to slightly longer than segment 3. A long 3rd antennal segment with a short style also occurs in several genera of Leptogastridae.

Prosternum. Hull (1962) assumed that the prosternum of *Ammophilomima* is broadly united at the propleura, but that the prosternum of *Lagynogaster* is either broken or reduced. The generic characters of *Ammophilomima* do not correlate with the prosternal characters.

Abdomen. Most *Ammophilomima* have a spatulate abdomen, but the abdomen is sometimes cylindrical apically.

Bifid epandria (tergite 9). All the species of *Ammophilomima* at hand and the species illustrated by Janssens (1953), have the partially detached apical portion of the epandria deeply emarginate so that two arms are formed, either one or both being broad to narrow, and pointed to truncate (figs. 1-6). The dorsal arm is longer than the frequently triangular ventral arm.

Hermann (1917) illustrated several Oriental *Leptogaster* with bifid epandria, but they are unrelated to *Ammophilomima*. Other *Leptogaster* and other genera have bifid epandria, but the structure of them, as well as other structures of the ♂ genitalia, is unrelated to *Ammophilomima*.

Hyandrium (sternite 9). The hyandrium of *Ammophilomima* is coalesced to the basistyli except the apex is free. The basal portion of the hyandrium rises slightly above the basistyli, appearing to be separate from them. Usually the structure curves upward in an arc. The hyandrium of *A. sauteri* (Hermann) is an exception. Its basal half is flattened nearly horizontally as far as a tubercle where the apex slopes upward at about a 45° angle.

In other genera of Leptogastridae the dististyli prevent sideways movements of the aedeagal sheath, but in *Ammophilomima* the slightly to deeply notched apex of the hyandrium has this function. In one group the notch in the hyandrial free apex forms a guide for the aedeagal sheath. In a second group the apices of the processes produced by the notch, expand posteriorad, forming flattened processes between which the apex of the aedeagal sheath passes.

Dististyli. *Ammophilomima* have prominent dististyli of various shapes which are associated with the species. Most genera of Leptogastridae have a disc-like to elongate process at the base of the dististylus, and *Ammophilomima* has such a process.

#### DISTRIBUTION OF AMMOPHILOMIMA

Seven Ethiopian species of *Ammophilomima* reported from Zaire (Belgium Congo) and Urunda by Janssens (1953; 1955), and also *A. imitatrix* Enderlein, and *A. kenyae* Martin, follow a narrow belt 5° N and S latitude along the equator. *Ammophilomima eumenoides* Janssens is from Malawi (Nyssaland), about 15° S.

In the Oriental realm the range of *Ammophilomima* is from ca. 10° S to 25° N latitude

for 20 species. Three are reported north of 25° N latitude. None are known from northern Australia.

## TAXONOMY OF THE SPECIES OF AMMOPHILOMIMA

### KEY TO THE SPECIES OF ETHIOPIAN AMMOPHILOMIMA<sup>1</sup>

1. Posterior femora with a yellow band separating the darker color of apex and base... 4  
Posterior femora without a yellow band, sometimes apex lighter in color than basal portion ..... 2
- 2(1). Thorax polished black ; face deep brown, almost glabrous ; occiput black ; margin around neck thinly pollinose laterally ; length 17 mm (Urunda). ..... *montana* E. Janssens  
Thorax either totally pollinose, or pollinose with median stripe bare anteriorly ; occiput gray or brownish yellow tomentose. .... 3
- 3(2). Occiput gray tomentose ; thorax dorsally totally tomentose ; tergite 2 with sparse short pile on basal third ; length 29 mm (Malawi). ..... *eumenooides* E. Janssens  
Occiput brownish yellow, or yellow tomentose ; thorax thinly yellowish brown tomentose, median stripe bare anteriorly ; tergite 2 with abundant erect long pile basally, thinner, shorter posteriorad ; length 25 mm (Cameroon ; Ivory Coast ; Zaire ; Uganda). ..... *auripennis* E. Janssens
- 4(1). Hind tibia without a yellow apex ..... 6  
Hind tibia with a yellow apex ..... 5
- 5(4). Facial tomentum and hair flocke of hind tibia yellowish white ; thorax dark brown, disc polished, posterior thoracic margin ground color reddish yellow ; abdomen reddish brown, posterior 3 segments dark brown ; length 24 mm (Cameroon). ..... *imitatrix* Enderlein  
Face white tomentose ; hair flocke of 6-10 short, weak white hairs ; thorax polished black, white tomentose laterally and posteriorly ; abdomen dark brown, latero-posterior corners dark reddish to yellow ; length 15-18 mm (Zaire ; Uganda). ..... *evanescens* E. Janssens
- 6(4). Disc of thorax polished ..... 8  
Disc of thorax mostly pollinose, median stripe may be bare anteriorly ..... 7
- 7(6). Thorax yellow, dorsally a brown tomentose trident pattern ; 4 mystax bristles ; face, front, occiput, yellow tomentose ; with empodia ; length 10 mm (Zaire). ... *basilewskyi* E. Janssens  
Thorax dark reddish brown, brown pollinose, median stripe bare anteriorly ; 6 mystax bristles ; face nearly glabrous, brown ; occiput brown tomentose ; hind tarsi without empodia ; length 25 mm (Kenya). ..... *kenyae*\*
- 8(6). Thorax polished, dark brown, pleura yellowish ; occiput whitish tomentose ; antennal segments 1 and 2 yellow, segment 3 brown ; length 18 mm (Zaire). ..... *aequinoctialis* E. Janssens  
Thorax polished, black ; pleura thinly white tomentose ; occiput grayish white tomentose ; antennae blackish brown ..... 9
- 9(8). Subcostal cell hyaline, stigma medially ; hind tibia black, yellow basally ; length 15-16 mm (Zaire) ..... *ghesquierei* E. Janssens  
Subcostal cell dark brown from stigma to apex ; hind tibia black, yellow apically ; length 23-25 mm (Zaire). ..... *straeleni* E. Janssens

1. Asterisks (\*) identify new species in keys.

## KEY TO THE SPECIES OF ORIENTAL AMMOPHILOMIMA

1. Mystax, 2 rows of yellow bristles; head, thorax laterally and posteriorly, pleura, scutellum, tergites 1 and 2 laterally, posterior tergites more extensively, yellow tomentose; longitudinal thoracic stripes coalesce posteriorly; length 26 mm (Taiwan) ..... **fuliginosa** (Hermann)  
 Mystax of single, double, or triple rows, or a clump of numerous bristles; if yellow tomentose, not as extensively as above ..... 2
- 2(1). Four to 14 bristles in mystax ..... 9  
 Twenty or more mystax bristles in a clump ..... 3
- 3(2). Face yellow or golden tomentose ..... 5  
 Face either brown or gray tomentose ..... 4
- 4(3). Face brown; thorax shining, yellow tomentose laterally, blackish stripes inconspicuous; length 24 mm (Kiangsu, China). ..... **antennalis** (Hsia)  
 Face gray; thorax yellow, median black stripe longer than the short lateral stripes; length 21 mm (China). ..... **suensoni** (Frey)
- 5(3). Longitudinal stripes of thorax totally separated, or stripes indistinct; laterally thorax yellowish tomentose ..... 7  
 Three longitudinal stripes coalesced posteriorly ..... 6
- 6(5). Antennal segment 1 longer than 2; anterior coxa reddish brown to grayish brown; empodium 3/4 as long as tarsal claws; length 17 mm (Sumatra) ..... **trunca**\*  
 Antennal segments 1 and 2 subequal; anterior coxa yellow tomentose; empodium subequal to tarsal claws; length 25 mm (New Guinea) ..... **destillatoria** (Hermann)
- 7(5). Thorax black, 3 longitudinal yellow stripes; wings yellowish gray, spots in posterior cells, marginal cell 2 expanded at wing margin; hind legs yellow, blackish basally; length 18 mm (Java). ..... **vitiosa** (Wulp)  
 Thorax shining, yellow or rufous, longitudinal stripes brown, or stripes inconspicuous; wings either hyaline or partially yellow ..... 8
- 8(7). Thorax yellow, short lateral stripes coalescing posteriorly; venter with 3 longitudinal reddish brown stripes, lateral stripes on sternites 1-3 indistinct; wings hyaline; length 24 mm (China). ..... **claripennis** (Hsia)  
 Thorax rufous, longitudinal stripes inconspicuous; costal half of wing yellow, hyaline below; length 31 mm (China). ..... **dimidiata** (Hsia)
- 9(2). Species from Celebes, Formosa, Java, Laos, Malaya, Perak, Sumatra ..... 16  
 Species from India, Thailand, Philippines ..... 10
- 10(9). Antennae, thorax and abdomen reddish yellow; tergites 4-8 mostly black; length 15 mm (Philippine Islands) ..... **boettcheri** (Frey)  
 Antennae at least in part some shade of brown or black; thorax thinly pollinose, or polished ..... 11
- 11(10). Thorax thinly brown pollinose, laterally and posteriorly gray tomentose, posteriorly over 12 long bristles; tergite 2 without a median yellow band; length 16 mm. (India) ..... **simila**\*  
 Thorax polished; tergite 2 with or without a medium band. .... 12
- 12(11). Mystax with 8-10 bristles in 2 patches; abdomen black dorsally, yellowish laterally; scutellum without bristles; length 18 mm (Thailand) ..... **thailandae**\*  
 Mystax with 4-6 bristles uniformly spaced ..... 13
- 13(12). Abdomen shining black; pleura brown tomentose; scutellum gray tomentose with 2 rows of yellow hair; hind femora brown, reddish apex may extend to middle; length 24-30 mm (Philippine Islands). ..... **princeps** (Osten Sacken)  
 Abdomen either brownish red, or 2 or more tergites with yellow bands ..... 14
- 14(13). Wing stigma medially in subcostal cell; tergite 2 with median yellow band; length

- 14 mm (India). ..... **indiae\***  
 Wing without stigma ; tergite 2 without median band ..... 15
- 15(14). Two long, 2 short mystax bristles ; thorax rugose, laterally whitish brown tomentose, posteriorly brownish tomentose ; occiput gray tomentose ; length 18 mm (India).  
 ..... **australis\***  
 Mystax bristles uniform in length ; thorax smooth ; occiput brown tomentose, narrowly gray laterally ; length 23 mm (Thailand). ..... **siamae\***
- 16(9). Thorax with either separated or partially coalesced stripes ..... 18  
 Thorax unicolored, without stripes ..... 17
- 17(16). Thorax reddish brown, laterally yellow tomentose ; antennae black ; face brownish yellow tomentose ; length 13-14 mm (Celebes). ..... **inflata** (Osten Sacken)  
 Thorax shining black, laterally and posteriorly gray tomentose ; antennae yellowish red ; face gray tomentose ; length 20 mm (Laos). ..... **vitalisiana** (Frey)
- 18(16). Thoracic longitudinal stripes black, partially coalesced posteriorly ..... 20  
 Thoracic stripes completely separated ..... 19
- 19(18). Thorax polished, dark brownish, median stripe geminate, divergent anteriorly ; wings hyaline ; length 18 mm (Sumatra). ..... **contermina** (Edwards)  
 Thorax reddish yellow, median stripe not geminate ; wings yellowish, marginal cell brown ; length 24 mm (Java). ..... **affinis** (Frey)
- 20(16). Costal or subcostal cell with a strong stigma, or one or both cells partially or wholly brown ..... 22  
 Wings hyaline or yellowish, either no stigma, or stigma very faint ..... 21
- 21(20). Face white tomentose ; pleura gray tomentose ; legs yellow, femora brown-banded apically ; 8 mystax bristles ; wings pale brownish ; length 22 mm (Formosa). .....  
 ..... **sauteri** (Hermann)  
 Face reddish yellow tomentose ; pleura yellow to white tomentose ; legs reddish yellow ; 4 mystax bristles ; length 18 mm (Sumatra). ..... **triangulata** Enderlein
- 22(20). Thorax laterally and posteriorly white tomentose ; wings hyaline with a small stigma ; face gray tomentose ; length 9 mm (Java) ..... **occulusa** (de Meijere)  
 Thorax laterally and posteriorly yellow tomentose ; face either reddish brown or yellowish tomentose ..... 23
- 23(22). Face reddish brown tomentose ; distal half of subcostal cell deep brown ; mystax of 2 pair of yellow bristles ; length 17 mm (Malaya) ..... **inscripta** (Hermann)  
 Face yellow tomentose ; stigma a deep brown ; mystax of 4 long bristles ; length 17 mm (Perak). ..... **stigmata** (Hermann)

### ***Ammophilomima aequinoctialis* E. Janssens**

*Ammophilomima aequinoctialis* E. Janssens, 1953 : 9. Type-locality : d'Eala, The Congo, Africa. Type, Brussels.

♀. Length 18 mm. Face, front, white tomentose, occiput whitish tomentose ; antennal segments 1 and 2 yellow, segment 3 and style brown ; mystax, four yellow bristles ; proboscis brown.

Thorax dusky brown, almost black, polished ; pleura yellow bistre, thinly yellow and white tomentose.

Abdomen rather short, apically enlarged.

Wings hyaline, apex smokey, stigma in middle of costal cell ; halteres yellow.

Hind femora dusky, yellow spot at base, medially an irregular yellow spot ; posterior tibia black except base ; empodium about half as long as tarsal claws.

***Ammophilomima affinis* (Frey), new combination**

*Leptogaster (Lagynogaster) affinis* Frey, 1937 : 50. Type-locality : Soekaboemi, Java. Type, Helsinki.

♀. Length 24 mm. *Ammophilomima affinis* (Frey) is reported by Frey (1937) as a species similar to *A. boettcheri* (Frey). The differences that Frey lists are: antennal segment 3 of *A. affinis* is  $3 \times$  as long as segments 1+2, style  $2/3$  as long as segment 3; proboscis reddish yellow; thoracic longitudinal stripes, median stripe not emarginate; scutellum, pleura, and coxa reddish to brassy yellow pollinose; presutural and supraalar yellow; legs yellowish red, hind tibial bristles yellow; anal cell petiolate.

***Ammophilomima antennalis* (Hsia), new combination**

*Lagynogaster antennalis* Hsia, 1949 : 57. Type-locality : Bao, Hwa Shan Kiangsu, China. Type, Musée Huede, Shanghai (Now in Academia Sinica-Ed.).

♀. Length 14 mm. Head black; face brown tomentose, occiput yellow tomentose; antennae long, segments 1 and 2 shining brown; segment 3 yellow,  $1\frac{1}{2} \times$  as long as segments 1+2, style yellow,  $1/3$  as long as segment 3; mystax with many yellow hairs; proboscis and palpi shining black with yellow hair.

Thorax polished brown, humeri yellow, three inconspicuous blackish brown stripes, lateral stripes abbreviated anteriorly, yellow tomentose laterally, posteriorly, and on scutellum; pleura yellowish brown tomentose, a black stripe from spiracle to wing base, sternopleura blackish brown.

Abdomen chestnut brown, tergites 1 and 2 reddish; vestiture yellow, especially on tergites 4-8.

Wings tinged yellow, veins brown except costal, subcostal, and  $R_1$  yellow, anal cell short petiolate.

Legs yellow ocher; hind femora with a broad median brown band; hind tibia darker anteriorly, a dorsal row of ca. 7 red bristles and 2 inner black bristles; empodia about  $2/3$  as long as tarsal claws.

***Ammophilomima auripennis* E. Janssens** Fig. 4.

*Ammophilomima auripennis* E. Janssens, 1953: 5. Type-locality : The Congo, Africa. Type, Munich.

*Lagynogaster auripennis* Hermann, 1926 : 143. Type-locality : State of Congo. *Nomen nudum*.

*Ammophilomima auripennis* E. Janssens ranges from Uganda in eastern Africa to Ivory Coast in western Africa, a distance of approximately 5000 km. The species is variable in color.

Redescription : Two paratypes and 14 specimens at hand. ♂. Length 25 mm. Face red, occiput black; face either densely yellow tomentose, or densely white tomentose (Janssens, 1953, bluish gray), reddish laterally on oral margin, upper  $3/4$  of front whitish tomentose, lower third thinly pale brown tomentose, occiput yellowish to brownish yellow tomentose, posterior ocellar ridge thinly grayish brown; antennae reddish, segment 1 and style darker, segment 3 slender,  $1.3 \times$  as long as segments 1+2; mystax, 6 reddish or whitish bristles; proboscis dark reddish; long black occipital bristles below ocellar tubercle.

Thorax reddish, thinly brown and gray tomentose, anteriorly median stripe bare, humeri



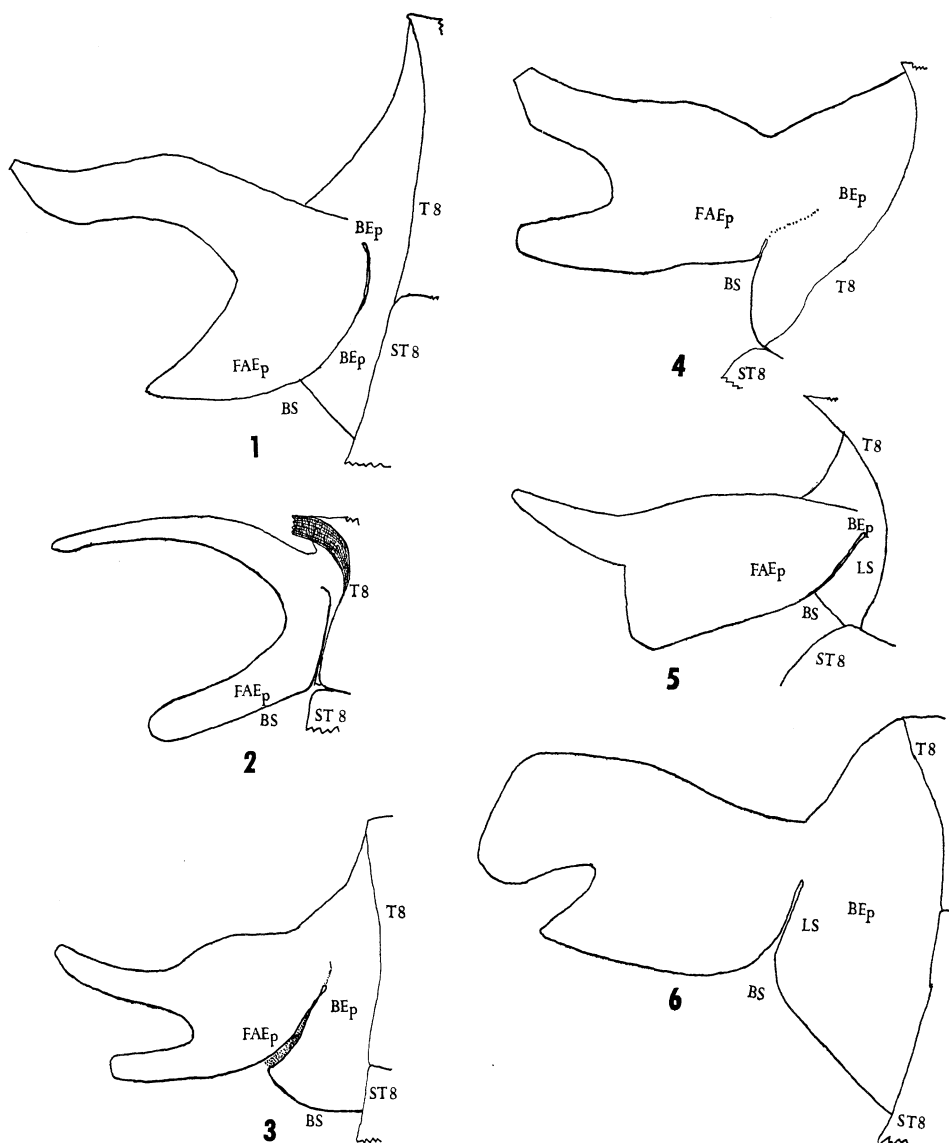


Fig. 1-6. Bifid epandria of *Ammophilomima* (= *Lagynogaster*). 1, *A. sauteri* (Hermann); 2, *A. thailandae* Martin; 3, *A. australis* Martin; 4, *auripennis* E. Janssens; 5, *A. indiae* Martin; 6, *A. truncata* Martin. BEp=base of epandrium. FAEp=partially free apex of epandrium. BS=basistylus. LS=lateral slit. ST8=sternite 8. T8=tergite 8.

angulate, lighter red than thorax, numerous long black bristles posteriorly; scutellum red, disc white pollinose with erect black bristles on anterior half, posterior margin with weaker reddish bristles curved mesad; pleura reddish, yellowish brown tomentose.

Abdomen yellowish to reddish brown, tergite 6 blackish anteriorly, more polished than

tergite 3, tergite 2 with abundant erect white pile on anterior third; apices of epandrial arms widely separated, apical hypandrial processes truncate, rounded laterally, a narrow triangular notch separating the processes.

Wings yellowish brown, short bent microchaetae covering longitudinal vein 2, microchaetae on fork veins of longitudinal vein 3 ( $R_4$ ,  $R_5$ ).

Legs mostly reddish, hind femora yellowish basally, empodium less than half as long as tarsal claws.

Distribution. West Africa : Ivory Coast, Abidjan. Cameroon, Douala ; Yaoundé. Central Africa : Zaire, Equateur, Beni; Bumba. East central Africa : Uganda, Kamanala.

***Ammophilomima australis* Martin, new species**      Fig. 3.

♂. Length 18 mm. Head black ; face and occiput gray tomentose, front brown ; 2 long and 2 short mystax bristles, white, occipital bristles weak, short, pale; antennal segments 1, 2, and 3, basally narrowly brownish yellow, segment 3 and style dark brown, narrower than segment 2, subequal to length of segments 1+2 ; proboscis reddish brown.

Thorax rugose, anteriorly median stripe with a rugose pattern different from lateral rugosity ; yellowish brown, lateral and median stripes inconspicuously dark reddish, laterally gray tomentose, posteriorly thinly brown tomentose, posterior humeri grayish tomentose ; scutellum mostly blackish, reddish laterally, brown pollinose, posterior margin with short bristles ; pleura yellowish red, white tomentose.

Abdomen blackish brown, tergites 2-4 narrowly yellowish posteriorly, vestiture pale ; epandrium blackish, ventral arm yellowish, both narrow, slightly crescentic ; hypandrium concave apicad, apex deeply emarginate, flattened apical processes expanded posteriorad, long pale yellowish hairs basad.

Wings hyaline, clouded on apex, no stigma.

Hind femora yellow with a broad brown band on apical region, brownish basally, hair flocke of 12-15 scattered yellow hairs, hind tibia yellow dorsoposteriorly, narrow pale stripe posteriorly ; empodium 1/2 as long as tarsal claws.

Type material. Holotype ♂ (BISHOP 10,090), Kodaikanal, Pulney Hills, south India, May 1953 (P. S. Nathan).

***Ammophilomima basilewskyi* E. Janssens**

*Ammophilomima basilewskyi* E. Janssens, 1953 : 10. Type-locality : Basakusu. The Congo (Soeurs de O. L. V. Bunderen). Type, Royal Museum of Belgium at Tervueren.

♂. Length 13 mm. Face and occiput white tomentose ; antennal segments 1 and 2 brown, segment 3 missing ; mystax, 4 white bristles.

Thoracic ground color yellow, a dusky brown tomentose trident pattern on dorsum.

Abdomen velvety dusky brown, tergites posteriorly with bistre bands.

Wings hyaline, stigma not reaching costal vein ; halteres bistre.

Posterior femora dusky, median yellow spot not forming a complete band, hind tibia darker than anterior four ; empodium less than half as long as tarsal claws.

***Ammophilomima boettcheri* (Frey), new combination**

*Leptogaster (Lagynogaster) boettcheri* Frey, 1937 : 49. Type-locality : Mt Banahao, Luzon, Philip-

pine Islands. Type, Helsinki.

*Ammophilomima* (*Lagynogaster*) *boettcheri* : Oldroyd, 1972 : 219.

♂. Length 15 mm. Head grayish tomentose ; antennae reddish yellow, segment 3  $2\frac{1}{2}\times$  as long as segments 1 + 2, arista brown, its length equal to segment 3; mystax sparse, whitish, occipital bristles white ; proboscis blackish brown.

Thorax reddish yellow, median stripe anteriorly emarginate ; scutellum and pleura brownish; presutural bristle yellow, suprasclerites black.

Abdomen reddish yellow, tergites 4-8 mostly black ; hypopygium black, small, closed.

Wings yellowish, marginal cell 1 brown, anal cell petiolate; halteres yellowish.

Legs yellowish red, hind femora medially with a broad brownish band, medioposteriorly with a patch of yellowish hair.

Oldroyd (1972) described *A. boettcheri* (Frey) as having a brassy tomentose face and yellowish occiput. Frey (1937) described "Kopf graulich bestäub\*\*." Other details of Oldroyd's description differ from the original. Also, Oldroyd's figure 2 is not the typical ♂ epandrium of *Ammophilomima*. Oldroyd's identification is questionable.

#### ***Ammophilomima claripennis* (Hsia), new combination**

*Lagynogaster claripennis* Hsia, 1949 : 52. Type-locality : Tien-mu Shan, Chekiang, China. Type : Musée Heude, Shanghai, (Now in Academia Sinica-Ed.).

♀. Length 20-24 mm. Head black ; face and occiput yellow tomentose ; antennae long, segment 1 whitish, segment 2 and 3 brownish yellow, segment 3 spindle-shaped, about  $2\times$  as long as segments 1+2, style brown, about  $\frac{1}{3}\times$  as long as segment 3 ; mystax with more than 26 long yellow bristles ; postocular bristles stout, brownish ; proboscis shining brown.

Thorax pale yellow, shining, laterally and posteriorly yellowish tomentose, lateral and median stripes brownish, lateral stripes short, coalescing posteriorly, scutellum yellow tomentose ; pleura yellow, yellow tomentose ; bristles yellow except sternopleurals dark brown.

Abdomen ochraceous-buff, anterior half of segments 3-7 brownish, venter similar in color, with three reddish brown segmental longitudinal stripes, laterals indistinct on segments 1-3.

Wings hyaline, veins brown except costa, subcosta, and  $R_1$  yellowish ; anal cell short petiolate.

Legs yellow, middle coxa brownish, fore and hind coxae yellow ; hind femora with a broad brownish band medially ; empodium about  $\frac{2}{3}$  the length of the claws.

#### ***Ammophilomima contermina* (Edwards), new combination**

*Leptogaster contermina* Edwards, 1919 : 31. Type-locality : Sandarn Agong, 750 m, west Sumatra. Type, British Museum (Natural History).

♂. Length 18 mm. Face whitish tomentose, vertex dull black ; antennal segments 1 and 2 whitish ochreous, segment 3 dark basally, lighter apically, style almost black ; mystax, 4 whitish bristles ; proboscis shining light brown.

Thorax shining, dark brownish, 3 black longitudinal stripes, lateral stripes on lateral margins of thorax, median stripe totally geminate, divergent anteriorly with a short black streak between, posteriorly pale ochreous with a dark spot medially ; scutellum pale ochreous ; pleura pale ochreous, at margin of prothoracic spiracle a broad dark stripe extending to wing base and on to mesosternum.

Abdomen dark brown, subshining, anteriorly tergites 2-5 and venter pale; genitalia black. Wings nearly hyaline, anal cell very short petiolate.

Hind femora swollen apically, dorsally brownish, apex pale ochreous dorsally, ventrally brownish, medioposteriorly a small patch of long golden hairs, hind tibia brownish, apex more ochreous, base darker.

***Ammophilomima destillatoria* (Hermann), new combination**

*Lagynogaster destillatoria* Hermann, 1917: 16. Type-locality: New Guinea. Type, Munich.

♀. Length 25 mm. Face yellow tomentose, front black, thinly yellow tomentose, occiput brown tomentose above, yellow below; antennae yellow, segments 1 and 2 equal in length, segment 3  $2\times$  as long as segments 1+2, style 2-segmented, brown, ca.  $1/3$  as long as segment 3; mystax of numerous bristles, yellowish, occipital bristles not near orbital margin, yellowish brown; proboscis reddish brown.

Thorax reddish yellow, dull laterally, posteriorly, cross-marking of yellow tomentum, median and lateral stripes coalesced posteriorly, anteriorly separated by shining ground color, lateral stripes shortened anteriorly, median stripe reaching anterior margin of mesonotum, bristles yellowish red, hair yellow, anterior coxa, thorax, pleura, and mesonotum yellow tomentose, middle coxa dark brown tomentose extending upward around wing base, pleura above with yellow hair; scutellum yellow tomentose, marginal bristles short, black.

Abdomen clavate, tergite 2 reddish yellow anteriorly and posteriorly, medially a broad brown band, bright ground color of tergite 3 widens basally, tergite 4 reddish yellow, posterior margin black, tergite 5 bluish black; tergite 1 with brown bristles on posterior margin, tergite 2 with brown hair laterally, posterior tergites yellow-haired.

Wings tinged brown, veins especially thick, dark brown anteriorly, marginal cell intensely brown, anal cell stalked, crossvein at distal third of discoidal cell.

Legs yellow brown, femora brownish dorsally, laterally with bands, pale longitudinal stripes; empodia subequal to tarsal claws.

***Ammophilomima dimidiata* (Hsia), new combination**

*Lagynogaster dimidiata* Hsia, 1949: 53. Type-locality: Tien-mu Shan, Chekiang, China. Type location not known.

Closely allied to *Lagynogaster fuliginosa* Hermann, but according to Hsia (1949), differs by the wings being with costal half yellowish, anal half hyaline; dorsoapical bristles of hind femora reddish.

♀. Length 31 mm. Face, front, and occiput yellow tomentose; antennae ferrugineous, segment 2 shorter than segment 1, segment 3 ca.  $2\times$  as long as segments 1+2, style darker, about  $1/3$  as long as segment 3, segment 3 broader apically than basally; mystax, ca. 28 yellow bristles.

Thorax shining, rufous, laterally and posteriorly densely yellow tomentose, 3 dorsal stripes inconspicuous, humeri yellow, blackish stripe extending from spiracle 1 to base of wings; pleura yellow tomentose, sternopleura blackish.

Abdomen long, apical 4 segments thickened in ♂; epandrium bilobed. Color of abdomen not described.

Wings hyaline, costal half yellowish, veins brown except costa, subcosta, and apical half of  $R_1$  yellowish, anal cell petiolate; halteres reddish brown.

Legs mustard yellow ; medially hind femora with a broad brown band, dorsal apical bristles reddish, hind tibia with strong reddish bristles, ca. 6-8 dorsally, 2 anteriorly ; empodia about  $\frac{2}{3}$  the length of the claws.

#### ***Ammophilomima evanescens* E. Janssens**

*Ammophilomima evanescens* E. Janssens, 1953 : 7. Type-locality : d'Eala, The Congo, Africa. Type, Brussels.

♂, ♀, paratypes. Length 14-18 mm. Head black ; face white tomentose, front thinly brown tomentose, occiput below ocellar tubercle polished black, thinly brown tomentose, occiput gray tomentose ; antennae pale reddish brown, segment 1 darker, segment 3  $1\frac{1}{4}\times$  as long as style about  $1\frac{1}{3}\times$  as long as segments 1+2 ; mystax, 4 long yellow bristles ; proboscis dark reddish brown.

Thorax shining black, laterally and posteriorly thinly gray tomentose ; posteriorly scattered erect bristles ; scutellum dark brown, white tomentose, bristles on anterior half and on posterior margin erect, black ; pleura reddish brown, white tomentose.

Abdomen of ♂ dark reddish brown, subshining, tergites 2-4 with indefinite dark yellowish bands near posterior margins, narrowly gray pollinose on posterior margins, tergite 5 with posterior margin dark yellowish, more broadly laterally, tergite 6 narrowly yellow on posterior margin ; dorsal arm of epandria tapering to a blunt point, ventral arm broader than dorsal arm apically, ventral margin straight, dorsally apex rounded ; apex of hypandrium deeply emarginate, lateral processes long, narrow, triangular, sharply pointed.

♀ more extensively yellow on posterior margins of tergites.

Legs brown, hind femora with irregular yellow band on apical third and at apex of tibia ; hair flocke, a row of mostly paired, ca. 25 yellowish white hair-like long bristles.

Distribution : Zaire (Belgium Congo) ; Uganda.

#### ***Ammophilomima eumenoides* E. Janssens**

*Ammophilomima eumenoides* E. Janssens, 1953 : 4. Type-locality : Nyassaland (Malawai), Africa. Type, Munich.

*Lagynogaster eumenoides* Hermann, 1926 : 143. Nyassaland, Urwald Beni, Africa. *Nomen nudum*. A ♀ marked type at Vienna.

Paratype. ♂. Length 29 mm. Head black ; face whitish tomentose, at some angles of view upper part of face brownish, front brown tomentose, occiput gray tomentose ; antennal segments 1, 2, and segment 3 basally yellow, segment 3 apically and style brown, segment 3 about  $1.6\times$  as long as segments 1+2, subequal to length of style ; mystax of 6 white bristles, occipital bristles weak, pale ; proboscis reddish brown.

Thorax reddish brown, thinly white pollinose ; long blackish vestiture on posterior declivity ; scutellum reddish brown, white pollinose, short black bristles anteriorly on disc and posterior margin ; pleura reddish brown pollinose, vestiture sparse, weak, pale.

Abdomen same reddish brown as thorax, tergite 3 with a black band on posterior margin, tergite 6 black, tergite 7 blackish red, thinly white pollinose, more densely laterally and on tergite 5 dorsally ; dorsal arm of epandrium long, pointed, ventral arm short, rounded apically ; hypandrial processes truncate, the emargination forming a shallow V.

Wings reddish brown, anal cell petiolate.

Legs slender, long, scarcely clavate, reddish brown, hind femora with 4 dorsal reddish bristles,

on posterior side at about 1/3 the distance from the base a long flocke of ca. 25-30 erect, long, scattered white bristles in three longitudinal rows; empodium half as long as tarsal claws.

**DISTRIBUTION.** Malawi (Nyassaland), Afria.

***Ammophilomima fuliginosa* (Hermann), new combination**

*Lagynogaster fuliginosa* Hermann, 1917: 13 (Type-locality: Kanshirei, Formosa. Type, Budapest. Type-species of *Lagynogaster* Hermann — orig. des). — Hsia, 1949: 53 (Redescription of specimens from Tien-mu Shen Chekiang, China; Kikow, China; Rimogan, Formosa).

Translation, Hermann's original description. ♀. Length 26 mm. Face, front, occiput, yellowish tomentose, antennae yellow, basal segments subequal, segment 3  $3 \times$  as long as segments 1 + 2, style about 1/3 as long as segment 3; mystax, 2 rows of yellow bristles.

Thorax reddish brown, golden yellow tomentose laterally and posteriorly; median and lateral stripes coalesce posteriorly, middle stripe expands anteriorly to anterior margin; vestiture yellow; scutellum yellow tomentose, short black-haired on posterior margin; pleura yellow tomentose, vestiture yellow.

Abdomen yellowish brown pollinose, clavate, segments 1 and 2 yellow tomentose laterally, anteriorly to a greater degree; vestiture yellow; ovipositor large.

Wings tinged yellowish brown, veins reddish yellow, anal cell petiolate, small crossvein above proximal third of discal cell.

Legs blackish brown; vestiture both black and yellow; hind femora with a yellow hair flocke; empodium 2/3 as long as tarsal claws.

***Ammophilomima ghesquerei* E. Janssens**

*Ammophilomima ghesquerei* E. Janssens, 1953: 8. Type-locality: d'Eala, The Congo, Africa. Type, Brussels.

♀. Length 15-16 mm. Face white tomentose, occiput grayish white tomentose; antennae and proboscis black; mystax, 4 long bristles.

Thorax swollen, shining black; pleura white tomentose.

Abdomen short, strongly clavate apically.

Wings yellow, stigma in middle of costal cell; halteres yellow.

Posterior femora dusky, yellow basally, medially an irregular yellow band, posterior tibia black except base; empodium less than half as long as tarsal claws.

***Ammophilomima imitatrix* Enderlein**

*Ammophilomima imitatrix* Enderlein, 1914: 155. Type-locality: Barombi, Cameroon, Africa. Type-species of *Ammophilomima* Enderlein. Type, Warsaw.

♀. Length 24 mm. Head black; face yellowish white tomentose, occiput gray tomentose; antennae brown, segment 2 yellowish apically; mystax, 4 bristles; proboscis red.

Thorax dull rust-colored, disc polished, dark brown, posterior margin bright rusty yellow, with sparse erect dark brown hairs; scutellum small, posterior margin with fine hairs.

Abdomen long, slender, clavate, reddish brown, posterior 3 segments dark brown, vestiture sparse, grayish.

Wings hyaline, apical fifth faintly cloudy, subcostal vein thick apically, mostly dark brown,

veins rusty brown, discal cell long, narrow, crossvein at anterior fourth, anal cell petiolate.

Legs long, slender, posterior femora with a yellow band subapically, apical 1/4 of hind tibia whitish yellow with yellowish pubescence, basal 3/4 brown, short weak black bristles; hair flocke on posterior surface of hind femora yellowish white.

I have specimens labeled by E. Janssens (1953) as *Ammophilomima imitatrix* Enderlein from the Eala region of The Congo (Zaire). They are similar to *A. imitatrix* in having the apical fourth of the hind tibia yellow, but Janssens' specimens represent another species in having the occiput gray laterally, brown above; 8 mystax bristles; thoracic background color black; tergites uniformly brown; hair flocke reddish.

***Ammophilomima indiae* Martin, new species**      Fig. 5.

The face of most ♂♂ of *Ammophilomima indiae* Martin is gray, while that of the ♀♀ is brown. Three of the 18 ♀♀ with a gray face, and three of 14 ♂♂ with a brown face. Tergites 2-5 of ♂♂ yellow to reddish banded, all tergites of ♀♀ banded.

♂. Length 14 mm. Head black; face and occiput gray tomentose, front, vertex, and upper occiput brown tomentose; antennal segment 1 reddish brown, segment 2 more pale, segment 3 pale reddish brown, style dark brown, segments 1+2 subequal to segment 3, the latter subequal to style; mystax of 4 yellowish bristles, occipital bristles pale, weak; proboscis dark reddish brown.

Thorax black, humeri yellow, polished, median and lateral stripes reaching anterior margin and divided by a more or less distinct yellowish red line, thorax laterally whitish to yellowish brown tomentose, posteriorly yellowish brown tomentose; scutellum brown, reddish posteriorly, disc brown tomentose medioanteriorly, laterally and posteriorly more or less yellowish brown tomentose, short blackish bristles on posterior margin; pleura black, whitish tomentose, pile white.

Abdomen blackish brown, tergite 2 medially and posteriorly with yellowish red bands, tergites 3-5 with yellowish red bands anteriorly and posteriorly; dorsal arms of epandria apically narrow, pointed, ventral arm angulate; emargination of hypandrial apex forming 2 right-angled triangles.

Wings hyaline, apex brownish, stigma medially in subcostal cell.

Hind femora reddish brown, yellow band on base of clavus, basally yellow, about 1/2 its length from the base a patch of ca. 25 yellowish white hairs arranged in 2 rows; hind tibia brown, an elongate yellow stripe from base dorsoanteriorly; empodium 3/4 as long as tarsal claws.

♀. See paragraph one. Occiput gray to brownish gray.

Type material. Holotype ♂ (BISHOP 10,091), Anamalai Hills, Cinchona, 1060 m, south India, V.1962 (P. S. Nathan). Allotype ♀ (BISHOP), same data, 1967. Paratypes: 6 ♂♂, 14 ♀♀, same locality as holotype.

DISTRIBUTION. South India. Walayar Forests, South Malabar, X.1957; Nilgiri Hills, Devala, X.1960; Singara, 1025 m, V.1948.

***Ammophilomima inflata* (Osten Sacken), new combination**

*Leptogaster inflatus* Osten Sacken, 1881: 426. Type-locality: Kandaei, Celebes. Type, Genova.

*Lagynogaster inflatus*: Hermann, 1917: 18.

♀. Length 13-14 mm. Face brownish yellow tomentose, front brown tomentose, vertex black; antennae black, segment 3 narrow, ca.  $3 \times$  as long as segment 1, style the length of segment 1.

Thorax reddish brown, laterally yellow tomentose.

Tergites 1-4 brownish red, more or less mixed with red, segments 5-7 black.

Wings brownish, apex subhyaline; halteres yellow, knob brown.

Legs brownish; neither Osten Sacken (1881) nor Hermann (1917) mention a hair flocke on the hind femora.

#### ***Ammophilomima inscripta* (Hermann), new combination**

*Lagynogaster inscriptus* Hermann, 1917: 17 (Type-locality: Perak. Type, Munich). Bromley, 1945: 92 (Reported from Hori, Formosa; Bromley's specimen at hand is misidentified).

♀. Length 17 mm. Face reddish brown, front and occiput black; face and occiput yellow tomentose; antennal segments yellow, style black; segments 1 and 2 equal in length, segment 3 ca.  $2 \times$  as long as segments 1+2, style as long as segment 3; mystax of 4, paired yellow bristles, a few brownish occipital bristles, below yellow hair; proboscis reddish brown.

Thorax yellowish brown, shining, laterally and posteriorly yellow tomentose, stripes dark brown, median stripe broad anteriorly, strongly narrowed above scutellum, lateral stripes to anterior humeri, coalescing posteriorly with median stripe; vestiture yellow; scutellum yellow tomentose; pleura yellow tomentose, middle coxa dark brown tomentose forming an oblique band to the metanotum.

Abdomen brown, more densely near incisures, tergite 2 anteriorly and laterally yellow tomentose, vestiture yellow to yellowish brown.

Wings pale smoky brown, distal half of costal cell intensely brown, veins dark brown, anal cell petiolate, crossvein at the proximal third of the discal cell.

Legs yellowish brown with blackish brown markings, hind tibia with a pale band more extensive ventrally than dorsally, posterior bands brownish anteriorly and around apices; vestiture yellow; empodium half as long as tarsal claws.

Hermann believed that *Lagynogaster inscriptus* resembles *L. vitiosa* (Wulp) from Java, differing in that the branching of the cubitus vein is more divergent than in *L. vitiosa*.

#### ***Ammophilomima kenyae* Martin, new species**

*Ammophilomima kenyae* Martin differs from other species in Africa in being without an empodium on the hind tarsus.

♂. Length 22 mm. Face light brownish, thinly whitish brown tomentose, front brownish tomentose, occiput brown and white tomentose; antennal segments 1 and 2 reddish brown, segment 3 and style missing on type-specimen; below ocellar tubercle and on lower occiput long brownish to black bristles, laterally bristles shorter; 6 long whitish mystax bristles.

Thorax reddish, indistinct blackish areas, thinly brown pollinose, more thinly anteriorly, erect long strong black bristles medially and posteriorly, weaker long pale bristles lateroposteriorly; scutellum, disc reddish with posterior margin darker, 10-12 stout black discal bristles, stout short black marginal bristles; pleura reddish, pale reddish brown tomentose; below spiracle, wing base, and before halteres clumps of long pale brown weak bristles.

Abdomen spatulate, tergites 1-5 reddish, tergites 2-4 with narrow blackish bands along incisures, tergites 6-7 dark reddish, tergite 2 anteriorly and medially with long erect sparse hairs, hair shorter and recumbent on posterior tergites; dorsal arm of epandrium sharply pointed



apically, ventral arm rounded apically, long yellow and brownish bristles along margin; lateral margins of hypandrium thick, hypandrial apex thin, short, shallowly emarginate.

Wings pale reddish brown, costal and subcostal cells densely brown.

Legs long, slender, hind femora reddish brown on basal half; reddish yellow apically, hair floccose near dorsal surface, closer to base than to apex of femora, of 2 rows of spaced long pale yellowish hair-like bristles, dorsal surface with semirecumbent long black bristles; 4 anterior legs with short weak empodia, hind legs without empodia.

Type material. Holotype ♂ (USNM), Sabaki River, Kenya Colony (Kenya), Africa, IV.1932. (H. I. A. Turner), S. E. Bromley Collection.

#### ***Ammophilomima montana* E. Janssens**

*Ammophilomima montana* E. Janssens, 1955: 303. Type-locality: Africa, Urundi, Bururi, altitude 1900 m. Type, Musée royal du Congo Belge d'Turvuren.

♂. Length 17 mm. Face very dark, nearly smooth, occiput black, glabrous, part of the collar margin very thinly pollinose; four very slender mystax bristles.

Mesonotum polished, black, narrowly tomentose laterally, pleura same color as mesonotum, sparsely tomentose.

Abdomen long, slender, dull; hypopygium similar to other species, forceps reduced.

Wings hyaline, tinged yellow, a stigma at the base of the subcostal cell, rest of cell paler, but without the strong color of *A. straeleni* E. Janssens; halteres brown.

Femora and tibia of two shades of brown, forming longitudinal stripes.

#### ***Ammophilomima oculusa* (de Meijere), new combination**

*Leptogaster oculusa* de Meijere, 1914: 34. Type-locality: Tempuran, Java. Type, Leiden.

According to de Meijere, *Leptogaster oculusa* is close to *L. vitiosa* v. d. Wulp, the latter with the segment of the upper boundary of the discal cell much longer than the 3rd, both veins of the same length in *L. oculusa*.

♂. Length 9 mm. Face and front grayish white, occiput grayish yellow tomentose; antennae reddish yellow, segment 3 as long as style; proboscis black; number of mystax bristles not stated.

Thorax brownish yellow, laterally and posteriorly white tomentose, largely covered by 3 shining coalesced black stripes, the median extending anteriorad; bristles black, posteriorly rather thick whitish hair; scutellum white tomentose; pleura white tomentose on upper half, dark brown lower half.

Tergites black, narrow yellow crossbands, anterior crossband on tergites 2, 3, and 5 with yellow fringe; sternites blackish brown with yellow markings.

Wings hyaline, apices blackish brown, between the tips of longitudinal veins 1 and 2 a small dark spot, small cross-marking medially in discal cell; anal vein long petiolate; halteres dark brown, stalk yellow.

Hind femora yellowish white on basal 2/3, other bands white; medially on inner surface a tuft of long yellow hair.

***Ammophilomima princeps* (Osten Sacken), new combination**

*Leptogaster princeps* Osten Sacken, 1882: 102. Type-locality: Philippine Islands. Type location unknown.

*Lagynogaster princeps*: Hermann, 1917: 18. — Hsia, 1949: 54.

Hsia (1949) described specimens from Tienmushan, Chekiang, China, latitude ca. 30° N, as *Lagynogaster princeps* (Osten Sacken). This northern record for a Philippine species needs verification.

Original description. 3 ♀♀. Length 24-30 mm. Head black; face whitish tomentose, occiput grayish white; antennae reddish brown, segment 2 yellowish, segment 3  $3 \times$  as long as segments 1+2, style 2-segmented,  $1/4$  as long as segment 3; mystax, a few weak hairs.

Thorax black, bluish reflections, laterally and posteriorly gray tomentose; scutellum gray tomentose; pleura brownish tomentose.

Abdomen shining black, bluish reflections, some reddish areas ventrally.

Wings brown, anal cell petiolate; halteres dark brown, knob reddish.

Legs reddish to dark brown, apex of hind femora reddish, sometimes extending beyond the middle, hind tibia more or less reddish; neither Osten Sacken (1882) nor Hermann (1917) mention a hair floccle on the hind femora.

***Ammophilomima sauteri* (Hermann), now combination      Fig. 1.**

*Lagynogaster sauteri* Hermann, 1917: 15. Type-locality: Koshun, Formosa.

Type, Berlin, Budapest, Vienna.

Redescription of paratype, USNM no. 90640. ♂. Length 22 mm. Face, front, occiput, white tomentose; antennal segments 1 and 2 equal in length, segment 3 narrow,  $2 \times$  as long as segments 1+2, style  $1/3$  as long as segment 3, segment 1 brown, segment 2 yellow, segment 3 brown apically yellow basally, style brownish; mystax of 8 white bristles, occipital bristles pale brownish.

Thorax with median and lateral stripes coalescing posteriorly, anteriorly the stripes separated by yellow ground color, laterally and posteriorly gray tomentose; bristles black; scutellum gray tomentose, short black bristles on posterior margin; pleura gray tomentose, vestiture white, except a small tuft of yellow bristles before halteres.

Abdomen reddish brown to reddish yellow, shining, tergites 1 and 2 laterally yellowish gray tomentose, vestiture short, black, tergite 2 yellow-haired, tergite 8 with longer yellow hair; ♂ genitalia reddish brown, dorsal arm of epandria apically narrow, obliquely truncate, ventral arm triangular, long weak yellow bristles along ventral margin; apical hypandrial processes about as long as wide, rounded apically, a wide U-shaped emargination; see general discussion of hypandrium.

Wings pale brownish, veins dark brown, stigma faint, anal cell short petiolate.

Legs yellow, femora with brown bands apically; empodium about  $2/3$  as long as tarsal claws.

***Ammophilomima siamae* Martin, new species**

♀. Length 23 mm. Face dark red, front and occiput black; face white tomentose, brown at some angles of view, front brown tomentose, below ocellar tubercle occiput brown, disc white and brown tomentose; antennal segment 3 missing; mystax, 4 reddish bristles, occipital bristles weak, short, pale, none below ocellar tubercle.

Thorax dark red, from a lateral view tomentum broadly reddish brown, changing to gray

dorsoposteriorly, from a dorsal view a lateral reddish brown stripe, above and below it narrow gray stripes expanding posteriorad, posteriorly a gray spot within a brown spot; scutellum red, white tomentose, posterior margin pale brown tomentose, laterally with 5 reddish short hairs; pleura posteriorly to wing base densely white tomentose, beneath wing base brownish red tomentose, some white intermixed.

Abdomen reddish, thinly reddish brown pollinose, tergites narrowly along incisures thinly reddish to white tomentose.

Wings nearly hyaline, slightly brownish, without a stigma.

Legs yellowish red, hind femora becoming gradually clavate, hair flocke about medially on posterior surface, 2 rows of ca. 25 yellowish white bristles, dorsally short recumbent brownish bristles; empodium ca. 3/5 as long as tarsal claws.

♂. Unknown.

Type material. Holotype ♀ (BISHOP 10,092), Doisuthep, 1000 m elevation, Chiangmai, Thailand, 21.III.1936 (C. Tongyai).

### ***Ammophilomima simila* Martin, new species**

*Ammophilomima simila* Martin is the only known species from India with a totally pollinose thorax.

♀. Length 16 mm. Reddish species. Face reddish yellow, front and occiput black; face yellowish brown tomentose, front dark brown tomentose, occiput thinly dark brown tomentose, laterally narrowly and ventrally white tomentose; antennal segments 1 and 2 yellowish brown, segment 3 reddish brown, style blackish brown, segment 3  $1\frac{1}{4} \times$  as long as segments 1+2, style  $1\frac{3}{4} \times$  as long as segment 3; mystax of 4 yellowish bristles, occipital bristles weak, sparse, pale; proboscis brownish red.

Thorax reddish, median and lateral stripes indistinct, brown, very narrow lighter lines separating the three anteriorly, entire disc brownish pollinose, laterally and posteriorly grayish pollinose, on posterior margin ca. 14 long reddish yellow hairs; pleura red, thinly whitish and yellowish brown tomentose, densely pale reddish brown and gray tomentose, densely pale reddish brown and gray tomentose posterior to spiracle.

Abdomen mostly dark reddish brown pollinose, tergite 2 with a narrow yellow band on posterior margin, no medial band, brownish to gray bands on anterior and posterior margins of tergites.

Wings hyaline, tips brown, stigma in middle of subcostal cell.

Legs yellowish brown, hind femora apically with a slightly darkened band extending to apex, ventrally pale, a second darkened band on base of clavus; ventroposterior hair flocke of three rows of widely spaced yellowish white hair-like bristles; empodium 1/3 as long as tarsal claws.

Type material. Holotype ♀ (BISHOP 10,093), Anomalai Hills, 1060 m elevation, south India, 2.VI.1963 (P. S. Nathan).

### ***Ammophilomima stigmatica* (Hermann), new combination**

*Lagynogaster stigmatica* Hermann, 1917: 14. Type-locality: Java. Type, Vienna.

According to Hermann (1917) the Javanese *Lagynogaster stigmatica* Hermann resembles the Formosan *L. fuliginosa* Hermann in size and in coloring. The former has four mystax bristles, and the latter a double row of bristles.

Hermann's description. ♀. Length 17 mm. Mystax of 4 long yellow bristles, antennal seg-

ment 3 yellow, banded,  $4 \times$  as long as segments 1+2, style brown, half as long as segment 3; anterior coxa nearly bare; subcostal cell clouded brown.

### ***Ammophilomima straeleni* E. Janssens**

*Ammophilomima straeleni* E. Janssens, 1953: 6. Type-locality: d'Eala, The Congo. Type, Brussels.

Redescription of paratype ♀. Length 23 mm. Head black; face white tomentose, a very small brown spot at base of antennae, front thinly brown tomentose, occiput gray tomentose; antennae dark reddish; segment 3  $1\frac{1}{2} \times$  as long as segments 1+2, style nearly equal to segment 3; mystax, 4 bristles in paratype, 6 in type; proboscis blackish red.

Thorax polished black, lateroposteriorly thinly white tomentose; bristles black; scutellar disc black, white tomentose, 2 rows of short black bristles on anterior half, posterior margin reddish, 4 black bristles; pleura red, white tomentose.

Abdomen chestnut brown, thinly brown tomentose, tergite 2 laterally thinly white tomentose, posterior margins of tergites thinly white tomentose.

Legs reddish brown, hind femora with a yellow band near apex, basally yellowish, hair flocke of 10 yellowish scattered bristles, hind tibia black, apices yellow; empodium over half as long as tarsal claws.

DISTRIBUTION. Zaire (The Congo), d'Eala, Africa.

### ***Ammophilomima suenisoni* (Frey), new combination**

*Leptogaster (Lagynogaster) suenisoni* Frey, 1937: 50. Type-locality: Yenping-fu, Fukien, China. Type, Helsinki.

*Lagynogaster suenisoni*: Hsia, 1949: 55. Redescribed from Tien-mu Shan, Chekiang, China.

♂. Length 21 mm. Head black; face gray, front blackish, occiput gray tomentose; antennae reddish yellow, segment 3  $2\frac{1}{2} \times$  as long as segments 1+2; mystax of numerous yellowish white bristles; proboscis black.

Thorax yellow, median longitudinal stripe tapering to the black scutellum, lateral stripes short, shining posteriorly, dull anteriorly, a black longitudinal stripe from spiracle 1 to wing base; pleura dull black; bristles yellow.

Abdomen black, shining, incisures of tergites 4 and 5 narrowly reddish yellow and expanding laterally, tergite 2 basolaterally and dorsally with reddish yellow spots; venter yellow with median black spots; according to Hsia (1949) hypopygium small, dorsal arm blackish brown, dorsally with several teeth, ventral arm yellow, triangular, with short yellow hairs.

Wings hyaline; anal cell petiolate; halteres reddish.

Legs pale yellow, hind femora with a broad median black band, a whitish hair flocke posteromedially, hind femora black anteriorly, empodium  $\frac{2}{3}$  as long as tarsal claws.

### ***Ammophilomima thailandae* Martin, new species**      Fig. 2.

♂. Length 18 mm. Head black; face and occiput yellowish gray to white tomentose, front brownish gray tomentose, posteriorly ocellar tubercle brown tomentose; antennal segments 1 and 2 yellowish brown, segment 3 basally yellowish brown apically, style blackish brown, mystax of 10 long pale yellow bristles, 12 strong pale occipital bristles on upper occiput; proboscis black.

Thorax bluish black, shining, median stripe anteriorly obscurely outlined by blackish red, laterally and posteriorly broadly densely yellowish gray tomentose, yellow tomentose on pos-

terior humeri; bristles yellow; scutellum mostly blackish, yellowish gray tomentose, no bristles; pleura blackish, yellowish gray tomentose, pile yellowish.

Abdominal tergites black dorsally, blackish brown tomentose, laterally brownish yellow, tergites 3-4 with yellowish brown bands anteriorly and posteriorly; dorsal arm of epandria tapering to a slender point, longer than the broader ventral arm rounded apically, long yellow hair; hypandrium apically tapering to a complex thick point curling posteriorad.

Wings pale brown, denser apically, subcostal cell filled with a stigma.

Hind femora yellow, a broad brown band near apex, hind tibia yellow, broad band near base, apex narrowly brown, hair flocke of 25-30 nearly erect yellowish white bristles, close-set in 1-3 rows; empodium about 2/3 as long as tarsal claws.

Type material. Holotype ♂ (BISHOP 10,094), Srisawat, Kanchanaburi, Thailand, 22.V. 1962 (T. Pholboon). Allotype ♀ (KUM), same data. Paratypes: ♀, Chiangmai, Thailand (D. C. Thurman); ♀ Sam-ngow, Tak, Thailand, 25.V.1959 (C. Tongyai).

### *Ammophilomima triangulata* Enderlein

*Ammophilomima triangulata* Enderlein, 1914: 157. Type-locality: Soekoranda, Sumatra. Type, location unknown.

Enderlein does not give the sex of the type. Lower face reddish yellow, front and apex black, occiput black with tomentum; antennal segments 1 and 2 ocher yellow, segment 3 reddish yellow, style brown; mystax of 4 long pale yellowish bristles; proboscis reddish.

Thorax polished reddish yellow, with traces of tomentum, posteriorly tomentose; lateral stripes short, blackish brown, median stripe shorter, blackish brown, anterior in position; posteriorly several reddish yellow bristles; pleura yellowish tomentose.

Abdomen long, thin, bright reddish yellow.

Wings hyaline with traces of ocher yellow, basal half without microtrichia, wing tip weakly brown; halteres reddish yellow.

Legs light reddish yellow, empodium half as long as tarsal claws. Enderlein (1914) did not mention a hair flocke on the hind femora.

### *Ammophilomima truncata* Martin, new species      Fig. 6.

♂. Length 18 mm. Face reddish, front and occiput black; face yellow tomentose, front thinly brown pollinose, behind ocellar tubercle polished black expanding on upper occiput, thinly brown pollinose laterally, occiput yellowish brown tomentose; mystax of ca. 20 long yellowish white bristles, occipital bristles both weak and strong, pale yellow; antennae yellowish orange, style brown, less than half as long as segment 3, segment 2 subequal to segment 1; proboscis reddish.

Thorax yellowish dorsally, reddish laterally, reddish black longitudinal stripes narrowly coalesced posteriorly, laterally brown tomentose, yellow spots on posterior humeri; vestiture yellow; scutellum reddish black, gray tomentose, pale whitish short bristles anteriorly on disc, short brownish bristles on posterior margin; pleura reddish, anteriorly pale brownish yellow to gray tomentose with some brown, below wing base thinly reddish brown tomentose, posteriorly brown to gray tomentose, below spiracle 1 a patch of yellowish to brown long pile-like bristles.

Tergite 2 reddish brown, a yellow band basally, tergites 3 and 4 dark reddish, tergite 4 with pale reddish band on incisure, brown tomentose laterally, expanding posteriorly, tergites 5-8

black, tergites 5-6 with reddish bands on posterior margin, tergite 7 with a narrow posterior reddish band, vestiture yellowish white, tergite 4 with black semirecumbent bristles, a few yellow bristles on posterior margin; epandrial dorsal arm broad, rounded truncate, strong emargination about medially forming a triangular ventral arm, rugose below emargination, black bristles; inflated hypandrium apically curves about 45°, apicad rugose, V-emarginated apex at 90° angle to rugose area; aedeagus tapers to a sharp point; basistyli rugose.

Wings with costal and subcostal cells yellowish brown, a faint stigma medially in subcostal cell, other cells nearly hyaline, anal cell short petiolate.

Legs yellow lateroventrally, brownish dorsally, hind femora with a broad median brown band, hair flocke of 25-30 erect long yellowish white weak bristles in 4 rows, dorsal surface with short sparse black bristles; empodium 2/3 as long as tarsal claws.

Type material. Holotype ♂ (USNM), S. W. Lamponga, Mt Tanggamoos Giesting, 600 m, S. Sumatra, XII.1934 (Lieftinck & Toxopeus).

***Ammophilomima vitalisiana* (Frey), new combination**

*Leptogaster (Lagynogaster) vitalisiana* Frey, 1937: 51. Type-locality: Phong Saly, Laos, Indochina. Type, Helsinki.

♂. Length 20 mm. Head gray tomentose; antennae reddish yellow, segment 2  $2 \times$  as long as segment 1, style brown, 3/5 as segment 3; occipital bristles strong, white; proboscis black; number of mystax bristles not stated.

Thoracic dorsum shining black, laterally and posteriorly gray tomentose; scutellum and pleura gray tomentose; bristles yellowish.

Abdomen black, laterally, and incisures, narrowly reddish yellow; venter black; hypopygium small, forceps black, deeply split, dorsal arm elongate narrow, ventral arm triangular.

Wings hyaline, faintly gray apically, posterior cell 1 gray, anal cell petiolate, halteres reddish yellow.

Legs reddish yellow, joints black-ringed, hind femora with a black apical band, hind tibia black apically, anteromedially a black spot, a whitish hair flocke "ventrally" on the hind femora; empodium half as long as tarsal claws.

♀. Similar to ♂.

***Ammophilomima vitiosa* (Wulp), new combination**

*Leptogaster vitiosa* Wulp, 1872: 157. Type-locality: Java. Type, Leiden?

*Leptogaster vitiosus*: de Meijere, 1914: 42. Gives characters in a key.

*Lagynogaster vitiosus*: Hermann, 1917: 18.

In a key Wulp separates *Leptogaster vitiosa* Wulp from other *Leptogaster* by the petiolate anal cell. De Meijere observes that the hind femora are yellowish, brownish basally and medially, but neither he nor Hermann (1917) mention a hair flocke. I have used de Meijere's (1914) characters in my key. The assignment of *L. vitiosa* Wulp to *Ammophilomima* is provisional.

## NOTES ON FREY'S SPECIES

**Leptogaster nubilipennis** Frey

*Leptogaster (Ammophilomima) nubilipennis* Frey, 1937: 47. Type-locality: Masbate, Arory, Philippines. Type, Helsinki.

*Ammophilomima nubilipennis*: Oldroyd, 1972: 217.

Frey mentioned a hair flocke on the hind femora of a number of species, but not for *Leptogaster nubilipennis* Frey. The species has numerous mystax bristles and a petiolate anal cell

**Leptogaster rufescens** Frey

*Leptogaster (Ammophilomima) rufescens* Frey, 1937. Type-locality: Calcutta, India. Type, Helsinki.

*Leptogaster rufescens* is described as being without a hair flocke. The anal cell is petiolate.

**Leptogaster timorensis** Frey

*Leptogaster (Lagynogaster) timorensis* Frey, 1937: 51. Type-locality: Timor, Soe. Type, Helsinki.

*Leptogaster timorensis* Frey has a petiolate anal cell, but is without a hair flocke.

## NEW STATUS

**Leptogaster trifida** (Hsia), new combination.

*Ammophilomima trifida* Hsia, 1949: 49. Type-localities: Formosa, Rimagan, Lu-Chu, Japan.

*Leptogaster trifida* (Hsia) is without the hair flocke of *Ammophilomima*, and the epandria is trifid, not bifid; anal cell is short petiolate.

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