

auf den übrigen Teile der Decken fein punktiert, und sehr fein chagriniert. Spitze fein behaart.

Diese prächtige Art widme ich meiner Frau.

1 Stck. aus Amazonas: Teffe. In meiner Sammlung.

Fauna Sumatrensis.

(Beitrag No. 56).

Family *Muscidae* (Dipt.).

By J. R. Malloch, Washington D. C.

(with 3 Figures)

In this paper I present a list of species of certain genera of *Muscidae* from Sumatra submitted for identification by Mr. E. Jacobson. The type specimens will be disposed of in accordance with the desires of the collector: see the last page of this paper!

Subfamily Phaoniinae.

Genus *Limnophora* Robineau-Desvoidy.

I accept as belonging to this genus only those species which have the prosternum and base of third wing vein above and below setulose, the basal abdominal sternite and first vein bare, and the fourth vein usually more or less bent forward apically. This concept is much less inclusive than that of Stein as the latter embraced within his assemblage those species with the first vein partly setulose above (*Heliographa*), and with the basal abdominal sternite setulose (*Gymnodia*).

In the genus as at present modified there are some rather distinct groups, some of which might conceivably be considered as entitled to subgeneric segregation, but until some systematist has a large representation of species from every faunal region to use as a basis for a comprehensive survey of the whole genus it were better to defer proposals for further subdivisions. In the present paper only the species in my possession are included, one extralimital form being placed in the key for comparative purposes.

Key to the species.

1. Setulae on upper surface of third wing vein extending to or beyond inner cross vein; thorax with three pairs of strong postsutural dorso-central bristles; frons of male and female equally wide, about one-third of the head width *veniseta* Stein
- Setulae on upper side of third wing vein never extending over midway to inner cross vein, usually confined to base; other characters not as above in toto 2

2. Sixth wing vein not, or very little, longer than the cross vein closing anal cell, and quite abruptly discontinued far from margin of wing, anal angle and alula not well developed, the former practically obsolete so that the marginal area of wing behind fifth vein is almost equally wide on the entire length of discal cell, and not widened to anal angle; wings quite noticeably browned on apical portion of front margin, the fourth vein not evidently bent forward at apex; frons of male deep velvety black, and about half the width of head; postsutural dorsocentral bristles in three pairs; length 2.5 mm
atrifrons Stein
- Sixth wing vein normal, the thickened portion usually much longer than the cross vein closing anal cell, gradually becoming thinner apically and fading out at some distance from margin of wing, anal angle and alula well developed (ex. *tenuiventris*), the marginal area behind fifth vein gradually widened from apex of that vein to anal angle; wings not browned apically 3
3. Thorax with three pairs of postsutural dorsocentral bristles . . 4
- Thorax with four pairs of postsutural dorsocentral bristles . . 6
4. Thoracic dorsum with a rather broad dark vitta mesad of each series of dorsocentral bristles; acrostichal hairs quite strong and in two series in front of suture; eyes of male separated by about one-third of the head width above; mid tarsi of same sex very slender and white in colour, the apical three black and conspicuously widened
albitarsis Stein
- Thoracic dorsum either entirely black on disc or with large black markings, never with two continuous dark vittae mesad of the dorsocentral bristles; mid tarsi in both sexes black, not modified as above . 4a
- 4a. Frons of male about one-third of head width; scutellum entirely black, without a trace of grey dust at apex; the dark marks on dorsum of abdomen fused centrally, except sometimes on third visible tergite where they are rather imperfectly separated by a fine grey dusted central line *tenuiventris* sp. n.
- Frons of male little if any wider than third antennal segment, and not one-sixth of the head width; scutellum more or less conspicuously grey dusted at apex, in one species most noticeably so only when seen from behind; the dark spots on dorsum of abdomen always distinctly separated on median line on all tergites 5
5. Mid tibia with two posterior bristles; mesonotum when seen from directly above without grey dusted sutural fascia and presutural submedian vittae, the presutural acrostichals in two series and quite weak; frontal orbits brownish yellow dusted . . *prominens* Stein
- Mid tibia with one posterior median bristle; mesonotum when seen

- from any angle with a conspicuous pale grey dusted sutural fascia which is narrowly interrupted in middle, the inner extremity on each side connecting with a conspicuous presutural submedian fascia of same color; frontal orbits entirely white dusted . . . *fallax* Stein
6. Males. 7
- Females 10
7. Frons about one-third of the head width; fore femur with some long forwardly curved hairs at base on posteroventral surface, and from these to apex with some fine short hairs on same surface, a few of those near apex a little longer and stronger; fifth abdominal sternite not excised in centre at apex, the apical third or more of its surface densely covered with short stiff black hairs *plumiseta* Stein
- Frons much less than one-third of the head width; fore femur with the usual series of posteroventral bristles; fifth abdominal sternite not densely short haired on apical third 8
8. Mid tibia with but one posterior bristle near middle; hind femur with one or two anteroventral bristles near apex; mesonotum with two very conspicuous whitish grey dusted fasciae, one at suture, the other on hind margin, the former interrupted in middle; longest hairs on arista over half as long as width of third antennal segment *conica* Stein
- Mid tibia with two submedian posterior bristles; hind femur with from four to six widely spaced bristles on entire length of anteroventral surface; mesonotum with only a trace of a greyish dusted fascia on hind margin, and none at suture 9
9. Presutural acrostichal hairs in about four rather irregular series, the outer series about equidistant transversely from each other and the dorsocentrals; setulae on base of third vein extending midway, or almost midway, to inner cross vein; humeri and lateral margins of mesonotum from anterior extremities to bases of wings conspicuously pale grey dusted *innocua* sp. n.
- Presutural acrostichal hairs in two series which are separated by not over half the distance either is from dorsocentrals; setulae confined to base of third vein; humeri and lateral margins of mesonotum very slightly and inconspicuously brownish dusted . . . *fuscana* sp. n.
10. Eyes separated by about one-third of the head width; thoracic dorsum with a quite conspicuous pale grey dusted sutural fascia which is interrupted in centre 11
- Eyes separated by much less than one-third of the head width; thoracic dorsum with at most faint traces of a greyish dusted fascia on sides of suture 12
11. Small species, averaging about 3.5 mm in length; presutural acro-

- stichal hairs strong, in four series which occupy more than half the area between the dorsocentral bristles; mid tibia with two posterior bristles *plumiseta* Stein
- Larger species, averaging about 5 mm in length; presutural acrostichal hairs short and fine, in two series which occupy less than one-third of the area between the dorsocentrals; mid tibia with but one posterior median bristle *conica* Stein
12. Frons about three times as wide as third antennal segment; humeri not noticeably pale dusted, as dark as mesonotum; presutural acrostichal hairs in two series as in *conica* *fuscana* sp. n.
- Frons not over twice as wide as third antennal segment; humeri quite conspicuously grey dusted and much paler than disc of mesonotum; presutural acrostichal hairs in four irregular series which occupy about one-third of the area between the dorsocentrals . 13
13. Fourth visible tergite of abdomen with a dark well defined dorsocentral vitta occupying about one-third of its exposed dorsal area
perakensis Malloch
- Fourth tergite with most of its dorsal area shining black, the lateral edges of the black portion not sharply defined . . . *innocua* sp. n.

Limnophora veniseta Stein

This species was first mentioned by Stein in his paper on the Formosan Anthomyiidae collected by Sauter (Supp. Ent. No. 4, 1915), where he presented a key to the species of the genus *Limnophora*, but it was not described until 1919, there was no record of its occurrence in Formosa accompanying the key, and the type was from Sumatra. I have before me a few specimens from Sumatra which agree in all respects with two males and two females from Formosa (Sauter) except that in the latter the setulae on the base of third wing vein do not extend over two-thirds of the distance to the inner cross vein. I hope to make a report on the Sauter-material later when I will deal with these Formosan examples.

Locality, Fort de Kock, 1925. Ten specimens. (I have also before me specimens of this species from Mt. Gede, Java).

Limnophora atrifrons Stein.

This species was not included by Stein in his paper referred to above. It was described in 1919 also, from Sumatra. I have before me two males, the female being unrepresented in the collection: Locality, Fort de Kock, 1925.

Limnophora tenuiventris sp. n.

Male and female. — Head black, frontal orbits brownish dusted, their anterior extremities, the face, cheeks, and lower occiput, grey dusted; antennae and palpi black. Thorax black, dorsum slightly shining, brown

dusted except on lateral margins and humeri where it is quite broadly pale grey dusted, the hind margin very faintly greyish dusted, no vittae evident except on presutural region where there are two submedian greyish dusted vittae. Abdomen in male densely yellowish grey dusted, with a dark, slightly shining, fascia at apex of each tergite which is widened in centre, in the female the abdomen above is largely shining brownish black, with yellowish grey dusted patches on each anterior lateral angle of the tergites, and a central wedged shaped mark of same colour on visible tergites 2 and 3. Legs black, the hind tibiae brownish or yellowish. Wings hyaline, veins fuscous. Calyptrae white. Halteres yellow.

Frons at vertex fully one-third of the head width in both sexes and a little longer than wide, triangle extending to anterior margin, orbits narrow, setulose, ocellar bristles long; parafacials linear; vibrissal angle slightly produced; cheek not as high as width of third antennal segment, the latter over three times as long as second; arista with its longest hairs about twice as long as its basal diameter. Thorax with 2+3 dorsocentrals, the presutural acrostichal hairs weak and in four series; prescutellar acrostichals poorly developed; lower posterior sternopleural bristle short. Abdomen in male narrow, almost cylindrical, in female ovate, the apical bristles on tergites in male stronger than in female, no discal bristles on fourth tergite in male as a rule, those on that tergite in female weak; fifth sternite in male longer than fourth, with a narrow wedge-shaped notch in centre at apex, and no abnormal armature. Legs slender, fore femur with the usual postero-ventral bristles rather fine; no median bristle on fore tibia, mid tibia with one posterior median bristle; hind femur with one or two preapical anteroventral bristles; hind tibia with one anteroventral and one antero-dorsal bristle. Inner cross vein of wing a little beyond middle of discal cell; fourth vein hardly curved forward apically; setulae on third vein not extending much beyond base on upper surface. — Length, 4—4,5 mm.

Type, male, allotype, and two male paratypes, Gunung Singgalang, west coast of Sumatra, 1400—1800 m., 1925; four male paratypes, Tjibodas, Mt. Gede, Java, 4500 feet (Bryant and Palmer, U. S. Nat. Museum).

Limnophora prominens Stein.

This species was originally described from Java, from which island I have seen specimens. I have compared these specimens with two from Sumatra and find they agree in all particulars. — Locality, Gunung Singgalang, west coast of Sumatra, 1800 m., 1925. (The Javanese specimens are in the U. S. National Museum and are from Mt Gede, by the same collectors as the species mentioned above).

Limnophora fallax Stein

This species was originally included as *maculosa* Meigen by Stein in his key to Oriental species of *Limnophora* already referred to, but in 1919 he described it as a variety of *maculosa* under the name *fallax*. I have carefully compared the species with typical *maculosa* from Europe and consider that it is a distinct species. The width of frons is only about half that of typical *maculosa* and the complete black fascia behind thoracic suture, and the broad black band on base of scutellum, are quite constant, and very different from the interrupted fasciae of *maculosa*.

Locality, Gunung Singgalang, west coast of Sumatra, 1600 m., 1925. Four specimens, all males.

Limnophora plumiseta Stein.

Originally described from northern Africa and subsequently recorded from Formosa and Sumatra by Stein. I had some doubts about the correctness of the identification of the species from these widely separated localities and wrote to Dr. Enderlein regarding the characters of the type male with the result that he confirmed the presence of the characters given in key as occurring in the specimen, removing all doubts as to the identity of the specimens before me from Formosa and Sumatra.

Locality, Fort de Kock, 1924—25. Twenty-two specimens.

Limnophora conica Stein.

This species was originally described from Formosan material and afterwards recorded from Sumatra by Stein. I have only Formosan specimens available.

Limnophora innocua sp. n.

Male and female. — Head black, frontal orbits brownish dusted above, their anterior extremities, the face, cheeks, and lower occiput, grey dusted. Thorax brownish black, the mesonotum shining, with slight brown dusting, the lateral margins densely pale grey dusted, and a greyish dusted streak over postalar region; pleura grey dusted, brown on hind portion of mesopleura; scutellum not grey dusted at apex. Abdomen with the usual paired subtriangular black dorsal spots fused centrally forming a broad continuous apical fascia which is widest at middle. Legs black. Wings brownish hyaline. Calyptrae brownish yellow. Halteres yellow.

Frons of male about half as wide as third antennal segment, of female about 1.5 as wide as that segment, orbits narrow, setulose on almost their entire length, ocellars short and fine; arista pubescent; face with a slight rounded vertical central carina on upper portion; cheek about 1.75 as high as width of third antennal segment. Thorax with 2+4 dorsocentrals, and four rather irregular series of presutural acro-

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stichal hairs. Abdomen narrowly ovate in male, ovate in female, the fourth visible tergite in both sexes with discal bristles. Fore tibia without a median posterior bristle; mid femur with two or three long posteroventral bristles on basal half; mid tibia with two posterior bristles; hind femur with about six rather widely spaced bristles on the anteroventral surface; hind tibia with one anteroventral and one anterodorsal bristle. Inner cross vein about one-third from apex of discal cell; fourth vein slightly bent forward apically; setulae on third vein extending to, or beyond, midway to inner cross vein. — Length ♂♀, 7 mm.

Type, male, and allotype, Gunung Singgalang, west coast of Sumatra, 1800 m., 1925; one female, Anei Kloof, west coast of Sumatra, 400 m., 1925.

Limnophora fuscana sp. n.

Male and female. — Very similar to the next preceding species, but more robust, darker in colour, with the bristles stronger, arista more distinctly pubescent, and as differentiated in the foregoing key to the species. — Length, 7–8 mm.

Type, male, allotype, and three male paratypes, Gunung Singgalang, west coast of Sumatra, 1600 and 1800 m., 1925–6.

Limnophora perakensis Malloch.

The description of this species is in the press in the Federated Malay States. This species is extremely similar to *fuscana* but I believe distinct from it.

Limnophora albitarsis Stein.

Four specimens, Fort de Kock, 1925 (Occurs also in Formosa).

Genus *Gymnodia* Robineau-Desvoidy.

A number of the species of this genus occur in and around human habitations, and feed in the larval stages in garbage and manure. I am able to positively identify only one species in the material from Sumatra, though there are one or two others represented by female specimens which I am unable to satisfactorily determine specifically.

Gymnodia ascendens Stein.

This species was included in Stein's key to Oriental Limnophorae already referred to, and described as belonging to that genus. Heretofore it was known only from Formosa: Locality, Fort de Kock, 1925.

Genus *Heliographa* Malloch.

This genus is not represented amongst my Sumatran material but *tonsa* Stein has been recorded from the island and some others may yet be found there.

Genus *Antipodomyia* Malloch.

I described this genus from Australia several years ago, distinguishing it from *Limmophora* by the lack of setulae on the prosternum and base of third wing vein. It has the basal abdominal sternite bare, distinguishing it from *Gymnodia*, and the first vein is bare, separating it from *Heliographa*. A peculiar character of the genus is the location of the prescutellar acrostichal bristles cephalad of the posterior pair of dorsocentrals. There is a pair of strong presutural acrostichals present in the genotype, which has also the fourth wing vein noticeably bent forward apically.

Antipodomyia sp.

I am not certain that this species is the same as *bancrofti* Malloch, the only known species of the genus, as there are only females before me at this time, but there are no outstanding characters which would justify one in considering it distinct. Possibly if distinct specifically the males will present distinguishing features.

Locality, Fort de Kock, 1925. Four females.

Genus *Atherigona* Rondani.

I have described a number of Oriental species of this genus already and have in manuscript a key to all the species known to me which I hope to publish shortly. In the present paper I include only descriptions of new species and records of some previously described species amongst the Sumatran material in my hands.

Atherigona jacobsoni sp. n.

Male. — Interfrontalia opaque black, frontal orbits dark brown, the usual grey dust absent on upper half and present only on outer side of anterior half; antennae, palpi, and proboscis, black; hairs on palpi except those below apically black; arista brown; occiput black, grey dusted on sides. Thorax testaceous, surface obscured by dense greyish yellow dust, dorsum with three complete black subshining vittae, the median one narrowest, scutellum black, subshining, apex yellow. Abdomen testaceous yellow, first and second visible tergites each with a fuscous apical fascia, interrupted in middle on second; third and fourth tergites each with a pair of blackish spots, and a faint dark central mark anterior to these. Legs honey yellow, fore and hind tibiae except their bases, and entire tarsi of all legs, black. Wings hyaline, with a fuscous apical spot which covers tip of first posterior cell and extends into submarginal cell. Calyptrae yellowish. Halteres whitish.

Ocellar bristles long; upper postocular setulae as long as outer vertical bristle; third antennal segment about four times as wide as para-

facial in profile; arista tapered from base to middle, second segment a little longer than thick, third with distinct pubescence; palpi longer than apical portion of proboscis, projecting beyond mouth margin, basal bristles rather fine. Thorax with the presutural and anterior postsutural dorso-centrals very inconspicuous; propleural bristle duplicated; stigmal bristle lacking, only a few short hairs present; two humerals present. Basal tergite longer than second on dorsum, the second expanded on sides and meeting on middle of venter; hypopygium without chitinous dorsal protuberance. Fore femur attenuated at apex, the dorsal concavity not very pronounced, and the tip above with inconspicuous microscopic soft hairs, two preapical posteroventral bristles present; fore tibia slightly thickened apically, and with three or four long black bristles or hairs on anterior side at apex which are nearly as long as basal segment of tarsus, the latter with erect fine hairs along the anterior side; fourth and fifth segments of fore tarsus thickened and appearing malformed; mid femur with a short median anterior bristle; legs otherwise not remarkable. Inner cross vein a little beyond middle of discal cell; first posterior cell very slightly narrowed at apex, at which point it is barely half as wide as at widest part; outer cross vein almost erect and slightly curved at middle.

Female. — Differs from the male in having the thorax with a quite noticeable lateral marginal dark vitta which is hardly traceable in male, the entire margin of the scutellum yellow, abdomen with apical fascia on first tergite broader, that on second covering most of dorsum of tergite, the spots on third very large and the median spots quite distinct on that tergite and on fourth. The fore femora and fore and hind tibiae are almost all black, and the mid tibiae are black except at bases. There is no fuscous apical spot on the wing. The palpi are shorter and without downy hairs, and there are no outstanding hairs on fore legs. First posterior cell of wing not so much narrowed apically. — Length ♀ ♂, 4.5—5 mm.

Type and allotype, Fort de Kock, 1925. (Dedicated to the collector).

No species of the genus known to me has the thorax and scutellum marked as in this one, and the fore legs of male are distinct in form and armature. There are other species in which the sexual dimorphism of the wing characters are present. The species belongs to the same group as *excisa* Thomson.

Atherigona orbitalis sp. n.

Male. — Interfrontalia deep black, orbits black, glossy on upper half, becoming grey dusted anteriorly; face yellowish, and, like the parafacials and cheeks, whitish dusted; occiput black, shining, greyish dusted,

densely so on postocular orbits; second antennal segment yellow, third and arista black; palpi yellow, with about three black bristles at base, the hairs yellow; proboscis black. Thorax testaceous yellow, dorsum except humeri fuscous, with grey dust, and three faint dark vittae; scutellum and postnotum fuscous, grey dusted. Abdomen honey yellow, a faint dark mark in centre of first visible tergite, two large elongate black marks on second, and two smaller black spots on third, the dorsum slightly grey dusted. Legs honey yellow, fore femora a little darkened on anterior side at apices; fore tibiae a little darkened apically, but not blackened; fore tarsi blackened except on apical one or two segments. Wings hyaline. Calyptrae and halteres yellowish.

Head similar to that of *jacobsoni*, but the palpi are dilated at apices as in *varia* Meigen, and shorter than apical section of proboscis. Thorax as in *varia*; stigmal bristle short and fine. Abdomen with tergites 1

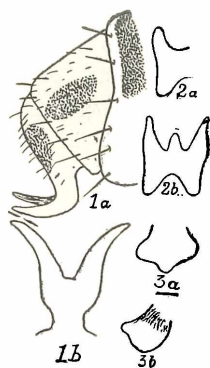


Fig. 1a. Hypopygial prominence and apex of abdomen from the side of *Atherigona unguicauda*.

Fig. 1b. Same from above.

Fig. 2a. Hypopygial prominence of *Atherigona tridens* from side.

Fig. 2b. Same from behind.

Fig. 3a. Hypopygial prominence of *Atherigona orbitalis* from above.

Fig. 3b. Same from the side.

by the glossy black upper orbits, yellow palpi and fore femora, the presence of fine setulose hairs at apex of fore tibiae, and on first and third segments of fore tarsi, and the structure of the abdominal protuberance.

Atherigona unguicauda sp. n.

Male. — Interfrontalia and narrow inner margin of each frontal orbit black, remainder of latter opaque grey dusted; antennae, aristae,

palpi, and proboscis, black; face yellowish, grey dusted like parafacials, cheeks, and occiput. Thorax fuscous, pleura and humeri yellowish, but obscured by yellowish grey dust; dorsum of thorax with grey dust and three rather noticeable dark vittae, the median one not continued to hind margin; scutellum colored as mesonotum, the disc darkest. Abdomen testaceous yellow, dorsum of first visible tergite brownish, that of second grey dusted and with two large oblong black spots that extend the whole length of segment and a fainter and narrower dark central line; third and fourth tergites each with two dark spots. Legs honey yellow, fore femora with the apical halves except tips, fore tibiae except bases, and fore tarsi except apical segment, black, mid and hind tarsi dark at bases. Wings greyish hyaline, a very faint brownish tinge on costa beyond apex of auxiliary vena. Calyptrae and halteres whitish.

Head similar to that of *orbitalis*, the palpi dilated at apices and shorter than apical section of proboscis. Anterior dorsocentrals quite evident; stigmal bristle present. Abdomen similar to that of *orbitalis*, but the apical tergal protuberance has a pair of long, divergent, and up-curved arms (Fig. 1a and 1b, p. 299). Fore femur as in *varia*; fore tibia without any outstanding apical setulae below or in front, with three short bristles, one on each of the following surfaces: anterodorsal, posterodorsal, and ventral; fore tarsus fully as long as fore tibia, with fine sparse erect hairs on a portion of posterior surface, and similar hairs from before apex of basal segment to tip on anterior side which become quite dense apically, the length of the hairs at least as great as the diameter of the segments upon which they are situated; no outstanding anterior median bristle on mid femur; legs otherwise as in *varia*. Inner cross vein about three-sevenths from base of discal cell; first posterior cell hardly narrowed apically; outer cross vein erect, nearly straight. — Length, 3.75 mm.

Type, Fort de Kock, 1925.

This species is distinguished from its allies by the black frons, antennae, and palpi, the pilose fore tarsi and peculiar apical abdominal prominence or process.

Atherigona dorsovittata sp. n.

Female. — Head, including interfrontalia, antennae, and palpi, black; face yellowish, densely greyish white dusted, frontal orbits, triangle, cheeks, and postocular orbits, densely pale grey dusted, inner margins of frontal orbits slightly brownish, occiput largely fuscous. Thorax black, densely grey dusted, dorsum with three conspicuous black vittae, the central one much narrower than the laterals, the latter continued over sides of scutellum on basal half, the ground colour of scutellum yellowish

at apex. Abdomen colored as thorax, with a large subquadrate black spot on each side of each tergite except fourth, and a central spot on second and third segments which is narrowly separated from the lateral spots by a grey dusted line on each side, fourth tergite with a central line and a pair of small lateral spots; all the hairs and bristles set in blackish dots. Legs black, extreme apices of coxae, the trochanters, and bases of tibiae, yellowish. Wings hyaline. Calyptrae yellowish. Halteres white.

Frons slightly widened from vertex to anterior margin, each orbit with six bristles; arista subnude; structures as in *excisa*. Thorax with the paired acrostichal hairs becoming stronger from anterior margin to suture, the posterior pair quite noticeable; in other respects the thorax, and the legs, are as in *excisa* female. Inner cross vein very little proximad of middle of discal cell; penultimate section of fourth vein fully three-fourths as long as ultimate section. — Length, 5 mm.

Type and one paratype, Fort de Kock, 1925, 'on decaying meat'.

The species belongs to the *excisa* group, and may be distinguished from its allies by the preponderance of black on legs, and the continuation of the thoracic vittae over sides of scutellum to middle, as well as the markings of abdomen.

Atherigona crassiseta Stein.

I have compared the Sumatran specimens with the type specimen of this species from Formosa. The species belongs to the same group as *excisa*, and may be readily distinguished from any related form by the combination of characters given in the key on a subsequent page in this paper.

The female has the thorax marked on dorsum much like that of *dorsovittata*, the lateral dark vittae extending midway along the sides of scutellum, but the median one is obsolete posteriorly; the abdomen is testaceous, with large deep black transverse spots on each tergite except fourth which extend across the entire hind margin of the dorsal exposure, cover almost entire disc of tergites 2 and 3, and are narrowly separated on median line, the fourth tergite with smaller black central spots; and the legs are yellow, with the fore femora, fore tibiae except their bases, all of fore tarsi, and mid and hind tarsi except their bases, black.

Locality, Fort de Kock, 1925. Several specimens of both sexes.

Atherigona laeta Wiedemann.

A very pretty little species, readily distinguished from its allies by the shining black upper portions of the frontal orbits which are very slightly grey dusted, and the black fore tibiae and tarsi of both sexes, the tarsi of female being more distinctly widened than those of the male.

302 Malloch, *Fauna sumatrensis* (Beitrag 56): Family Muscidae (Dipt.).

Hypopygial prominence very small, with two very short, slightly, divergent, rounded processes at apex.

Locality, Fort de Kock, 1925. Twelve specimens, representing both sexes.

A widely distributed Oriental species, both the records of its occurrence in Africa are I believe erroneous, the closely related *laevigata* Loew having been confused with it there.

Atherigona oryzae Malloch.

This species, which is recorded as feeding in rice stems in the larval stages, is represented by a number of specimens which agree perfectly with the type specimen of the species now before me. — Locality, Fort de Kock, 1925. Originally described from Southern India.

Atherigona bituberculata Malloch.

Very similar to the next preceding species, but the palpi are black and the abdominal process is different in structure. — Locality, Fort de Kock, 1925. Originally described from India and the Philippines.

Atherigona confusa sp. n.

Male. — Head fuscous, face and cheeks testaceous, densely pale grey dusted; interfrontalia deep velvety black, rarely brownish anteriorly; frontal orbits shining except anteriorly, and with quite evident grey dust; antennae black second segment brownish; aristae fuscous; palpi yellow, slightly darkened at bases. Thorax black, slightly shining on dorsum, densely grey dusted, dorsal vittae not well defined, humeri and propleura testaceous yellow. Abdomen testaceous yellow, shining, grey dusted and slightly darkened on second visible tergite apically, that tergite with two elongate sublateral black marks and a fainter longitudinal central vitta, third tergite with a pair of small round black spots, fourth unspotted. Legs testaceous yellow, fore femora faintly, or not at all, darkened at apices, fore tibiae black except at bases, and fore tarsi black except the apical two segments. Wings hyaline, with a faint but evident brown mark on costa at apex of auxiliary vein.

Head structure as in *varia* Meigen. Apical abdominal prominence almost knob-like, larger than in *grisea* Malloch, and with a slight angle on each lower lateral section, but without well developed processes. Legs normal, as in *varia*. Inner cross vein of wing at a little over one-third from base of discal cell; fourth vein very slightly bent forward apically. — Length, 3 mm.

Type and two male paratypes, Fort de Kock, 1925.

Most closely related to *grisea* Malloch, described from Rodrigues Island, but that species has the frontal orbits densely grey dusted and entirely opaque, the hypopygial prominence smaller and without angles

at apex below, and the wing without a brown mark at apex of auxiliary vein.

Atherigona excisa var. *flavipalpis* n.

The true *excisa* Thomson has the palpi fuscous, but the only male specimens before me which I consider are referable to this species have the palpi testaceous yellow and are I consider entitled to a varietal name as above. — Type and six paratypes, Fort de Kock, 1925. The female has dark palpi.

Atherigona tridens sp. n.

Male. — Head fuscous, face testaceous, interfrontalia dark brown, entire orbits, face, cheeks, and occiput, densely pale grey dusted, the orbits nowhere shining; antennae black, second segment brownish yellow; aristae fuscous, yellow at bases; palpi testaceous yellow, hardly darkened at bases. Thorax black, very densely grey dusted, humeri and propleura testaceous yellow, dorsum without evident vittae, scutellum not pale at apex. Abdomen testaceous yellow, greyish dusted on dorsum, first to third visible tergites each with a pair of black spots, largest on second, smallest on third, the second also with a faint dark central line. Legs yellow, fore femora largely black on apical halves, fore tibiae blackened except at bases, fore tarsi black except on apical two segments. Wings hyaline, with a very faint yellow shade at apex of auxiliary vein. Halteres yellow.

(Schluß folgt.)

Neuere Literatur.

Von Sigm. Schenkling (Berlin-Steglitz), Er. Schmidt (Berlin-Lichterfelde) und Walther Horn (Berlin-Dahlem).

Sherborn, C. D., Index animalium sive Index nominum quae ab A. D. 1758 generibus et speciebus animalium imposita sunt: Sectio II, Teil XV, pp. 3747—3970, Verlag British Museum, London, 1927, 8°. Preis Sh. 10.—.

Das Heft enthält die Buchstaben Ma-Me, in der üblichen klassischen Weise!

Walther Horn.

Fahringer, Prof. Dr. J., Opuscula braconologica, Lieferung 7—9, p. 433—606; Verlag Fritz Wagner, Wien 8°, 1928.

Die mit erstaunlicher Schnelligkeit erfolgte Herausgabe der letzten 3 Lieferungen des I. Bandes bringt die palaearktischen *Braconini* zum Abschluß. Die Sammellieferung enthält 139 Art-Beschreibungen etc. der Sectio Glabrobracon und die ganze für die angewandte Entomologie wegen ihrer Schutzparasitenzuchten so wichtige Gattung Habrobracon. Dann folgen auf 558—599 Korrigenda und Supplementa, welche besonders wegen der Mängel der I. Lieferung wichtig sind. Sie beziehen sich auf die allgemeine Anatomie und geben zudem eine besonders dankenswerte Uebersicht über eines der trostlosesten Gebiete derselben: die Korrelation der von den verschiedenen Autoren verschiedenartig ge-

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