

## Dipteren von den Kleinen Sunda-Inseln

Aus der Ausbeute der Sunda-Expedition RENSCH

**V. *Bibionidae*<sup>1)</sup>**

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(With 5 Textfigures)

This report deals with the *Bibionidae* collected on the Lesser Sunda Islands in 1927, by Dr. B. RENSCH. The collection contained eighty-three specimens, representing four species, three of which appear to be undescribed. The study of this material has added valuable information concerning the known distribution of these flies in the Southwest Pacific region. I am indebted to Dr. W. HENNIG of the Deutsches Entomologisches Institut, Berlin-Friedrichshagen, for having had the privilege of studying this interesting collection.

***Bibio hennigi*<sup>2)</sup> n. sp.**

(Figs. 1 a—d)

This species is related to *B. flavissimus Brunnetti* and is distinguished from that species by the brown fumose wings, in both sexes, and by the black abdomen of the female.

**MALE.** Head: Black densely black pilose; appendages all black. Antennae ten segmented, the apical segments are closely joined. Thorax: Subshining blue-black except for the yellow hind margins of the humeri and the yellowish colored ridges of the parascutellum. The thorax is densely yellow pilose. The halteres have yellow-brown bases and brown to reddish brown knobs. Legs: The coxae, trochanters, tibiae and tarsi are shining black with a slight reddish tinge in the ground color. The front and middle femora are bright red, except for narrow brown to black apices. The hind femora are polished black, tinged with rufous at their apices. The coxae and the front and middle femora are yellow pilose. The trochanters, hind femora, and remainder of legs have brown to black pile.

<sup>1)</sup> I: *Sciomyzidae*, *Tylidae*, *Lonchaeidae*, *Pyrgotidae*, *Platystomidae* (W. HENNIG): Arb. morphol. taxon. Ent., 8, 16—23, 1941; II: *Trypetidae* (E. M. HERING): I. c., 24—45; III: *Piophilidae*, *Sepsidae* (W. HENNIG): I. c., 145—149; IV: *Muscidae* (W. HENNIG): Beitr. Ent., 2, 55—93, 1952 [*Lauraniidae* (W. HENNIG): Acta Zool. Lilloana, 6, 333 bis 429, 1948].

<sup>2)</sup> I am pleased to name this species after Dr. W. HENNIG who has made many outstanding contributions in the field of Dipterology.

The inner spur of the front tibia is less than half as long as the outer (fig. 1a). The outer spur is about one-half as long as the remainder of the tibia. The hind metatarsi are about four times longer than wide. Wings: The extreme bases are yellow, the remainder of the wing is brownish

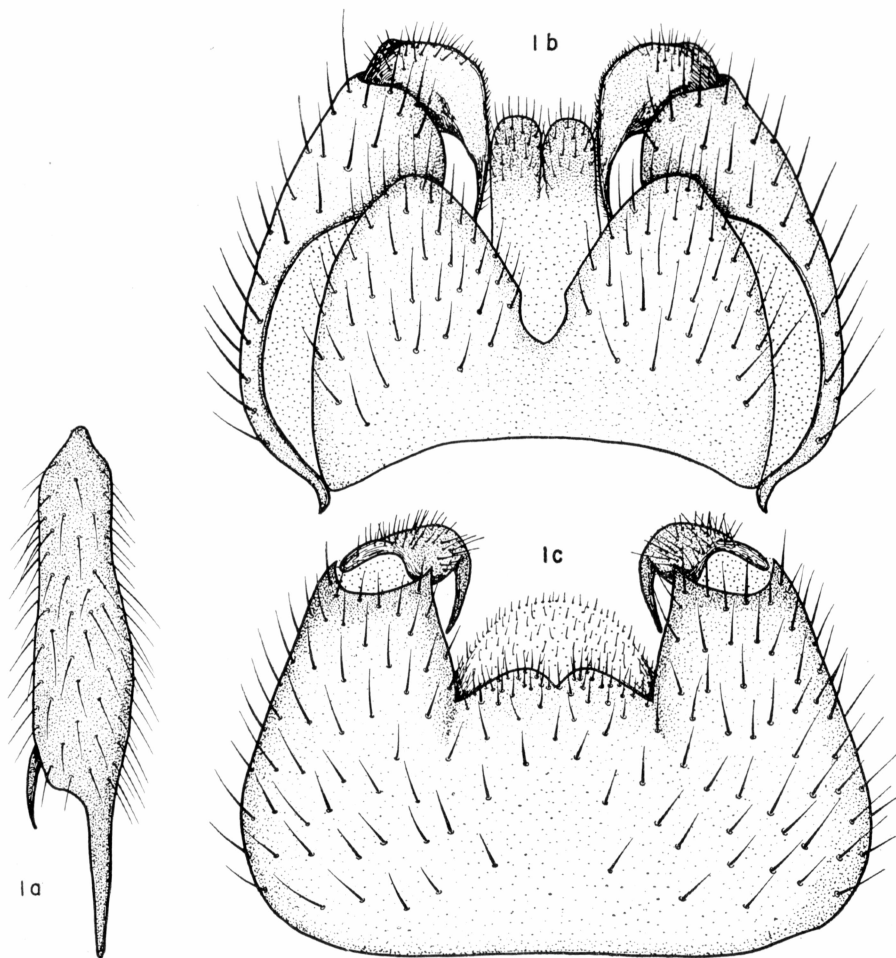


Fig. 1a.  
*Bibio hennigi* n. sp.:  
front tibia of male

Fig. 1b—c. *Bibio hennigi* n. sp.:  
b) male genitalia, dorsal; c) male genitalia, ventral

fumose on the anterior portion and yellow brown on the posterior part. The stigma and the veins in the anterior portion are dark brown. The veins in the posterior portion are yellow-brown, darker than the membrane. In *flavissimus* the wings are intense yellow and all of the veins and the stigma are yellow. The costa ends at the end of the radial sector.

The r-m crossvein is about three-fourths as long as the basal portion of the Rs. The fork of vein  $M_1$  and  $M_2$  is before the m crossvein in the type but is opposite the crossvein in some other specimens. Veins  $M_2$  and  $M_{3+4}$  do not extend to the wing margin. Abdomen: Subopaque black, rather densely covered with long yellow pile. The abdomen is about one and one third times longer than the head and thorax combined. Genitalia: The ninth tergum is cleft three-fifths its length on the hind margin (fig. 1b). The ninth sternum is cleft about one-third its length on the hind margin. The bottom of the concavity is convex and has a small 'v' shaped notch in the middle (fig. 1c). The claspers are simple, quite slender and sharply pointed.

Length: body, 10.0 mm; wings, 8.3 mm.

FEMALE. Head: Entirely rufous except for the brown to black ocellar tubercle, tip of rostrum, flagellum of antennae, compound eyes and all

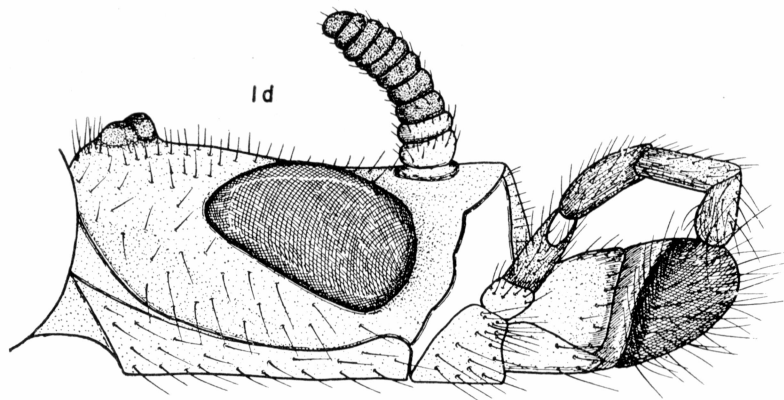


Fig. 1d. *Bibio hennigi* n. sp.: female head, lateral

but the first segment of the palpi. The front is smooth and is one and one-half times broader than one eye. The head is covered with moderately dense yellow pile. The hairs on the labella, palpi, and antennae are black. The portion of the head behind the compound eyes is nearly three-fourths as long as one eye (fig. 1d). Thorax: Entirely rufous with golden yellow pile. The halteres are tinged with brown. Legs: The coxae, trochanters and femora are reddish yellow. The latter are not blackened at their apices. The legs are otherwise as in the male. Wings: Slightly darker brown fumose than in the male. Abdomen: As in the male.

Length: 9.0 mm; wings, 10.0 mm.

Holotype male, allotype female, and 27 paratypes; 10 females and seventeen males from Segare Anak, Lombok, April 5–7, 1927.

The type, allotype, and seventeen paratypes are being returned to the Deutsches Entomologisches Institut. Four paratypes are being deposited in the United States National Museum; two are being deposited in the British Museum (Natural History), and four are at the University of Hawaii.

*B. flavissimus* was described from Assam, India, and was known only from the female sex until EDWARDS (1929: 78) described the male from the Philippine Islands. I have studied specimens which appear to fit *flavissimus* from Mt. Banahao and Tangelan, Bukidnon, in the Philippines. These

are evidently the same species which EDWARDS reported although the thoracic pile is yellow, not brownish. This is also quite obviously the same species which BEZZI (1917: 108) reported from Mt. Banahao, as *rubi cundus* van der Wulp. *B. flavissimus* is closely allied to *rubicundus* because of the intense yellow fumose wings and yellow wing veins. The latter is readily distinguished by the well developed inner spur of the front tibiae. The two spurs are nearly equal in length; not with the inner spur less than half the length of the outer as in *flavissimus*. In *rubicundus* the outer spur is about equal in length to the remainder of the tibia and the femora are black tipped. In *flavissimus*

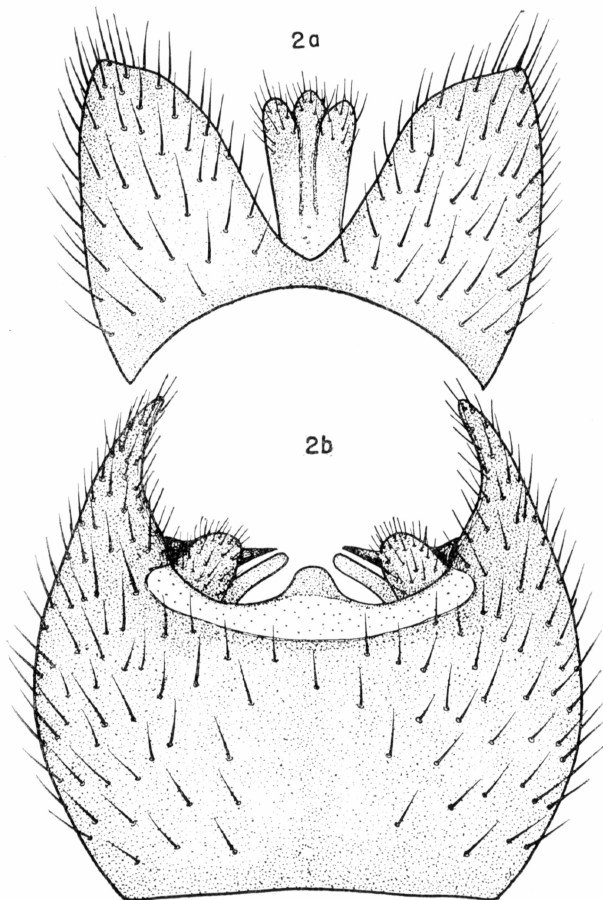


Fig. 2. *Plecia fumidula* Edwards:  
a) male genitalia, dorsal; b) male genitalia, ventral  
(drawn to slightly larger scale than *furva*)

the outer spur is much shorter than the remainder of the tibia and the femora of the females are all orange in color.

*Plecia fumidula* Edwards  
(Figs. 2a—b)

*Plecia fumidula* EDWARDS, Diptera Nematocera from Mount Kinabalu.  
Journ. Feder. Malay. States Mus., 17, 244, 1933.



This species was not represented in this collection but in connection with this study, I have studied a cotype specimen from the British Museum (Natural History), and some additional details should be added to EDWARDS' description. EDWARDS did not describe the genitalia adequately and he included no figures.

*P. fumidula* differs from *furva* n. sp. by having the lobes of the ninth sternum extending well beyond the apices of the tergum; the tergum extends only about two-thirds of the length of the sternum. The posterior lateral lobes of the ninth sternum are much more slender and less tapered (fig. 2b). The claspers are comparatively small and each has a sharp pointed subapical lobe on the inner margin. The submedian lobes on the hind margin of the sternum are also much more slender and more poorly developed than in *furva* (cf. figs. 2b and 3b).

Male genitalia: The cleft on the hind margin of the ninth sternum extends slightly less than half the length of the segment. The posterior lateral lobes are as in fig. 2b. The claspers each have a beak-like subapical lobe on their inner surfaces and the base is expanded laterally on the outside surface somewhat as in *furva* (but not so well developed). The submedian lobes on the hind margin of the sternum are not half as thick as the median portion of the claspers. The claspers extend about one-fourth the length of the lateral lobes on the hind margin of the sternum (fig. 2b). The ninth tergum is cleft nearly to its base on the hind margin. The lateral lobes are blunt at apices and are almost as broad as long (fig. 2a).

Length: body and wings, 3.5—5.5 mm.

Type locality, Mt. Kinabalu, Kamborangah, Borneo, 7,000 ft.

Type in the British Museum (Natural History). I have studied a cotype male from the type locality.

***Plecia furva* n. sp.**

(Figs. 3a—b)

This species is related to *P. fumidula* Edwards. It fits the original description of that species in all details except that the claspers of *fumidula* were described as „small and rounded“. Mr. PAUL FREEMAN, British Museum (Natural History), has kindly sent me a cotype specimen of *P. fumidula* for study. It is quite a different species from the one on hand.

*P. furva* is differentiated from *fumidula* by having the lobes of the ninth tergum extending beyond the apices of the sternum. The posterior lateral lobes of the ninth sternum are much more broad at their bases and are gently tapered to a sharp point at their apices (fig. 3b). The claspers are much more strongly developed and have no subapical lobes on their inner margins. The submedian lobes on the posterior margin of the sternum are also more strongly developed. They are nearly as broad as the apices of the claspers (cf. figs. 3b and 2b).

**MALE.** Entirely dark brown to black, except for the yellowish bases of the halteres and for reddish coloration on the humeral ridges. All pile brown to black and sparse. Head: The antennae are nine segmented, the last two are closely joined. The rostrum is not elongated and the mouth-parts fold beneath the head when not in use. Thorax: Opaque, faintly gray on the mesonotum. The lateral slopes of the mesonotum are covered

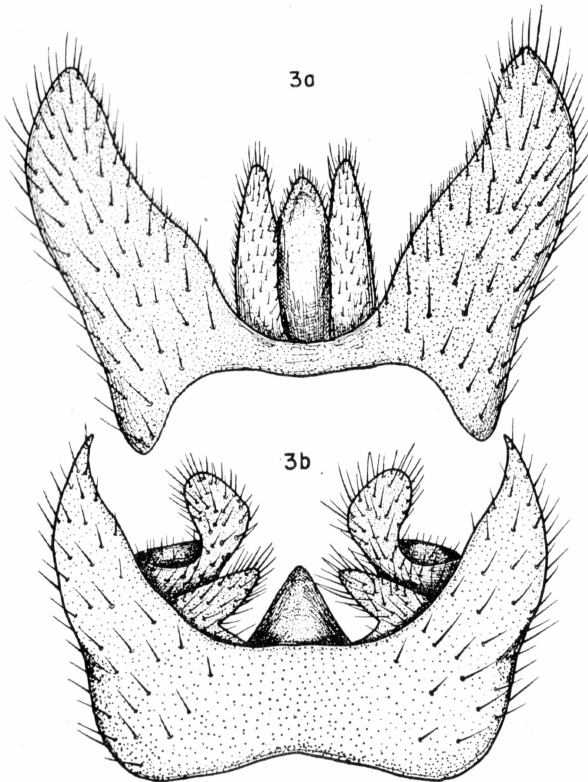


Fig. 3. *Plecia furva* n. sp.:

a) male genitalia, dorsal; b) male genitalia, ventral

with numerous tiny brown spots upon a grayish colored background. Each of these brown spots is on a slightly raised area. The mesonotal furrows are rather deep and conspicuous. Legs: Moderately slender. The hind basitarsi are not swollen, they are approximately six times longer than wide. Genitalia<sup>1)</sup>: The ninth tergum is deeply cleft on its hind margin, the segment is nearly divided into two side plates (fig.3a). The posterior lateral margins of the tergum are subacute. The cerci are long and slender, they are about four times longer than wide. The ninth sternum is cleft, on its hind margin, about two-thirds its length. The apices of the

sternum are sharp pointed (fig.3b) and do not extend as far as the apices of the ninth tergum. The ninth sternum has a pair of well developed submedian lobes and also a heavily sclerotized moundlike area which is developed in the middle of the hind margin and which serves as a supporting (or protective) structure for the aedeagus. The claspers are strongly curved and have a capitate, rounded, apical portion and a slightly hollowed out basal portion which is expanded laterally (fig.3b). The claspers extend almost to the apices of the ninth sternum.

<sup>1)</sup> Description and figures based upon a paratype specimen.

Length: body and wings, 5.5 mm.

Female unknown.

Holotype male and 19 paratypes, all males, from Segare Anak, Lombok, April 5—7, 1927.

Type, and eleven paratypes returned to the Deutsches Entomologisches Institut. Three paratypes have been deposited in the United States National Museum; two are in the British Museum (Natural History) and three are at the University of Hawaii.

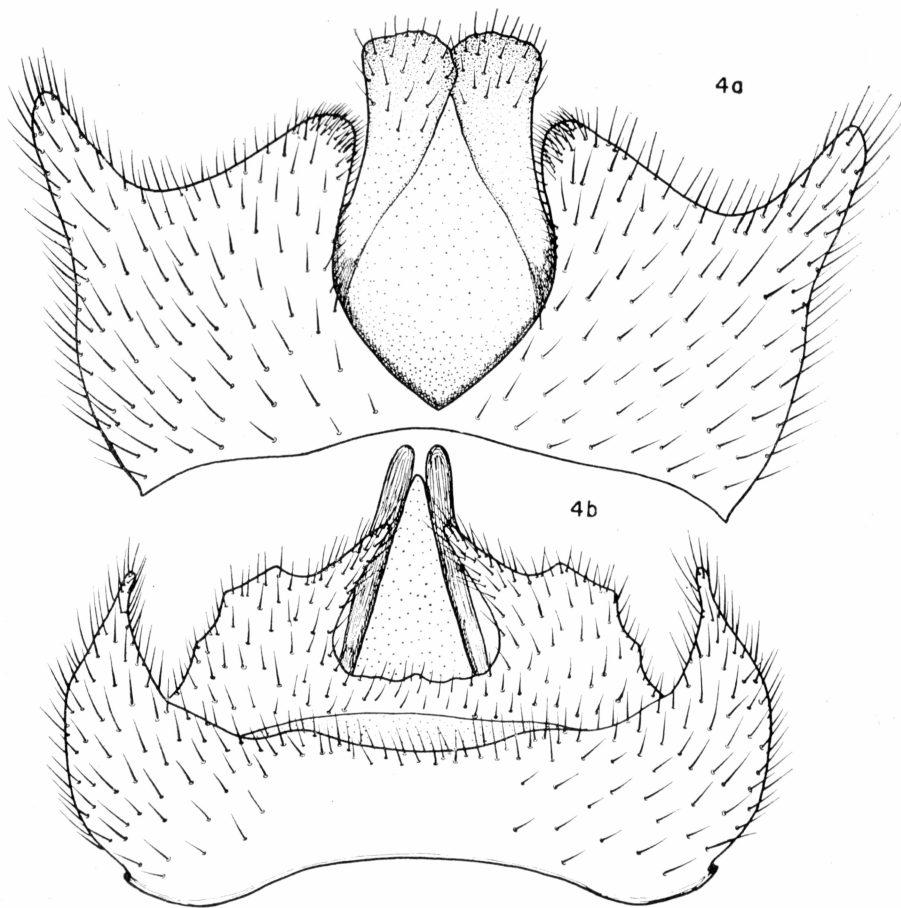


Fig. 4. *Plecia javensis* Edwards: a) male genitalia, dorsal; b) male genitalia, ventral

*Plecia javensis* Edwards  
(Figs. 4a—b)

*Plecia javensis* EDWARDS, Diptera Nematocera from the Dutch East Indies. Treubia, **6**, 158, 1925.

This species is closely related to *P. thoracica* (Guérin) and is distinguished by the genital characters of the male. The clasper structures of *javensis*

are produced into elongate, slender, lobes at their apices (fig. 4b). The claspers of *thoracica* are blunt, rounded, at apices and not so developed. The ninth sterna are also different in shape and development in the two species. This is the species which MALLOCH (1928: 604) determined as *Plecia fulvicollis* Fab. The specimens were intercepted at San Francisco from orchids brought in on the S. S. Tenyo Maru, the ship was from Java. I have seen these specimens in the National Museum collection.

This is a large conspicuous species easily recognized by the all rufous, dark brown to blackish fumose wings and by the genital characters as shown in figures 4a—b and as described below.

**MALE.** Genitalia: The ninth tergum is two times longer than wide and is deeply cleft, almost to its base, in the middle of the hind margin. The lateral plates of the sternum are each bilobed at their apices. The inner lobe is broader and more blunt than is the outer (fig. 4a). The cerci are strongly developed and extend well beyond the apices of the tergum. The ninth sternum is over two times wider than long. The posterior lateral margins are slender and acuminate pointed (fig. 4b). The claspers are very irregular in shape, they are undulated on the outside edge and the apices are produced into slender inwardly directed lobes (fig. 4b). The claspers are apparently joined at their bases by a narrow sclerotized bridge. The aedeagus has an elongate rod-like structure on each side. These extend beyond the apices of the claspers.

Length: body, 6.5—10.0 mm; wings, 7.8—14 mm.

Type locality, Java.

Type in the British Museum (Natural History).

Thirty specimens are in the collection from the following localities: Swela, Lombok, 22, III, 1927 and Mborong, West Flores, 3, VII, 1927.

I have previously examined specimens from several localities in Java (including the above mentioned specimens which MALLOCH had identified as *fulvicollis*) and from Krakatau, Soembawa and Verlaten Island.

***Plecia sundaensis* n. sp.**

(Figs. 5a—b)

This species belongs in the group of *Plecia* which have the thorax all rufous. It is closely related to *P. ruficornis* Edwards and can only be distinguished by the male genital characters and by the presence of a large dark brown to black spot on the upper portions of the pleura. The ninth tergum is more deeply cleft than in EDWARDS' original drawing (1927: 363) and the cerci are much more greatly developed and extend as far as apices of the ninth tergum (fig. 5a). EDWARDS' figure (dorsal view) did not show the ventral aspects clearly. A sketch of the ventral view of the genitalia of the type has been supplied by PAUL FREEMAN of the British Museum (Natural History). From it the ninth sternum of *ruficornis* apparently has rounded sides and is broadest through the median portion.

The ninth sternum of *sundaensis* is broadest at the apical portion (fig. 5b). The claspers of *ruficornis* are apparently short and broad, from FREEMAN's sketch they appear to be about as broad as long and truncate at apices. The concavity on the hind margin of the ninth sternum extends about one-third the length of the segment in *ruficornis*. In *sundaensis* it extends two-thirds the length of the sternum. There are also other differences in the genitalia.

**MALE.** Head: Largely black, with brown to black pile on the face, mouth parts and antennae. The antennae are reddish yellow and are composed of nine segments; the apical segment is tiny and is closely joined to the preapical segment. The labella and palpi are brown to black. Thorax: Entirely rufous except for the hypopleura which are brown and for a brown spot on the upper portion of each mesopleuron. The knobs of the halteres are dark brown to black. Legs: The front and middle coxae and all of the trochanters are rufous. The basal half of each middle femur is also rufous. The remainder of the legs are brown to black. The leg joints are all slender. Wings: Dark smoky brown fumose.

The extreme wing bases are yellow. The stigmatic area is not darker in color than the remainder of the wing. Vein  $R_3$  is straight and forms about a  $70^\circ$  angle with vein  $R_{4+5}$ . Abdomen: Dark brown to black, moderately covered with dark colored pile. Genitalia: The ninth tergum is very deeply cleft on its hind margin; the concavity nearly divides the sclerite into two lateral plates (fig. 5a). The posterior lateral margins of the tergum are sharply pointed. The cerci and the anal region are well developed and extend as far as the apices of the tergum. The ninth sternum is expanded posteriorly so that its widest point is near the apices of the lateral lobes. The posterior lateral lobes are acutely pointed and extend slightly beyond the apices of the claspers. The ninth sternum also has a pair of blunt

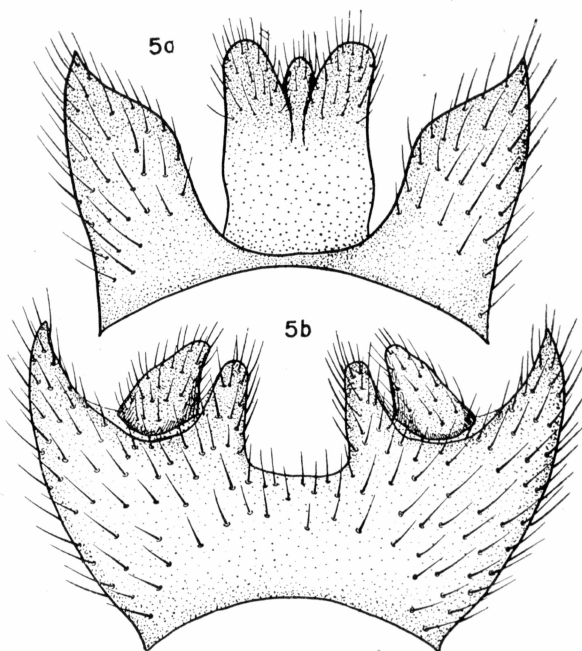


Fig. 5. *Plecia sundaensis* n. sp.:

a) male genitalia, dorsal; b) male genitalia, ventral

submedian lobes just inside the claspers (fig. 5b); these are separated by a 'U' shaped concavity. The sternum is approximately one and one-half times wider than long. The claspers are longer than wide and are blunt at apices (fig. 5b).

Length: body, 5.0 mm; wings, 6.4 mm.

**FEMALE.** The antennae are eleven segmented. The head, except for the eyes, ocellar triangle and mouthparts, is rufous. All coxae and the narrowed portions of all femora are rufous. The pleura are entirely rufous except for brownish discolorations on the hypopleura. Otherwise like the male except for genital characters.

Length: body, 5.5 mm; wings, 7.0 mm.

Holotype male, allotype female, and one paratype male from Rana Mesé, West Flores, 20—23, VI, 1927. One female specimen, in poor condition, seems to belong here; it is from Segare Anak, Lombok, April 7, 1927.

The type, allotype and the damaged female specimen have been returned to the Deutsches Entomologisches Institut. The paratype has been deposited in the United States National Museum.

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## Untersuchungen über das Vorkommen verschiedener *Meligethes*-Arten auf Raps

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(Mit 7 Textfiguren)

Lange Zeit galten *Meligethes aeneus* F. und *M. viridescens* F. als die einzigen Vertreter ihrer Gattung, die den Raps aufsuchen. Einmal wird auch für *M. coracinus* Strm. angegeben, daß er von Raps gesammelt wurde (MÖLLER (10) bei Mühlhausen). Im Jahre 1949 teilte nun aber BOLLOW (2) mit, daß zumindest in Bayern außer den genannten noch eine Reihe weiterer Arten den Raps besiedeln. Insgesamt konnte er folgende 7 Arten feststellen:

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