

**Further observations on *Desmopterini*, other than
Desmopterella Ramme, with descriptions
of new species**

(Orth., Pyrgomorphidae)

BY

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(Macdonald)

(Lám. X)

The *Desmopterini*, other than the genus *Desmopterella* Ramme, 1941, were revised by Kevan (1963). Since then, Kevan and Akbar (1964) have erected a new subgenus, *Desmopterula*, of *Desmoptera* Bolívar, 1884, to contain *D. degenerata* Brunner von Wattenwyl, 1898 (with its subspecies *D. molucensis* Bolívar, 1905) and *D. truncatipennis* Sjöstedt, 1920. As indicated by Kevan (1966), however, *Desmopterula* is a synonym of *Platydesmoptera* Ramme, 1941, which must now be revived for the species indicated. Kevan (1966) discusses the Philippine genus *Apodesmoptera* Rehn, 1951, has erected a new species and has elevated *A. mira luzonica* Kevan, 1963, to full specific status within a new subgenus.

Further comments on *Apodesmoptera* are not included in the present work, the chief purpose of which is to describe a new species of *Stenoxyphula* Kevan, 1963, and to use the opportunity to make observations on, and to list additional records of, other species, mostly from New Guinea. The material listed is largely in the Bishop Museum, Honolulu, although a number of specimens are in other institutions, including the Lyman Entomological Museum, Macdonald College, of McGill University, the Instituto Español de Entomología, Madrid, and the Australian National Insect Collection, Canberra. A comment is also called for regarding Kevan's (1963) revision, as a few editorial changes from the original manuscript of that work were made without

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the author's knowledge, and some of these were incorrect. Most of these alterations, which it would be pedantic to list, were very minor, but some corrections are necessary. These are included under the appropriate species below ².

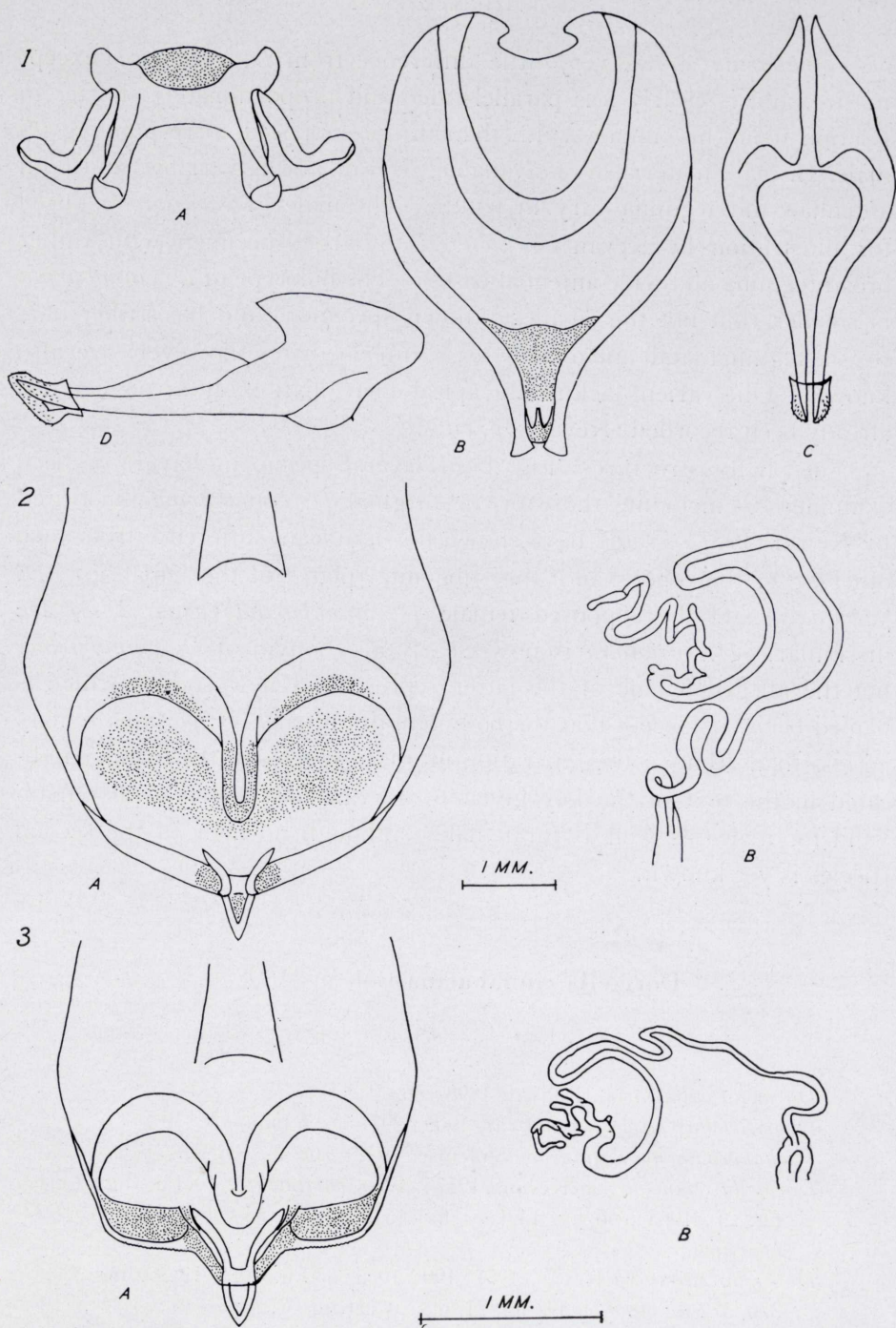
Doriaella Bolívar, 1898.

Bolívar (1898) erected this genus to contain a single new species *D. cinnabarina*, known only by the male. He later (Bolívar, 1905) described a second species, *D. paradoxa*, known only by the female. Kevan (1957) discussed the two species and designated the holotype of the synonymous *Pachokeraian novaeguineae* Willemse, 1922, as neotype of *D. paradoxa* (the holotype of which had been destroyed). He also illustrated a male specimen of *D. cinnabarina*, determined by Bolívar and compared with the holotype, and a specimen believed to be the previously unknown female of that species. Kevan (1963) gives full synonymies and a key for separating the two species, listing additional material of both sexes for *D. paradoxa*, but no further specimen of *D. cinnabarina*.

The key given by Kevan (*op. cit.*) separates *Doriaella* into two species: *D. paradoxa*, which is said to be larger, with broadly expanded female antennae and relatively shorter, less parallel sided tegmina; and *D. cinnabarina*, with opposite characters. The male antennae are also said to differ: the bases of the antennae "distinctly flattened" in *paradoxa* and "scarcely depressed" in *cinnabarina*. Females may certainly be readily separated into two species by means of the characters given, but a reappraisal of male specimens previously recorded (including the holotype of *D. cinnabarina*) and an examination of additional material, has shown all of them to be conspecific.

The illustration of the male antenna of *D. cinnabarina* given by Kevan (*op. cit.*) is faulty as it exaggerates the narrowness at the base. The original drawing was made from an enlarged photograph and not from the specimen itself (which had at the time been returned to Genoa, although it has since been re-examined); the photograph, and thus the drawing, in fact, shows an "edge-on" view. The tegmen illustrated for

² An error in the list of references given by Kevan (1963) should also be corrected. The citation of the 1930 work by Willemse should have read: "... (Bijdrage Nr. 62) ..." [not 32], and "Tijdschr. Ent. 73: 1-210" [not 72: 1-40].



Figs. 1-3.—*Doriaella* spp. 1) *D. cinnabarina* Bolívar, phallic structures; A, epiphallus; B, ectophallus, dorsal; C, endophallus dorsal; D, the same, from right. 2) *D. cinnabarina* (= *D. paradoxa* Bolívar), female genitalia; A, subgenital plate, dorsal; B, spermatheca and duct. 3) *D. cheesemanae*, n. sp., female genitalia; A, B, as in Fig. 2.

D. cinnabarina shows very little difference from *D. paradoxa*, except in size, and is clearly less parallel-sided and proportionately shorter in relation to its maximum width than in the supposed corresponding female. In male material now available, overall size is variable, and both antennae and tegmina vary in width. The male "*D. paradoxa*" used for illustration by Kevan (*op. cit.*) is a large specimen with rather broad tegmina and wide antennal bases. The holotype of *D. cinnabarina* is smaller (but not the smallest known specimen) and has rather narrower tegmina and antennal bases. Intermediates, however, are also known. One variant lacking the apical emargination of one tegmen has already been recorded (Kevan, *op. cit.*).

The phallic structures (Fig. 1) of several specimens have now been examined — including those of the original *D. cinnabarina* illustrated by Kevan (1957) — and have shown no significant difference from each other. On the other hand, the subgenital plates of the female of "*D. paradoxa*" and the supposed female *D. cinnabarina* (Figs. 2, 3) are dissimilar. *D. paradoxa* is now clearly a synonym of *D. cinnabarina*, but the alleged female of the latter represents a new species which is named below. Except that the body-length of male "*D. paradoxa*" may be less than 30 mm., the separation into two species in the manner indicated in the text of the key given by Kevan (1963) may well remain valid for males as well as for females, although no male of the second species is yet known.

Doriaella cinnabarina Bolívar, 1898.

(Figs. 1, 2; Pl. I, a, b).

Doriaella cinnabarina Bolívar, 1898: 86.

D[ori(a)ella] paradoxa Bolívar, 1905: 297 — *syn. nov.*

Pachokeraian novaeguineae Willemse, 1922: 708 — *syn. nov.*

Doriaella cinnabarina Kevan, 1957: 198 (*partim*), pl. XIV, fig. 1 [*nec* fig. 2]; 1963: 366 fig. 14 [*nec* fig. 13], 369 fig. 36 *b* [*nec* fig. 36 *a*], 371 (*partim*).

Doriaella paradoxa Kevan, 1957: 199; 1963: 336 figs. 11, 12 369 fig. 35 *a, b*, 370, 372 fig. 48 *b, c*, 397 fig. 71, pl. XVIII fig. A.

The holotype of *D. cinnabarina* (Pl. I, a, b) is in Genoa; its body length is 28.5, not 30 mm. as given in the original description. It bears the following data labels: (1) N. Guinea S. E., Moroka, Loria, VII-XI.

93 [printed]; (2) *Doriaella* [*sic*] *cinnabarina* Bol. [in Bolívar's hand on white with green border — the name "Timanthes" (Tettigonoidea) is also on this label but has been scored through]; (3) Typus [red on white]; (4) *Doriaella cinnabarina* Bolív. — Typus [in F. Capra's hand].

All specimens previously listed by Kevan (1957; 1963) and other authors as *D. paradoxa* and *D. cinnabarina*, with the exception of the supposed female of the latter, belong to this species. *D. cinnabarina* is thus now known from the greater part of New Guinea, except for the little-known south-central region and the most westerly parts of the island (Fig. 12). The locality for one of the females listed as *D. paradoxa* by Kevan (1963) was given as "Augustus Hoofdbivak"; the data label reads "Augustinus Hoofdbivak". The following additional specimens may be recorded.

WEST NEW GUINEA: Oranje-gebergte [Orange Mts], 1927, 1 ♂ (A. Kalthoven); Bodem, Sarmi area, 10.VII.1959, 1 ♂ (T. C. Maa); Waris, S. of Hollandia, 450-500 m., 8-15.VIII.1959, 1 ♂ (T. C. Maa); Nabire, 5-50 m., light trap, 25.VIII-2.IX.1962, 1 ♂ (J. Sedlacek); NORTH-EAST NEW GUINEA: Wum, Upper Jimmi V[alley], 840 m., 16.VII.1955, 1 ♂ (J. L. Gressitt).

Doriaella chesemanae n. sp.

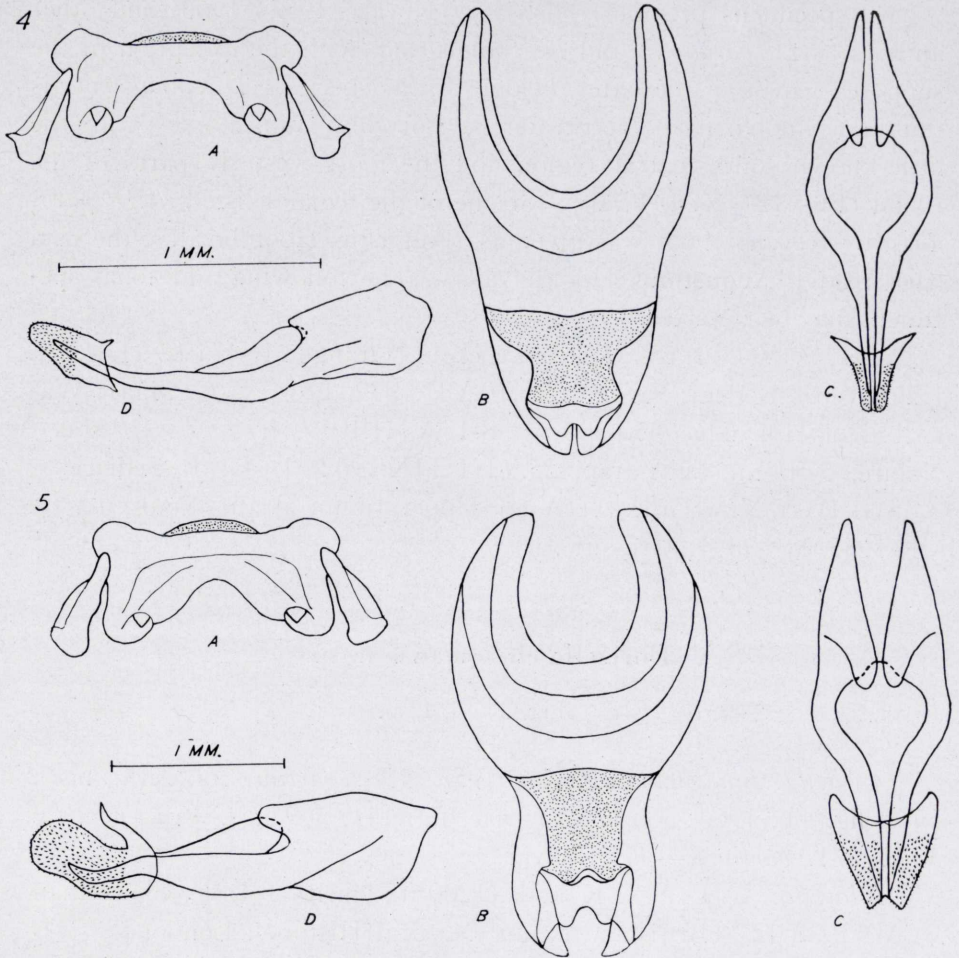
(Fig. 3; Pl. I, c).

Doriaella cinnabarina; Kevan, 1957: 198 (*partim*), pl. XIV, fig. 2 [*nec*. fig. 1]; 1963: 366 fig. 13 [*nec*. fig. 14], 369 figs. 36 a [*nec*. fig. 36 b], 371 (*partim*) — *nec* Bolívar.

Holotype: ♀, PAPUA: Kokoda, 1200 ft., viii.1933, L. E. Cheeseman, B. M. 1933-427 [British Museum (Natural History), London].

This specimen has already been discussed and figured by Kevan (1957; 1963), so that a general description is unnecessary. It is not in good condition, lacking hind legs. Its measurements are given by Kevan (1957). In general coloration it is brownish, streaked with fuscous, the antennae have paler apices, the tegmen has a post-radial testaceous stripe in the apical half, and the hind wings are pink, infumated marginally and apically. A new photograph of the dorsal aspect of the insect is given herewith (Pl. I, a); the subgenital armature and spermatheca (Fig. 3) are also figured for comparison with those of *D. cinnabarina* (Fig. 2).

The species is named in honour of the intrepid Miss Evelyn Cheeseman, whose extensive explorations of the natural history of New Guinea



Figs. 4-5.—*Stenoxyphula* spp., phallic structures. 4) *S. microphallica*, n. sp. 5) *S. excisa* (Ramme). A, B, C, D, as in Fig. 1.

are well known. The species differs from *D. cinnabarina* in being more slender and, as already indicated, in the very narrow tegmina and antennal bases, as well as in the much more oblique frontal profile and in genitalic structures (presumably of the male also). The tegmina surpass the end of the abdomen by one-third of their length, whereas in *D. paradoxa* (both sexes) they do not do so by much more than about

one quarter; in *D. paradoxa*, the tegmina surpass the hind kness by about one-third of their length, or less, whereas in *D. cheesemanae* they presumably do so by considerably more than this.

Paradoriaella Willemse, 1961.

Paradoriaella tuberculata Willemse, 1961.

No further material of this species has been found and the male is still unknown. Due to an unfortunate editorial change, the data for the holotype given by Kevan (1963) include the words "Third Archbold New Guinea Exped." This should read "Neth. Ind. — American New Guinea Expedition", as given more correctly (but still inaccurately as the first two words were not abbreviated) in the original description. The actual expedition was, of course, the same.

Stenoxyphula Kevan, 1963.

This genus was erected to contain a single species *S. excisa* (Ramme, 1941), distinguishable from *Stenoxyphus*, Blanchard, 1853, chiefly on the basis of the somewhat abbreviated tegmina which are "strongly excised" at the apex, and its broad, rounded hind wings which lack apical points. Some doubts were expressed, however, regarding the validity of the genus, but subsequent investigation of the phallic structures of all genera of the Desmopterini (unpublished) has upheld the position of *Stenoxyphula*. The cingulum is more elongate than in *Stenoxyphus*; it also has a much wider, deeper, basal emargination; the endophallus also differs in having longer, more slender aedeagal sclerites, aedeagal apodemes with longer, backwardly directed dorsal processes, and a subspherical, not transverse, spermatophore sac (see Figs. 4, 5, 8, 9). The female subgenital armature also differs somewhat (see Figs. 6, 7, 10, 11).

A second species of *Stenoxyphula*, resembling *Stenoxyphus* even more closely than does *S. excisa* in its external features, has now been found. It has phallic structures and somewhat abbreviated wings as in *S. excisa*, but the tegmina, although strongly truncated, are only moderately, not strongly, excised apically. The generic definition should thus be slightly modified accordingly.

***Stenoxyphula microphallica* n. sp.**

(Figs. 4, 6; Pl. I, d-g).

Holotype and *Allotype*: ♂, ♀, NEW GUINEA, N. E. Moife, 2100 m., 15 km. N. W. of Okapa, Oct. 7-14, 1959, T. C. Maa Collector [B. P. Bishop Museum, Honolulu, and Lyman Entomological Museum, McGill University].

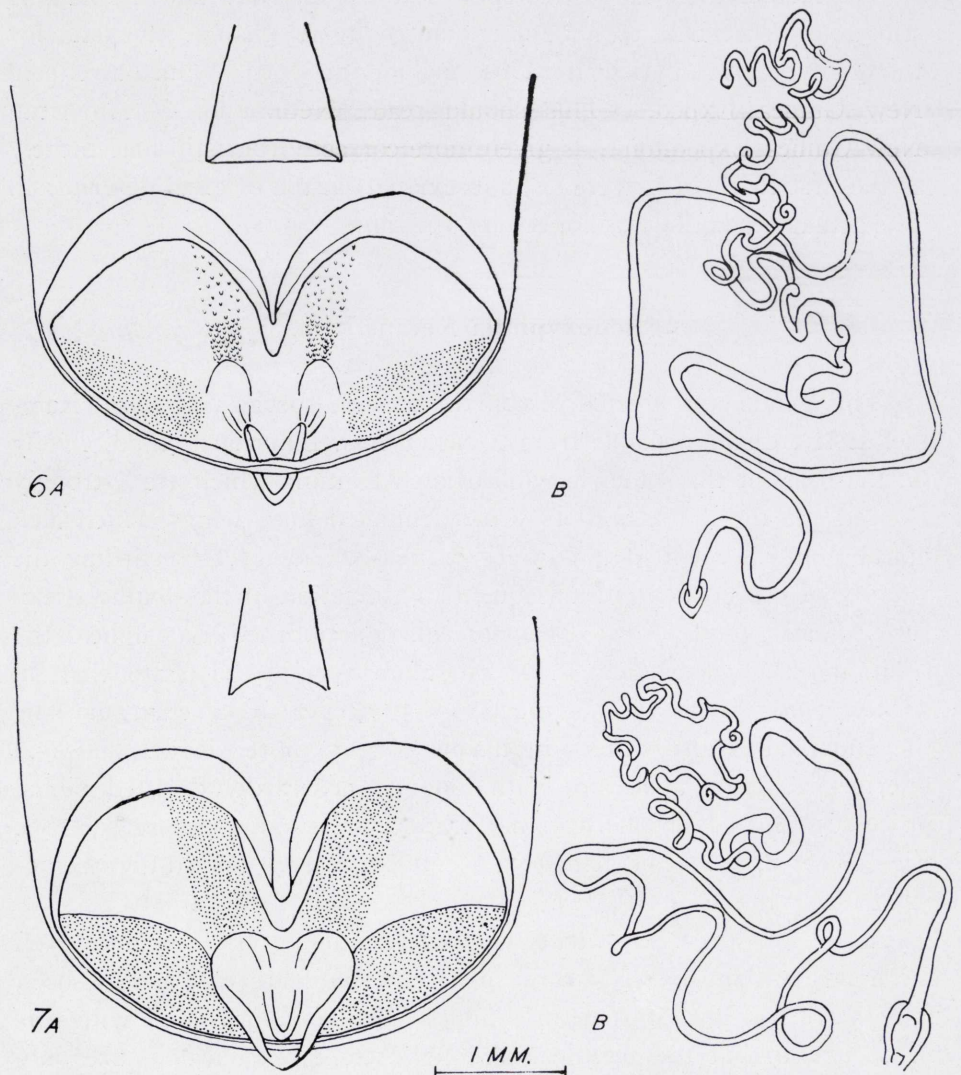


Fig. 6-7.—*Stenoxyphula* spp., female genitalia. 6) *S. microphallica*, n. sp.
7) *S. excisa* (Ramme). A, B, as in Fig. 2.

As this new species is very like *S. excisa*, only the salient points of difference need be given, as follows: size smaller, oblique keels (particularly their anterior projections) and infero-posterior angles of the lateral pronotal lobes stronger, imparting a rather more concave appearance to the sides of the pronotum as seen in dorsal view; tegmina relatively shorter and less strongly excised apically, barely (δ) or not (φ) surpassing the apex of the abdomen, not quite reaching the extended hind knees; phallic structures only half the size of those of *S. excisa*, differing also as illustrated (Figs. 4, 5); female subgenital armature also differing from that of *S. excisa* as shown (Figs. 6, 7).

Coloration of holotype: antennae testaceous, eyes mottled fuscous, frons below eyes testaceous with a large, centrally placed, quadrate, fuscous maculation bordered on each side by two or three blackish, granular tubercles; frons between eyes dark fuscous, cheeks behind eyes of same colour with a diagonal callous testaceous stripe from behind the eye to the anterior margin of the pronotum; vertex, including fastigium, testaceous except for a short inwardly and backwardly directed fuscous stripe behind each eye; pronotal disc testaceous, lateral pronotal lobe green with scattered blackish granular tubercles, the lower half strongly suffused dark fuscous; metazona, except for a greenish, triangular area in the middle, dark fuscous; thoracic pleura testaceous, heavily suffused fuscous; thoracic sterna testaceous in the middle, marginally dark fuscous, mottled between; abdomen basically testaceous, but strongly mottled with fuscous, particularly in the anterior pleural and adjoining areas; anterior and middle femora green with dark fuscous apices; anterior and middle tibiae greenish-testaceous with two, more or less distinct, fuscous maculae, their tarsi dirty testaceous with the apical parts of the terminal segments and arolia blackish; hind femora for the most part brownish-testaceous, mottled fuscous to dark fuscous, basal and apical thirds paler, hind knees fuscous, semilunar areas darker; hind tibiae and tarsi dirty testaceous, irregularly mottled fuscous; tegmina testaceous with basal part of costal field and the region of the basal half of the radial vein fuscous, remainder with small, scattered maculations, particularly in anterior half; hind wings hyaline, slightly infumated, extreme apical margin fuscous.

Coloration of allotype: generally mottled brownish-testaceous; apices of antennae, middle parts of lateral pronotal lobes, apical parts of anterior and middle femora, basal parts of anterior and middle tibiae, and ovipositor valves all rather paler.

Measurements: length of body, ♂ 23, ♀ 34; pronotum, ♂ 5.3, ♀ 7.9; tegmen, ♂ 15.3, ♀ 20.5; hind femur, ♂ 14.0 mm. [♀ femora lacking].

The only other known example is a last-instar female nymph bearing the same data as the types.

Stenoxyphus Blanchard, 1853.

The characters given to separate *S. variegatus* (Blanchard) from *S. aurantiacus* (Karsch) in the key given by Kevan (1963)³ are not entirely satisfactory for males, particularly as regards the fastigium of the vertex, ocellar tubercle and, to some extent the form of the pronotum and tegmina. As indicated by Kevan (*op. cit.*) both species are also rather variable in the colour of the hind wings, but not to quite the extent that is implied. Rose or pink-coloured hind wing-discs seem to be indicative of *S. variegatus*, whereas the hind wings of *S. aurantiacus* are seldom if ever rosy, varying from yellow to reddish-orange. Infumated hind wings without other pigmentation, however, are found in either species, but the use by Willemse (1922) and Ramme (1941) of wing-colour as a means of distinguishing the species, is less unreliable than was believed. The general coloration, also, while usually brownish in both species, is much more prone in *S. variegatus* than in *S. aurantiacus* to produce a mottled, green, moss-like camouflage (see also Ramme, 1941). The genitalic structures of both sexes differ as illustrated (Figs. 8-11).

Among material currently examined is one male from Bomberai (see below), that is particularly interesting: it is virtually identical in its denticulate antennae, pink hind wings and rather uniformly wide tegmina with prominent apical points, with the holotype of *S. variegatus weylandi* Ramme, 1941. Kevan (1963) was led to believe that this last was merely an individual variant of *S. aurantiacus*, with which he synonymized it, but the present specimen, as indicated particularly by its phallic structures, belongs to *S. variegatus*. That denticulate male antennae merely represent individual, and not subspecific, variation, comparable with what is found in females (as suggested by Kevan,

³ In line 6 of the second part of couplet 2 in this key (p. 376), the word "less" was omitted from before "prominent".

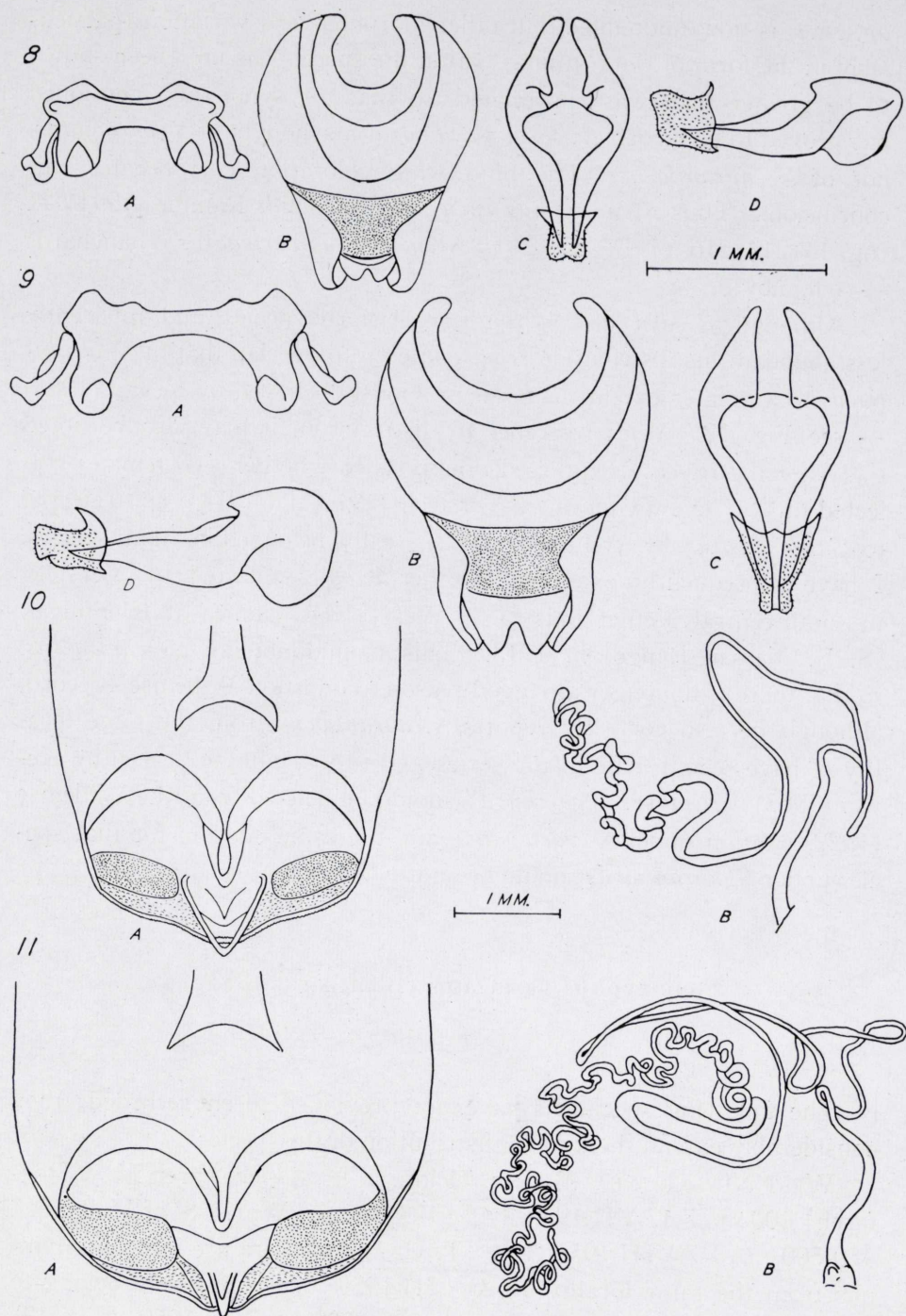


Fig. 8-11.—*Stenoxypus* spp. 8) *S. variegatus* (Blanchard), phallic structures. 9) *S. aurantiacus* (Karsch), the same. 10) *S. variegatus*, female genitalia. 11) *S. aurantiacus*, the same. A, B, C, D, as in Fig. 1 (♂) or Fig. 2 (♀).

op. cit.), is now undoubted, but other morphological variation (particularly in the form of the tegmina) within the species has now been shown to be greater than was appreciated, so that the synonymy mentioned has proved to be incorrect: *S. v. weylandi* is a synonym of *S. variegatus*, not of *S. aurantiacus*. The hind wing coloration corroborates this conclusion. Thus *Stenoxypheus variegatus weylandi* Ramme (1941: 41 (fig. 14), 42, 216, pl. IV, fig. 2) = *Stenoxypheus variegatus* (Blanchard) — syn. nov.

Although *S. variegatus* is the more easterly species, and apparently less abundant, its distribution is now known to overlap that of *S. aurantiacus* to a greater extent than was previously believed by Kevan (1963) — see Fig. 12. With reference to distribution, it may also be noted that Kevan (*op. cit.*) expressed doubts as to whether two females collected in "S." New Guinea by Versteeg [1912 and 1914], and referred to *S. variegatus* by Willemse (1922), really belonged to that species. I have subsequently examined another female collected by Versteeg in south-central Netherlands [i. e. West] New Guinea at Kloofbivak (S. E. Nassau Range) in 1913. This is undoubtedly *S. variegatus*, so that there is no longer any good reason to question Willemse's record, although he also correctly reports *S. aurantiacus* from the same locality (I have seen a male of the series). In the synonymy given by Kevan (1963), therefore, "(partim?)" should be deleted from the Willemse (1922) citation under *S. variegatus*, and the same citation for that species under *S. aurantiacus* should be omitted.

Stenoxypheus variegatus (Blanchard, 1853?).

(Figs. 8, 10).

The following specimens have not previously been recorded; they considerably extend the known distribution of the species.

WEST NEW GUINEA: Bodem, 11 km., S.E. of Oeberfaren [? = Boefareh] 100 m., 7-17.VII.1959, 1 ♂ (T. C. Maa); Waris, S. of Hollandia, 450-500 m., 1-7.VIII.1959, 1 ♂ (T. C. Maa) [there are also two nymphs from the same locality 16-23.VIII.1959, which probably belong to this species]; Vogelkop, Bomberai, 700-900 m., 7.VI.1959, 1 ♂ (T. C. Maa) [antennae of "*weylandi*" form — see above].

***Stenoxypus aurantiacus* (Karsch, 1896).**

(Figs. 9, 11).

The following are additional records for this species.

WEST NEW GUINEA: Manikion, 14-28.II.1903, 1 ♂, 1 ♀, 1 juv. (Nieuw Guinea Expeditie); Jendee, Roon [I., off Wandamen Peninsula], 3.III.1903, 1 ♀ (Nieuw Guinea Expeditie); "Ormoe" [? = Oera-

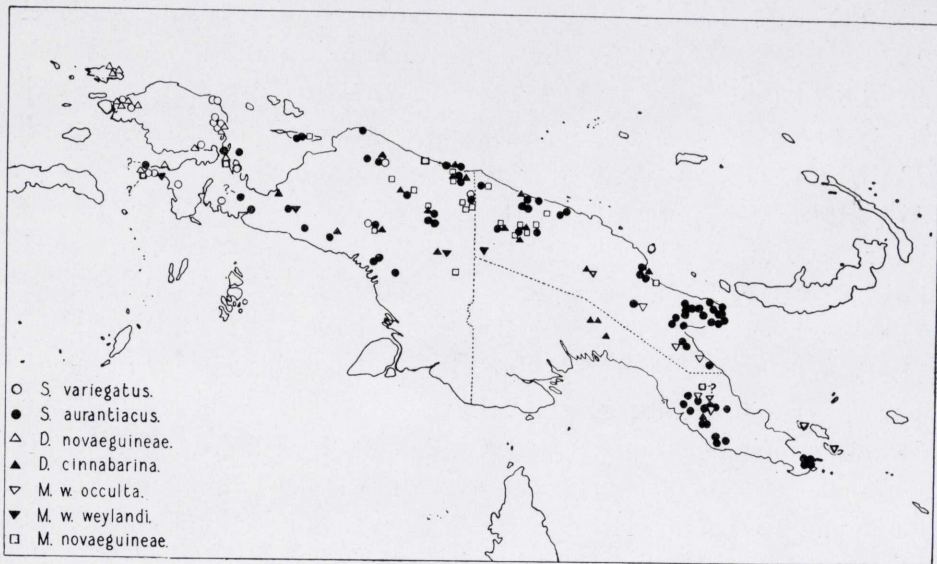


Fig. 12.—Known distribution of *Stenoxypus variegatus* (Blanchard), *S. aurantiacus* (Karsch), *Desmoptera novaeguineae* (Hann), *Doriaella cinnabarina* Bolívar (= *D. paradoxa* Bolívar), *Menesesiella weylandi occulta* (Rehn), *M. w. weylandi* (Ramme) and *Menesesia novaeguineae* Willems.

ma R], 21-23.V.1903, 1 ♂ (Nieuw Guinea Expeditie); Etna Bai, 1904-05, 1 ♂ (Dr. Koch); Bivak, Eilanden [R.] 10.I.1908(-10), 10 ♂ ♂, 4 ♀ ♀ (Lorenz); Noord Rivier, IX.1909, 1 ♂, 2 ♀ ♀ (Lorenz); Alkmaar [Noord Rivier], XI.1909, 1 ♀ (Lorenz); Mimika River, 1910; 1 ♀ (A. R. F. Wollaston); Utakwa R. Exp., Sept. 1912 — March 1913, 1 ♀ (A. F. R. Wollaston) [this and the last specimen have strongly infumated hind wings without other pigmentation]; Bodem, 11 km. S. E. of Oeberfaren [? = Boefareh], 100 m., 7-17.VII.1959, 1 ♀ [pronotum dorsally with some green coloration] (T. C. Maa); Waris, S. of Hollandia, 450-500 m., 1-7.VIII.1959, 1 ♂ [antennae slightly serrated] (T. C. Maa); Genjam, 40 km. W. of Hollandia, 100-200 m., 1-10.III.

1960, 2 ♀ ♀ [one very pale] (T. C. Maa). NORTH-EAST NEW GUINEA: Bolan Gbg. [= Mt.], 1 ♀; Lae, VII.1944, 2 ♂ ♂ (F. E. Skinner), 27. V. and 6.VII.1956, 2 ♂ ♂ (E. J. Ford Jr.), 29.IX.1961, 1 ♀ (J. Sedlacek); Busu River E. of Lae, 100 m., 4.IX.1955, 2 ♀ ♀ (J. L. Gressitt), 21.IX.1956, 1 ♂ (E. J. Ford Jr.); Bubia, Markham V[alley], 50 m., 20.IX.1955, 1 ♀ [mottled green] (J. L. Gressitt); Gewak, Salawaket [= Saruwaged] Range, 1530 m., 6.II.1956, 1 ♀ (E. J. Ford Jr.) [also 1 juv. (♀) 7.IX]; Beindep, Salawaket Range, 1260 m., 16.IX.1956, 1 juv. (♂) (E. J. Ford Jr.); Lambaab, Salawaket Range, 900 m., 16-19.IX.1956, 1 ♂ (E. J. Ford Jr.); Torricelli Mts., Siaute, sea level, 9.17.XI.1958, 1 ♀ (W. W. Brandt); Karimui, South of Goroka, 1000 m., 2-8.VI.1961, 3 ♂ ♂, 5 ♀ ♀ (J. L. Gressitt), 1080 m., 8-13.VII.1963, 2 ♂ ♂, 3 ♀ ♀ (J. Sedlacek); Dreikikir, Sepik Distr., 400 m., 22.VI.1961, 1 ♀ (J. L. & M. Gressitt); Wewak, Sepik Distr., 50 m., 26.VI.1961, 1 ♀ [mottled green] (J. L. & M. Gressitt); Wau, Morobe Distr. 1200 m., 27.X.1961, 1 ♀ [mottled green], 1200-1300 m., 25.II.1962, 1 ♀ [very slightly greenish], 1200-1300 m., 5.VI.1962, 1 ♂, 1200 m., 15-30.IX.1962, 1 ♀, 1250 m., 11.I.1963, 1 ♀, 1200-1300 m., 11.II.1963, 1 ♀, 1200 m., 5.V.1963, 1 ♀ (all J. Sedlacek); Huon Peninsula, Tobo-Salemberg, 26.IV.1963, 1 ♀ (J. Sedlacek); Balem, 64 km. N. of Lae, 30 m., 29.IV.1963, 2 ♂ ♂ (J. Sedlacek). PAPUA: Mt. Astrolabe, II.1893, 1 ♀ (Loria); Haveri, VII-XI.1893, 1 ♀ (Loria); Paumomu Riv., IX-XII.1893, 1 ♀ (Loria); Moroka, 1300 m., VIII-IX.1903, 2 ♂ ♂ (Loria) [The last is additional to the record from the same locality given by Bolívar (1905), although determined by that author (wrongly) as *S. variegatus* — all the above Loria specimens are in Genoa]; Kokoda-Pitoki, 400-450 m., 23-24.III.1956, 2 ♂ ♂ [antennae of one slightly denticulate], 1 ♀ (J. L. Gressitt); Laloki, nr. Port Moresby, 30.VII-2.IX.1959, 1 juv. (♀) (T. C. Maa); Daradai Pl[ai]n, 80 km. N. to [= of] Port Moresby, 500 m., 4.IX.1959, 1 ♀ (T. C. Maa).

Stenoxypellus Ramme, 1941.

Stenoxypellus brachypterus Ramme, 1941.

There is one additional record for this little-known species.

NORTH-EAST NEW GUINEA: Wau, Morobe Distr., Mt. Mission, 1100 m., 17.I.1963, 1 juv. (last instar ♀) (H. W. Clisswold).

Although the specimen noted is a nymph, the almost total absence of wing buds, together with other appropriate characters, and the fact that it closely resembles another nymphal specimen of this species, makes its identity virtually certain.

Desmoptera Bolívar, 1884.

The genus *Desmoptera*, in its current sense, was divided by Kevan and Akbar (1964: 1525, footnote) into two subgenera, *Desmoptera*, s. str., and *Desmopterula* (= *Platydesmoptera* Ramme — see p. 573), primarily on the basis of the phallic structures. Opportunity is now taken

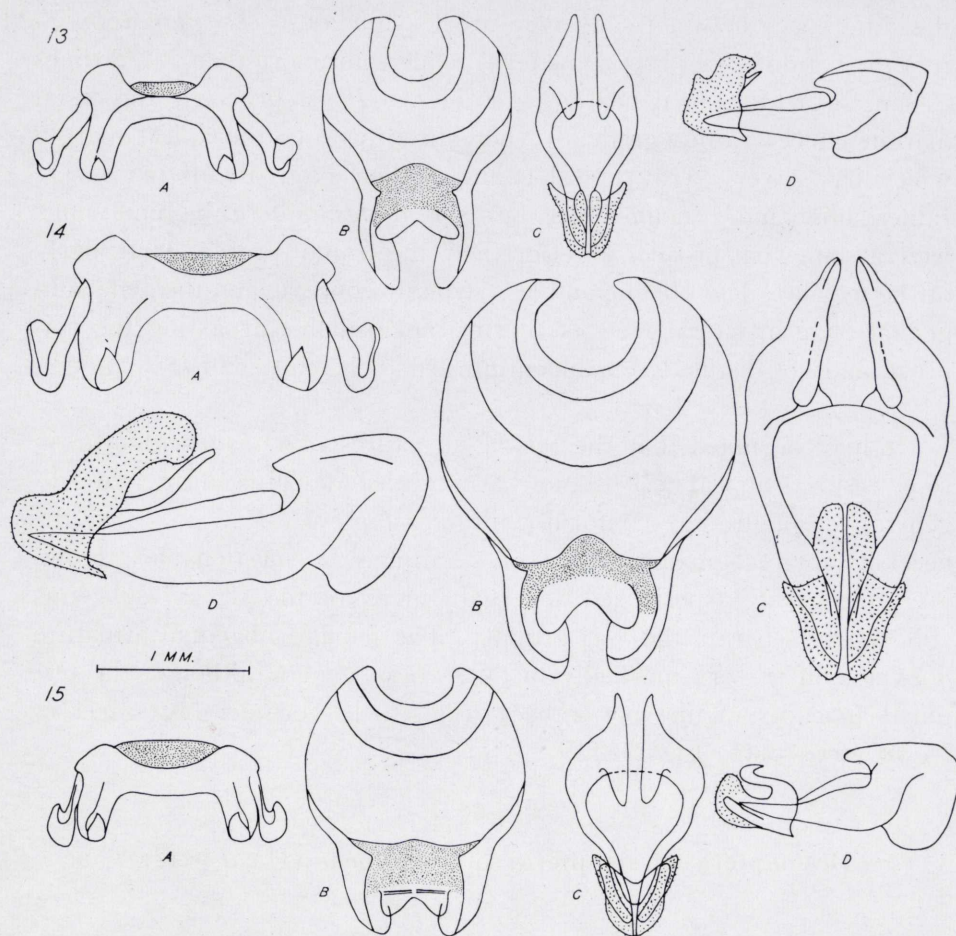


Fig. 13-15.—*Desmoptera*, s. str., spp., phallic structures. 13) *D. (D.) judicata* Bolívar. 14) *D. (D.) analis* Ramme. 15) *D. (D.) novaeguineae* (Haan). A, B, C, D, as in Fig. 1.

to illustrate these for the known species (Figs. 13-17). The only important modification of the original diagnosis of "*Desmopterula*" needed is that the suprazygomal plate is not diagnostic, as it may be wider or narrower in either subgenus. *Platydesmoptera* differs from *Desmoptera*, s. str., as follows:

Epiphallus with bridge a little less slender and lophi directed anterolaterally, not dorsally; ectophallus with dorsal cleft and sheath absent or poorly developed, apex of ventral process rather blunt (not acute); endophallus with aedeagal valves simple, narrowly conical (not widely expanded apically or very large and cap-like), apices of aedeagal sclerites long, slender, very acute and reaching nearly to the apices of the aedeagal valves (not short and rather stout). In external morphology the differences between subgenera are less obvious. In *Platydesmoptera* the tegmina are proportionately broader, not more than 5 1/2 times as long as wide, and if nearly so, as in *D. (P.) degenerata*, the costal margin curves rather gradually (not abruptly) into the apical margin which has a very weak apical point. Other external differences are rather subtle and difficult to use, but in *Platydesmoptera* the hind wings have a somewhat broader anterior field, the frontal profile, particularly of the female is less oblique and less strongly concave, and the male subgenital plate in lateral view is shorter, not usually surpassing the epiproct, and not distinctly expanded upward at the end as in *Desmoptera*, s. str.

It may be noted that the phallic structures of *D. novaeguineae* in some respects appear to be somewhat intermediate between the two subgenera, although they conform with *Desmoptera*, s. str., so that the necessity for recognizing *Platydesmoptera* may be questionable. However, the greatly specialized aedeagal valves of the typical subgenus still clearly separate the two groups. The female subgenital armature does not differ very markedly in the two subgenera, although the terminal appendix of the spermatheca seems to be considerably longer in *Desmoptera* s. str. (Figs. 18, 19).

***Desmoptera (Desmoptera) novaeguineae* (Haan, 1842).**

(Figs. 14, 17).

The following additional material may be recorded for this species.
WEST NEW GUINEA: Manikion, 14-28.II.1903, 1 ♀, 1 juv. N.-G.

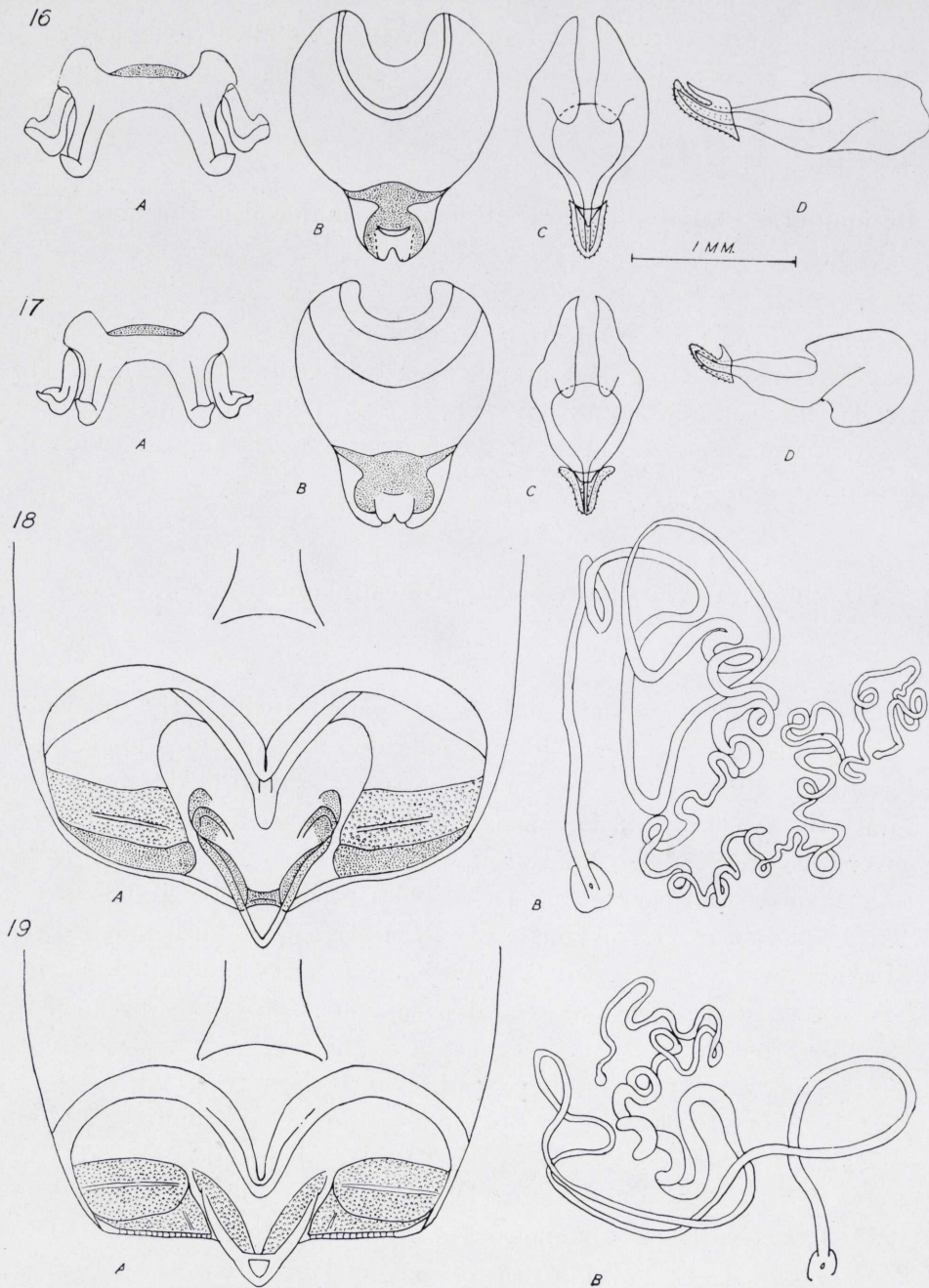


Fig. 16-19.—*Desmoptera* spp. 16) *D. (Platydesmoptera) degenerata degenerata* Brunner von Wattenwyl, phallic structures. 17) *D. (P.) truncatipennis* Sjöstedt, the same. 18) *D. (D.) novaeguineae* (Haan), female genitalia. 19) *D. (P.) d. degenerata*, the same. A, B, C, D, as in Fig. 1 (♂) or Fig. 2 (♀).

Exped); Maccleur Gulf, Bintoeni Bay, R. Tisa, 8.V.1941, 1 ♂ (E. Lundquist) [additional to ♀ with same data recorded by Kevan (1963)].

The known distribution of this species is confined to the eastern peninsula of New Guinea and to the neighbouring island of Waigeu (Fig. 12).

Desmoptera (Platydesmoptera) degenerata molucensis Bolívar, 1905.

(cf. Figs. 16, 19).

There is no further material of the above species to report, but it may be noted that the photograph given by Kevan (1963: Pl. XXII, fig. D) has suffered slightly in reproduction so that the curve of the costal margin into the apex of the tegmen appears angular, which it is not.

Desmoptera (Platydesmoptera) truncatipennis Sjöstedt, 1920.

(Fig. 17).

As indicated by previous authors, *D. rufa* Sjöstedt, 1921, is a synonym of this species. Kevan (1963) indicated that, contrary to the implication of Rehn (1953), the holotype was in the British Museum (Natural History), London, but details of the labels on the specimen have never been given. They are as follows: (1) Simmonds, Australia [badly written on thin paper]; (2) *Desmoptera rufa* n. sp. Yngve Sjöstedt det. ♀, and on reverse, Typus!; (3) Type H. T. [red-bordered British Museum disc]; (4) a recent label by K. H. L. Key indicating that its holotype status had been rechecked. A photograph of the specimen is given by Sjöstedt (1921: pl. 3, fig. 4).

The following specimens have not previously been recorded:

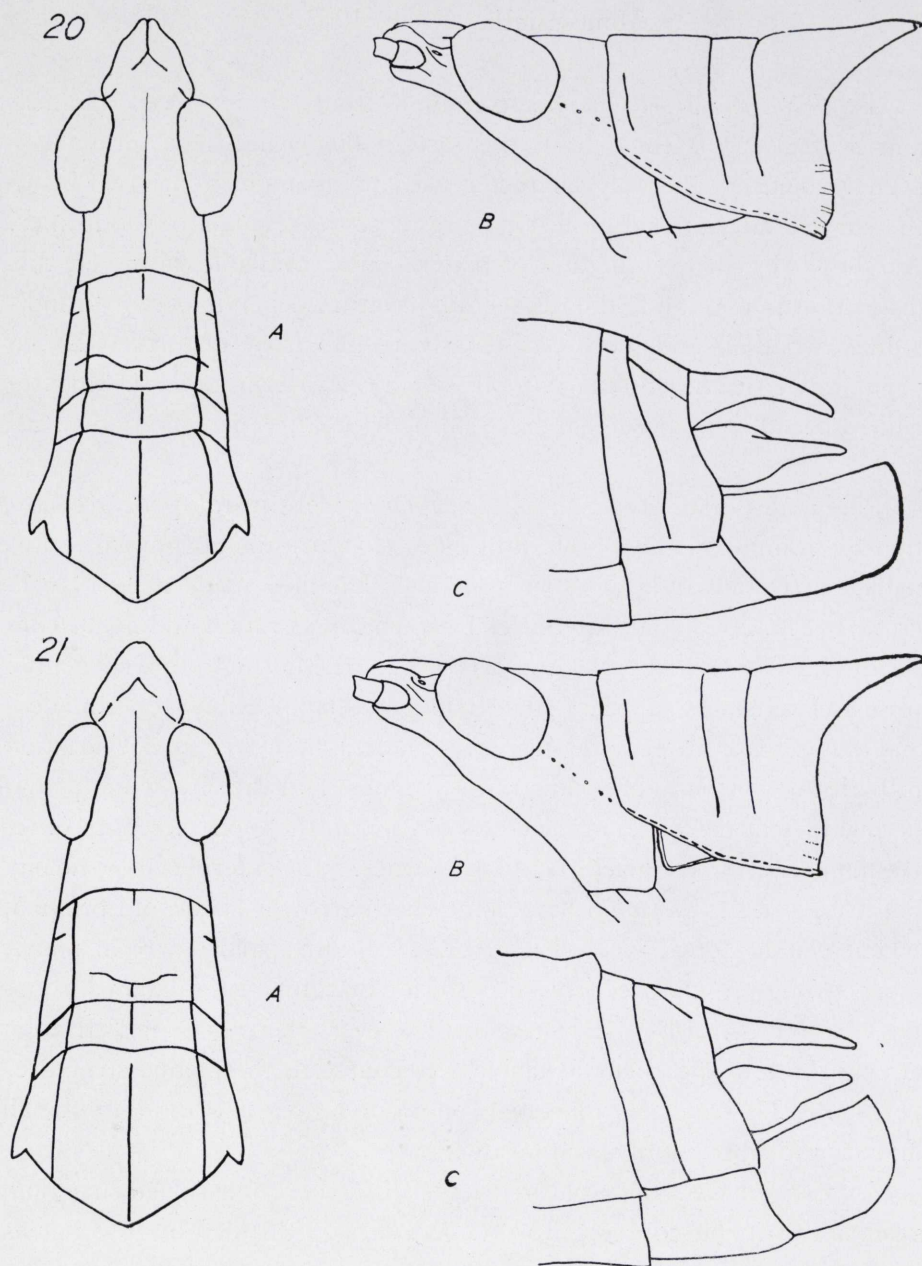
AUSTRALIA (NORTH QUEENSLAND): 10 mi. S. of Daintree, 29.IV.1955, 2 ♂♂ (Norris & Common); East base of Mt. Bartle Frere, 200 ft., 28.IV.1955, 2 ♂♂, 1 juv. (♀) (K. R. Norris); Lake Eacham, 2.V.1955, 1 ♂ (Norris & Common), 2 mi. S.E. of Atherton, 23.IX.1956, 2 juv. (♀) (M. J. D. White); 8 mi. S.E. of Herberton, 23.IX.1956, 2 juv. (♀) (M. J. D. White); Palmerston Nat. Park, ca. 12 mi. N. of Ravenshoe, 5.III.1961, 1 juv. (♀) (R. Stradtman); Kuranda, 200 m., light trap, 13.III.1956, 1 ♂ (J. L. Gressitt).

Menesesiella Kevan, 1963.

Two species *M. weylandi* (Ramme), from western New Guinea, and *M. occulta* (Rehn), from the east of the island, have previously been recognized, the only character used to distinguish the two being the curved anterior and posterior margins of the tegmina of the former. As shown by an examination of material now available, however, this distinction is not valid; the degree of curvature depends partly on individual variation, and more particularly results from distortion due to drying after death. Similar curvature may be seen in other Desmopterini, especially in those that have been dried after preservation in alcohol.

The males of the type series of *weylandi* were in too poor a condition for Ramme (1941) or Kevan (1963) to figure the abdominal terminalia, but examination of other specimens has now made it possible to do this (Fig. 20C), and differences between *M. weylandi* and *M. occulta* seem indeed to exist (cf. Fig. 21C). In the former, the subgenital plate in lateral view appears slightly longer, shallower and less rounded, and the cerci a little more slender. There is however some variation in both forms (the figures illustrate extremes) and the characters provide insufficient evidence, in view of variation in these characters in other Desmopterini, upon which to base species. In external morphology both sexes of *M. weylandi* have somewhat narrower heads and pronota, when seen in dorsal view (Fig. 20A, 21A) and, particularly in males, more strongly sculptured, infero-posterior margins of the lateral pronotal lobes (Figs. 20B, 21B). Again, however, there is some variation among the few specimens available. Recourse to the phallic structures (Figs. 22, 23) have also indicated some differences, but these are small and are probably not of specific value.

In view of the minor nature of the differences mentioned, it would seem unjustifiable to recognize *M. occulta* as a distinct species, but as these differences apparently do exist between western and eastern material, the two populations may (until such time as further material should suggest otherwise) be recognized as belonging to separate subspecies. Their known respective distributions are shown in Fig. 12.



Figs. 20-21.—*Menesesiella weylandi* (Ramme), ♂. 20) *M. w. weylandi*. 21) *M. w. occulta* (Rehn). A, head and pronotum, dorsal; B, the same, lateral; C, abdominal terminalia, from left.

Menesesiella weylandi weylandi (Rame, 1941).

(Figs. 20, 22).

New records are as follows:

WEST NEW GUINEA: Vogelkop, Fak Fak, S. coast of Bomberai, 10-100 m., 3.VI.1959, 1 ♂ (T. C. Maa); Star Mts., Sibil Val[ley], 1245 m., 18-X-8.XI.1961, 2 ♂ ♂, 1 ♀ (S. Quate & L. Quate). NORTH-EAST NEW GUINEA: Feramin, 120-150 m., 7-14.VI.1959, 1 ♀ (W. W. Brandt).

Menesesiella weylandi occulta (Rehn, 1951).

(Figs. 21, 23).

Desmopterina occulta Rehn, 1951: 212, pl. 12, fig. 14, pl. 13, fig. 20 — *stat. nov.*

Menesesiella occulta Kevan, 1963: 364, figs. 7, 8, 373, figs. 51, 52, 397, fig. 75 a, b, 401, 402, pl. XXIII, fig. D.

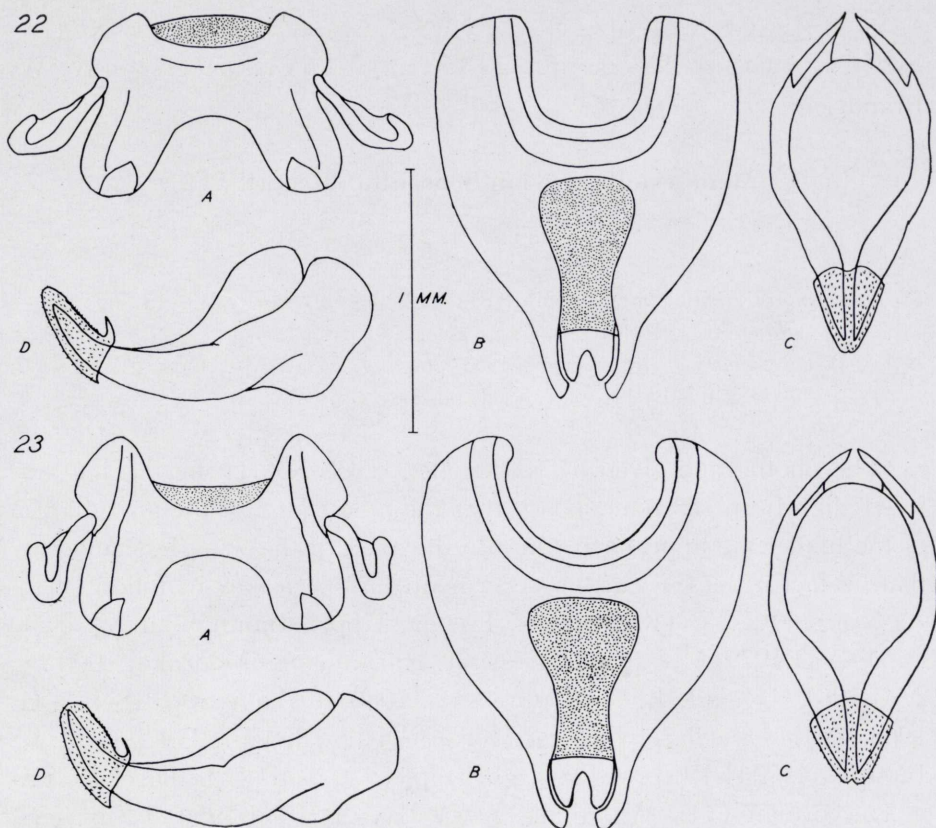
The photograph given by Kevan (1963: Pl. XXIII, fig. D) has suffered slightly in reproduction so that the apical part of the anal margin of the hind wing appears to run into the apex of the wing less smoothly than in fact it does. Further records of this species are as follows:

NORTH-EAST NEW GUINEA: Tsenga, Upper Jimmi V[alley], 1200 m., 14.VII.1959, 1 ♀ (J. C. Gressitt); Karimui, S. of Goroka, 1000 m., 2.VI.1961, 1 ♀ (J. L. & M. Gressitt), 1080 m., light trap, 18-13.VII.1963, 1 ♂ (J. Sedlacek); Wau, Morobe Distr. 1250 m., 23.I.1963, 1 ♀, 1200 m., 1-3.III.1963, M. V. Light trap, 1 ♂ (both J. Sedlacek). PAPAUA: Normanby I., Wakaiuna, Sewa Bay, 1-10.XI.1956, 1 juv. (♀) [presumably this species] (W. W. Brandt).

Menesesia Willemse, 1922.**Menesesia novaeguineae** Willemse, 1922.

The photograph of this species given by Kevan (1963: Pl. XXIII, fig. C) has also suffered slightly in reproduction so that the apex of the hind wing appears to be pointed, which it is not. The following records have not hitherto been published:

WEST NEW GUINEA: Manikion, 14-28.II.1903, 1 ♀, 1 juv. (N.-G. Exped.); Skoh [? = Skroe = Sekru], 5.V.1903, 1 ♀ (N.-G. Exped.); Z.-W. Nieuw Guinea, Boven [= Upper]-Digoel, Tanah Merad [District], VIII-IX.1929, 1 ♀ (Steen), Ifar, Cyclops Mts., 300-500 m., 26-28.VI.1962, 1 ♂ (J. L. Gressitt). NORTH-EAST NEW GUINEA: Dreiki-



Figs. 22-23.—*Menesiella weylandi* (Ramme), phallic structures. 22) *M. w. weylandi*. 23) *M. w. oculata* (Rehn). A, B, C, D, as in Fig. 1.

kir, Sepik Distr., 400 m., 22.VI.1961, 2 ♀ ♀ (J. L. & M. Gressitt). PAPUA: Daradai, nr. Javarere, Musgrave R[ange], 100 m., 32.X.1958 1 juv. [? this species] (J. L. Gressitt).

The known distribution of this species is shown in Fig. 12.

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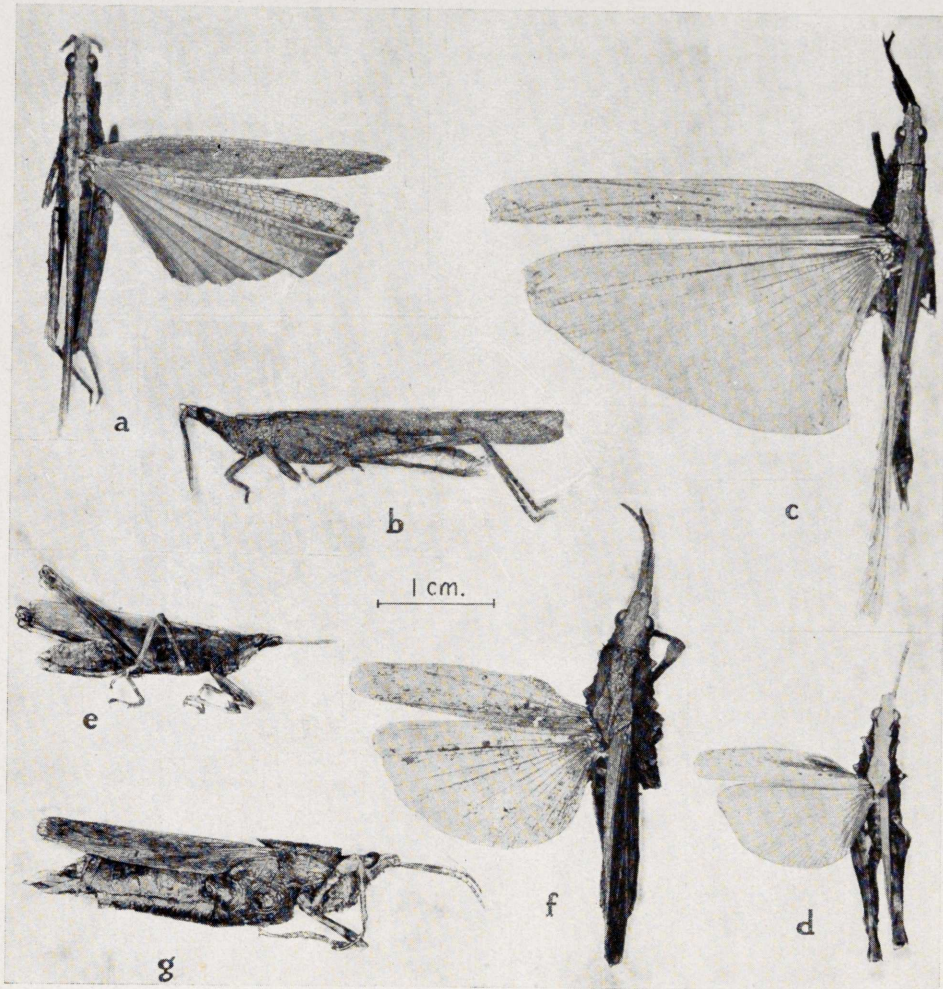
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EXPLANATION TO PLATE X

Doriaella and *Stenoxyphula* type specimens: a, b, *D. cinnabarina* Bolívar, ♂ holotype, dorsal and lateral; c, *D. cheesemanae* n. sp., ♀ holotype, dorsal; d, e, *S. microphallica* n. sp., ♂ holotype, dorsal, lateral; f, g, the same, ♀, allotype.



D. KEITH McE. KEVAN: Further observations on *Desmopterini*, other than *Desmopterella* Ramme, with descriptions of new species.

