

**Article XIII.**—A CONTRIBUTION TO THE KNOWLEDGE OF  
THE ORTHOPTERA OF SUMATRA.

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Early in the year 1906 the American Museum of Natural History placed in my hands for study a collection of Sumatran Orthoptera. While the actual determinative work on the series was completed the same year, various matters have hindered the completion of the report, which, however, is now based on an almost complete re-examination of the material.

This material was collected in part by Mr. Rudolph Weber on a private estate called Bah Soemboe, situated on the east coast of the island, and in part by Mr. A. S. Schmiedell at Benkoelen, on the west coast. The initials of the collectors given below under each species indicate the localities where the specimens recorded were collected.

The number of species treated in this paper is eighty, of new genera three, of new species seventeen.

My thanks are due to Mr. William Beutenmüller, Curator of Entomology, for the opportunity to examine the collection.

FORFICULIDÆ.

**Diplatys ridleyi** Kirby. One female. (A. S.)

This specimen is slightly larger than Kirby's measurements of the species, which was described from Singapore, but aside from this and a few minor color characters it does not differ from his description.

The pronotum instead of being plain tawny is buffy with a pair of large comma-shaped patches placed laterad on the cephalic portion, while the tibiæ have the median blackish area weaker and more reduced in size than is apparently the case with the type.

**Apachyus chartaceus** Haan. One male. (A. S.)

**Pygidicrana imperatrix** Burr. One individual, sex doubtful as the caudal part of the abdomen is missing. (A. S.)

This species was previously known only from Mons Gédé, western Java.

**Chelisochoes shelfordi** Burr. One female. (A. S.)

This species has been recorded previously only from Sarawak, Borneo.

**Chelisoches morio** (*Fabricius*). One male. (A. S.)

**Chelisoches ritsemæ** *Bormans*. One male. (A. S.)

This specimen differs slightly from the original description of this species in the exact placing of the tubercles on the forceps and in the blunter tips to the lateral plicæ of the anal segment. In all the other characters, however, the specimen in hand appears to be typical *ritsemæ*. This species was described from Moeara Laboe, Sumatra.

#### BLATTIDÆ.

**Thyrsocera nigra** *Brunner*. One male, one female. (R. W.)

**Epilampra badia** *Brunner*. One male. (R. W.)

**Epilampra lurida** *Burmeister*. One female. (R. W.)

**Epilampra pfeiferæ** *Brunner*. One female. (R. W.)

#### **Epilampra structilis**<sup>1</sup> n. sp.

Type: ♀; Benkoelen, Sumatra. (A. Schmiedell.)

Closely allied to *É. procera* Brunner from Java, but differing in the smaller size, the slightly different shape of the pronotum and more heavily maculate character of the same, as well as the more distinctly marbled tegmina. This species belongs in the section to which the name *Hedaia* has been applied by Saussure.

Size moderately large; form elongate-ovate; surface subglabrous. Head with the vertex alone not covered by the pronotum, the interocular space narrower ventrad

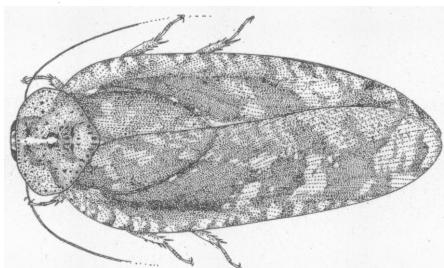


Fig. 1. *Epilampra structilis* n. sp. Dorsal view. ( $\times 1\frac{1}{2}$ ).

than dorsad; eyes strongly constricted, subreniform, antennæ not exceeding half the length of the body. Pronotum septilateral, slightly transverse, the greatest length contained about one and one-third times in the greatest breadth, the three faces of the cephalic margin with the angles slight and rounded, the two faces of the caudal margin obtuse-angulate, the angle very narrowly rounded; disk considerably depressed laterad, caudal section somewhat elevated. Tegmina

exceeding the apex of the abdomen by the length of the pronotum and the exposed portion of the head together, greatest width slightly exceeding that of the pronotum,

<sup>1</sup> In allusion to the blotched tegmina.

costal margin arcuate in the proximal half, sutural margin nearly straight, apex narrowly rounded and obliquely subtruncate on the sutural side; veins distinctly and finely marked, anal field elongate, subpyriform, the anal sulcus distinct and joining the sutural margin at a point distant from the base about two-fifths the length. Cephalic femora with five or six distinct ventral median spines, median and caudal femora with three to four spines on the ventral margins. Supra-anal plate large, rounded and with a narrow triangular median incision; cerci slightly compressed, blunt, slightly exceeding the supra-anal plate; subgenital plate broad, margin sinuato-rotundate.

General colors bay and cream-buff, the two blotched and stippled one on the other. Head pale with an irregular pattern of dark spots on the vertex; face with a dark transverse rectangular interantennal spot, ventrad of which is a longitudinal bar of the same shade; eyes seal brown; antennæ mars brown. Pronotum pale entirely overlaid with uniformly distributed fine dark points, in addition to which there is a speckling of larger spots of the same color, these becoming tear-shaped along the caudal margin, while there also is a poorly indicated median clepsydral pattern, the swelling dorsad of the insertion of the tegmina rather indefinitely lined as well. Tegmina with the color contrasts quite marked in places and in others broadly blended, the effect being distinctly marbled; the principal points of pale color are two about the middle of each tegmen and several blotches in each anal field, sutural section aside from that of the anal field uniform bay. Abdomen cinnamon, sprinkled with fine dark points laterad and also with a series of lateral spots of the same color. Femora lined dorsad with dark, limbs otherwise chiefly pale cinnamon.

*Measurements.*

Length of body . . . . .	29.5 mm.
Length of pronotum . . . . .	7.9 "
Greatest width of pronotum . . . . .	9.8 "
Length of tegmen . . . . .	33. "
Greatest width of tegmen . . . . .	10.5 "

A topotypic male has also been examined and found to differ in the greater depth and slightly greater extent of the dark margins on the head, pronotum, abdomen and limbs, while the tegmina are really paler, yet the same pattern is present as in the type. The coxæ in this specimen are quiet dark while their lateral margins are very pale, the subgenital plate also bears a median sub-hexagonal dark spot which is represented only by clear uncolored chitin in the type.

**Rhicnoda rugosa** Brunner. One female. (R. W.)

**Methana flavicincta** (Haan). A female specimen in the series had been taken from a bale of Sumatra tobacco received in New York.

**Pycnoscelus surinamensis** (Linnaeus). One female. (R. W.)

**Pycnoscelus niger** (Brunner). One female. (A. S.)

**Paranauphoeta lyrata** (Burmeister). One male. (A. S.)

This individual differs very considerably in color from an individual from Trong, Lower Siam, but is inseparable from Kuching, Borneo, material.

**Panesthia javanica** Serville. One nymph. (R. W.)

## MANTIDÆ.

**Theopompa burmeisteri** (*Haan*). One male, two females. (R. W.)

One female individual is slightly larger than the other, the two also differing in the depth of the clouding of the tegmina. The paler female has the lateral faces of the cephalic femora more tuberculate than the other.

This species was previously known only from Java and Borneo.

**Iridopteryx reticulata** (*Haan*). One male. (R. W.)

This species has previously been recorded from Krawang, Java and Singapore.

**Gonypeta punctata** (*Haan*). One male. (A. S.)

Java and Ceylon are the localities from which this species has been recorded. Some doubt is in the mind of the author as to the correct determination of the Ceylonese form as this species. Saussure, who recorded it, gave a detailed description which does not fully agree in several particulars with the specimen in hand, which is identical with Haan's figure and brief description.

**Statilia maculata** (*Thunberg & Lundahl*). One male. (R. W.)

**Tenodera superstitiosa** (*Fabricius*). One male. (R. W.)

**Paratenodera aridifolia** (*Stoll*). Two males, two females. (R. W.)

**Hierodula hybrida** *Burmeister*. Two males. (R. W.)

These specimens fully agree with an individual of the same sex from Batavia, Java, received from the late Dr. Saussure.

**Hierodula athene** n. sp.

Type: ♂; Benkoelen, Sumatra. (A. Schmiedell.)

Closely allied to the Bornean *H. dyaka* Westwood, but differing in the more robust limbs, the very slightly greater expansion of the pronotum and the non-serrate margins of the same, and in the absence of fulvescent coloration from the base of the tegmina.

Size rather large; form moderately slender. Head rather thick in a cephalo-caudal direction, somewhat compressed and but slightly broader than deep when viewed cephalad; occipital outline gently arcuate, the slope of the occiput cephalad, lateral sulci placed very close to the eyes, no sulci in the median portion; ocelli placed in a somewhat depressed triangle; facial scutellum slightly higher than broad, the greatest width at the base, lateral margins slightly converging to the obtuse angulate dorso-lateral margins, dorsal margin very obtuse-angulate, surface of the plate with a median pair of low dorso-ventral carinæ which are obliterated for a short space immediately ventrad of the middle; eyes ovoid when viewed laterad, rounded, not prominent. Pronotum contained about two and a third times in the

length of the tegmina and with its greatest width contained nearly four times in its length; supracoxal expansion with its transverse axis placed at a distance from the cephalic margin equal to the width of such axis; shaft rather broad when com-

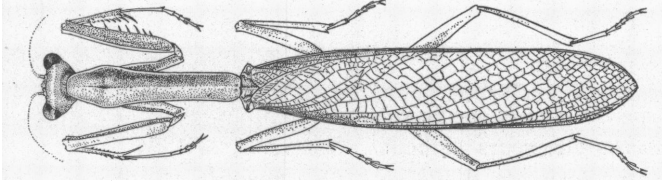


Fig. 2. *Hierodula athene* n. sp. Dorsal view. (Nat. size.)

pared with the supra-coxal expansion, slightly tapering caudad to about the middle, very slightly expanding in the caudal half, margins entire, unarmed. Tegmina extending caudad of the apex of the abdomen by nearly the length of the cephalic femora; entire costal field and the adjacent portions of the discoidal and anal fields

opaque, the proximal portion of the discoidal field with a greater width to the opaque section than on the distal portion; stigma ovate, distinct; those portions of the discoidal and anal fields not opaque are markedly hyaline. Wings very slightly extending beyond the tips of the closed tegmina. Abdomen rather broad for the male sex; cerci distinctly but not greatly exceeding the margin of the supra-anal plate, tapering, multi-articulate, provided with short fine hairs; sub-genital plate broad, rather shallow, lateral margins arcuate, thickened, apex broad and with a slight triangular lobe, the thickened lateral margins ceasing each side of the same and bearing thereon a short slender style. Cephalic coxæ robust, ventral margin armed with nine moderately regular dentiform spines; cephalic femora a little more than four times as long as the

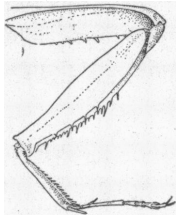


Fig. 3. *Hierodula athene* n. sp. Lateral view of cephalic limb. ( $\times 1\frac{1}{2}$ .)

greatest width, dorsal outline nearly straight, external margin with four spines, internal margin with fifteen spines, both large and small, the formula being as follows reading from the distal extremity mesad, IIIIIIIIIIIII, discoidal spines four in number; cephalic tibiæ (exclusive of terminal claw) slightly more than half the length of the femora, lateral margin with a small, unarmed area proximad, otherwise with nine to eleven spines, internal margin with no unarmed area proximad and with fourteen spines regularly increasing in size distad; cephalic metatarsi but little shorter than the tibiæ. Median and caudal limbs not slender, moderately robust for the family, the caudal somewhat longer than the median pair.

General color wood brown washed with greenish and probably entirely green in life. Head ecru drab, eyes raw umber, ocelli ochre yellow. Pronotum with the margins of the shaft dull purple. Tegmina with the opaque portions apple green, stigma cream colored, remainder hyaline. Wings hyaline with the costal margin washed with greenish.



Fig. 4. *Hierodula athene* n. sp. Cephalic view of head. ( $\times 1\frac{1}{2}$ .)

## Measurements.

Length of body . . . . .	65	mm.
Length of pronotum . . . . .	23.2	"
Length of tegmen . . . . .	53.5	"
Length of cephalic femur . . . . .	16.	"
Length of median femur . . . . .	15.	"
Length of caudal femur . . . . .	16.8	"

The type is the only specimen seen.

**Acromantis oligoneura** (Haan). One male. (R. W.)

**Deroplatus desiccata** Westwood. One female. (R. W.)

**Toxodera pluto** n. sp.

Type: ♂; Benkoelen, Sumatra. (A. Schmiedell.)

This species differs from *T. denticulata* Serville, from Java, in the slenderer form, the narrower head, the distinctly slenderer pronotum, which is also much more arcuate, the different shape of the femoral lobes and in the arrangement of the spines of the genicular regions. A number of other less striking characters also separate the two species.

Size rather large; form very elongate and extremely slender; surface coriaceous and frequently sub-tuberculate. Head trigonal, broader than deep, occiput with four shallow longitudinal depressions; ocelli placed in a depressed triangle on a slightly elevated base, the lateral ocelli being larger than the median one; facial

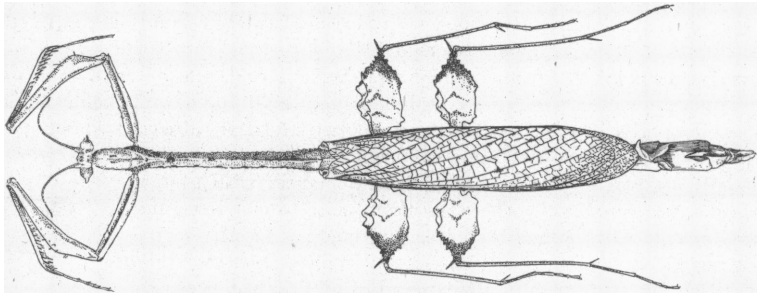


Fig. 5. *Toxodera pluto* n. sp. Dorsal view of type. (Nat. size.)

scutellum strongly transverse, the median section sub-rectangulate dorsad, the lateral sections narrower and slightly bent ventrad; eyes produced, acute mammiform, the terminal process directed distinctly but not greatly cephalad; antennæ slightly longer than twice the extreme width of the head, simple, multi-articulate. Pronotum nearly twice the length of the cephalic femora, sub-bacilliform; collar distinctly broader than the greater portion of the shaft, in length comprising a little more than a sixth of the whole pronotal length; supra-coxal dilation moderate; shaft very

slender and elongate, comprising nearly five-sixths of the pronotal length, somewhat expanding caudad; cephalic margin rounded, caudad margin sub-angulate, lateral margins with low dentiform spinules evenly distributed throughout their length, median carina low cephalad, quite distinct caudad and forming a process at the caudal margin, surface with several pairs of tubercles and a number of single ones placed on or near the median carina, the most conspicuous pair being unequal in height and placed a distance caudad of the transverse sulcus slightly greater than the length of the shaft; when viewed laterad the shaft of the pronotum is seen to be somewhat more arcuate than in *T. denticulata* and decidedly slenderer.

Tegmina in length exceeding that of the pronotum by about the width of the head; greatest width contained about four and a half times in the length; apex placed somewhat caudad of the costal margin, sub-rectangulate; costal field moderately broad proximad, much narrowed mesad and distad, coriaceous; remainder of tegmina hyaline. Wings projecting beyond the tegmina by a distance equal to the depth of the head. Abdomen elongate, subequal in width, five proximal

segments distinctly longitudinal; caudal margin of the five proximal ventral segments with a short median keeled lobe; third dorsal segment with a pair of foliaceous lobes placed in the form of an inverted V on the caudal section; fourth dorsal segment with a high foliaceous structure in the same position as that on the third segment<sup>1</sup> but very much higher, in fact as high as the segment is long, the two sides united on their converging edges and bearing thereon a foliaceous lappet reaching almost as far cephalad as the cephalic end of the segment and of a semi-circular form with the edge much eroded; fifth dorsal abdominal segment with an appendage

similar to that of the fourth segment but only about a third the size and with the lappet much smaller proportionately and merely a narrow lobe; sixth to ninth dorsal segments transverse, the median section of the ventral margin roundly (ninth segment) or angularly (other segments) produced; subgenital opercule produced, spoon-shaped, margins approximating distad, apical margin with a very narrow, small, rectangulate emargination flanked laterad by very short and slender styles; cerci as

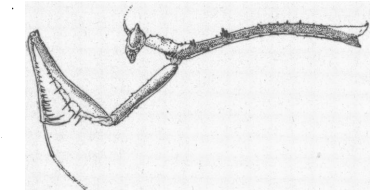


Fig. 7. *Toxodera pluto* n. sp. Lateral view of head, pronotum and cephalic limb. (Nat. size.)

long as the fifth abdominal segment, foliaceous, greatest width distad and regularly increasing in width in that direction, apex rotundato-truncate, visible segments fourteen in number, the terminal much longer as well as broader than the others. Cephalic limbs very slender; coxæ about half the length of the shaft of the pronotum, all margins supplied with spines of several sizes, all, however, short; femora somewhat arcuate, compressed, greatest depth at the proximal fourth and contained about six times in the length, discoidal spines placed at the greatest depth and three in number, lateral margin with seven regularly placed even sized spines, internal margin with fifteen spines of two alternating lengths, lateral and median genicular

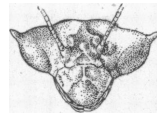


Fig. 6. *Toxodera pluto* n. sp. Cephalic view of head. (× 3.)

<sup>1</sup> The lateral bases of the appendages project a considerable distance over the base of the fifth segment in this case, a condition much less marked in the case of the third segment.

lobes acute-angulate but not spiniform; cephalic tibiæ about four-fifths the length of the femora not including the apical tibial claw, very straight, slender, armed in the lateral margin with twelve to thirteen spines of several lengths, varying in length and agreeing on the two limbs, internal margin with twenty to twenty-one spines of several sizes, as a whole increasing in length distad; cephalic metatarsi contained about two and three-quarter times in the length of the femora. Median and caudal limbs subequal in size and very similar in form; femora with the two cephalic and the one caudal angle bearing foliaceous expansions, more extensive caudad than cephalad and with the margins eroso-crenulate, median genicular process elongate, acute spiniform, lateral genicular lobes with very long, mobile spurs, these appendages being arcuate and blunt; tibiæ extremely slender, sub-setiform, unspined except for the terminal calcaria which resemble the genicular spurs and are unequal in length; metatarsi slightly more than a third the length of the tibiæ.

General color buff, marked and washed with bistre. Head with the middle of the occiput, ocellar and inter-antennal regions dark, ocelli orange, eyes hazel. Pronotum with the sides of the shaft, dorsad and ventrad, except for the margins themselves dark, the margins pale with regular touches of dark, for a considerable distance cephalad the median carina is lined with pale and an elongate subtrigonal area on the caudal end of the shaft is of the same shade. Abdomen pale, the segments lined laterad and caudad with darker and the apex suffused with the same. Cephalic limbs washed with the darker color on the tibiæ, with very broad proximal and distal dark sections on the femora and shaded with the same on the dorso-lateral face and carina of the coxæ. Median and caudal femora with the distal section including that of lobes, darker, several "herring-bone" patterns of darker on the remaining pale sections; tibiæ and tarsi dark. Tegmina buff on the costal field, the principal veins lined with a broad irregular dark bar; the remainder hyaline with a few dark patches. Wings buff with a few dark spots along the costal margin, the remainder hyaline.

*Measurements.*

Length of body . . . . .	86.5 mm.
Length pronotum . . . . .	30.5 "
Length of tegmen . . . . .	38.5 "
Length of cephalic femur . . . . .	16. "
Length of median femur . . . . .	13. "
Length of caudal femur . . . . .	13.2 "

The type is the only specimen seen by the author.

***Citharomantis*<sup>1</sup> gen.**

Allied to *Parairidopteryx* Saussure, but differing in the pronotum being longer than the cephalic coxæ, in the non-spinose pronotum, the moderate expansion of the cephalic femora and the emarginato-truncate apices of the ample wings.

Type.—*C. falcata* n. sp.

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<sup>1</sup> *Κιθάρις* a *lyre*, in allusion to the shape of the closed wings.



**Citharomantis falcata** n. sp.

Type; ♂; Bah Soemboe, Sumatra. (R. Weber.)

Size small; form moderately elongate. Head distinctly broader than deep, occipital line nearly straight, indented by two sulci, a distinct spiniform process developed dorsad of the ocelli; facial scutellum transverse, the dorsal margin rectangular, ventral margin subtruncate, the lateral portions narrow and the angle of the dorsal margin considerably projecting; ocelli rather large, slightly elevated; eyes considerably projecting, rounded, ovoid when viewed laterad; antennæ nearly as long as the tegmina, filiform. Pronotum half again as long as the greatest width of the head, greatest width (supra-coxal) about a third the distance from the cephalic margin; collar subequal in width, slightly longer than wide, cephalic margin evenly rounded; supra-coxal expansions sharply defined, rounded; shaft narrower than

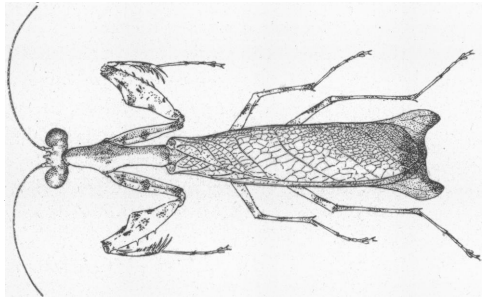


Fig. 8. *Citharomantis falcata* n. gen. and sp. Dorsal view of type. ( $\times 2$ )

the collar except caudad where it is about subequal to the same, the narrowest portion being about in the middle of the pronotum; no median carina present but the collar is somewhat compressed within its margins; all margins unarmed. Tegmina about two and a half times the length of the pronotum, the greatest width contained about three and a half times in the length, regularly widening distad except for the reflexed costal field and the rounded apical section; costal field moderately broad at base, evenly emarginate mesad and distad; median vein with three distal rami, discoidal vein with two rami, all rather regularly disposed; costal field and apex of tegmina semi-coriaceous, remainder translucent. Wings extending a very short distance caudad of the closed tegmina the apex produced at the costal angle into a projecting bluntly falcate expansion, which when the wings are in repose gives the impression of a single emarginate, laterally expanded and rounded structure. Abdomen strongly depressed; subgenital plate rather broad, subtrigonal, the apex narrowly truncate and with a pair of very short styles; cerci short, rather slender, sub-fusiform. Cephalic coxæ about two-thirds as long as the pronotum, somewhat compressed,



Fig. 9. *Citharomantis falcata* n. gen. and sp. Lateral view of cephalic limb. ( $\times 3$ .)

ventral carina with four to five proximal teeth; cephalic femora very slightly shorter than the pronotum, strongly compressed, the dorsal surface expanded in the proximal two-thirds into a lamellate crest, which at the deepest point is about half the greatest depth of the body of the femur; ventral margin obtuse-angulate, due to the greater median depth, discoidal spines four in number, lateral margin with five spines, one of which is on the base of the genicular lobe, internal margin with

fourteen spines of several lengths, the distal one genicular in position; cephalic tibiae, without claw, about half as long as the femora, armed on the lateral margin with twelve recumbent spines, on the internal margin with eleven more erect spines; cephalic metatarsi about four-fifths the tibial length. Median and caudal limbs moderately slender, the femora somewhat inflated; metatarsi of the median limbs slightly shorter than the remaining tarsal joints, of the caudal limbs very slightly longer than the other joints.

General color, pale apple green, where the same appears to have faded out it is represented by gamboge yellow. Head wood brown, mottled and speckled with vandyke brown, eyes of the same colors barred parallel with their length, antennæ pale proximad becoming darker mesad and distad. Pronotum with a distinct dark spot on the middle of the lateral face of the shaft. Tegmina greenish, more distinctly colored on the semi-coriaceous sections, several small faint brownish spots placed in the median portion of the discoidal field, the extreme apex bistre. Wings yellowish green on the semi-coriaceous apical section, distinctly margined with bistre caudad of the apex. Limbs wood brown, annulate and clouded with vandyke brown, the internal face of the cephalic limbs having these markings stronger and more apparent than in any other place, the cephalic coxæ internally with only the distal extremity dark.

*Measurements.*

Length of body . . . . .	20.5 mm.
Length of pronotum . . . . .	6.5 "
Length of tegmen . . . . .	16. "
Length of cephalic femur . . . . .	6.2 "

The type is the only specimen seen.

PHASMIDÆ.

***Aschipasma annulipes* Westwood.** One individual, the sex of which is indeterminable as the apex of the abdomen is missing. In all probability it is a male. (R. W.)

ACRIDIDÆ.

***Acrida nasuta* Linnæus.** Four females. (R. W.)

***Eoscyllina*<sup>1</sup> n. gen.**

A member of the Scyllini and quite distinct from any of the known genera of the section. The differential characters are given in the detailed description below.

Type.—*E. inexpectata* n. sp.

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<sup>1</sup> 'Hos east, *Scyllina*, a generic name.

***Eoscyllina inexpectata* n. sp.**

Type: ♀; Bah Soemboe, Sumatra. (R. Weber.)

Size rather small; form elongate, slender, slightly compressed. Head with the occiput slightly ascending; inter-ocular region slightly narrower than the fastigium; angle of the fastigium rectangulate, greatest fastigial width distinctly exceeding the length of the same, disk shallowly depressed within the margins; lateral foveolæ almost entirely visible from the dorsum, subrectangulate, nearly twice as long as wide, distinctly impressed; angle of the fastigium rather narrowly rounding into the face, which is distinctly re-treating and slightly arcuate; frontal costa distinctly expanding from the apex to the insertion of the antennæ, very gradually expanding ventrad from the ocellus to the clypeal suture, shallowly and uniformly excavated with a

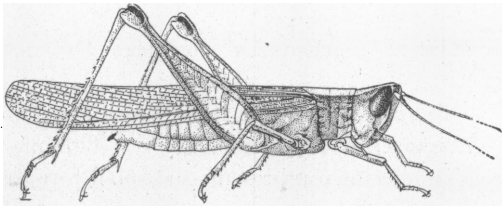


Fig. 10. *Eoscyllina inexpectata* n. gen. and sp. Lateral view of type. (× 2.)

short median carina dorsad; eyes acute ovoid, twice as long as the infra-ocular portion of the genæ; antennæ slightly longer than the head and pronotum, slightly flattened proximad. Pronotum with the greatest caudal width of the disk contained one and two fifths times in the length of the same; cephalic margin of disk subtruncate, caudal margin obtuse-angulate with the immediate apex rounded; lateral angles faintly carinate, very slightly diverging caudad on the prozona, more distinctly diverging on the metazona; median carina distinct, severed very slightly before the middle; lateral lobes about as long as deep, ventral margin obtuse-angulate, metazona cribroso-punctate. Interspace between the mesosternal lobes subquadrate; metasternal lobes attingent. Tegmina slender, extending caudad of the tips of the femora a distance about equal to the length of the pronotum, apex rounded, the whole apical portion very slightly curved toward the sutural margin; the intercalary vein is represented by an irregular substitute, which is sometimes broken and at no point possesses the strength or regularity of a true intercalary vein. Caudal femora nearly twice the length of the head and pronotum together, moderately inflated proximad, rather slender distad, pattern of the pagina distinct and regular; caudal tibiæ distinctly shorter than the femora, armed with ten spines in the external series, with eleven spines in the internal series, internal calcaria distinctly unequal, falcate.



Fig. 11. *Eoscyllina inexpectata* n. gen. and sp. Dorsal view of head and pronotum. (× 3.)

General color russet on the head, dorsum of pronotum and caudal femora, becoming bistre on the distal portion of the tegmina. Head touched with mummy brown on the lateral portions; eyes burnt umber; antennæ mummy brown. Lateral lobes of the pronotum touched with dashes of bistre. Tegmina with the discoidal field as a whole darker than the costal and anal fields, a pattern of about six small quadrate pale spots present on the proximal portion of the same field. Caudal

femora with the pagina rather hoary, the genicular arches blackish and the ventral and internal face as well as the caudal tibiæ saturn red, spines with their apical halves black.

*Measurements.*

Length of body . . . . .	21.	mm
Length of pronotum . . . . .	4.	"
Greatest caudal width of pronotum . . . . .	2.6	"
Length of tegmen . . . . .	21.	"
Length of caudal femur . . . . .	13.5	"

The type is unique.

***Ædaleus marmoratus sundaicus*** *Saussure*. One male, two females.  
(R. W.)

This race has been recorded from Java, Sumatra and the Philippines.

***Pternoscirta caliginosa*** (*Haan*). One male. (R. W.)

This specimen represents the small form of the species, as mentioned by Saussure. This species has been recorded from Malacca.

***Heteropternis pyrrhoscelis*** (*Stål*). One male. (R. W.)

This widely distributed species occurs from Burma to China and northern Australia, Saussure having previously recorded it from Sumatra.

***Trilophidia annulata*** (*Thunberg*). Two females. (R. W.)

***Desmoptera sundaica* n. sp.**

Type: ♀; Sumatra. (Edwards Coll., Amer. Mus. Nat. Hist.)

Allied to *D. explicata* Karsch and *media* Bolivar, differing from both in the greater length of the tegmina and wings and in a number of color features. This is the first species of the genus recorded from outside the Moluccan and Papuan region.

Size moderately large; form distinctly compressed, venter flattened; surface irregularly granulose. Head, with the dorsum slightly less than two-thirds the

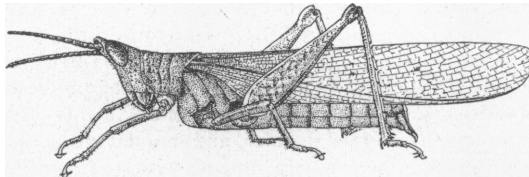


Fig. 12. *Desmoptera sundaica* n. sp. Lateral view of type. ( $\times 1\frac{1}{2}$ .)

length of the pronotum; occiput regularly and considerably ascending to the interocular region which is slightly more than half the greatest width of the fastigium; fastigial cleft indicated dorsad only by an impressed line for half the fastigial length, the margins of the fastigium being slightly converging to the obtuse-angulate apex, which has the margins of the fastigial cleft slightly protuberant, a broad rather shallow V-shaped impression with the apex directed forward is placed mesad on the

disk of the fastigium; fastigio-facial angle rostrate, shallow, the apical portion of the fastigium obliquely declivent when seen from the side, the immediate apex subtruncate, the facial portion of the apex slightly oblique; facial outline decidedly retreating, concave; frontal costa very narrow, very slightly and regularly expanding caudad, moderately sulcate; lateral facial carinae moderately prominent, slightly diverging dorsad and ventrad, considerably diverging between the ventral portions of the eyes; eyes hardly prominent, moderately large, ovate in outline with a ventro-caudal truncation, slightly shorter than the infra-ocular portion of the genæ; antennæ very slightly shorter than the dorsal length of the head and pronotum, considerably depressed, very slightly expanded proximad, the apex short acute. Pronotum with the dorsum subarcuate in section cephalad, sub-deplanate caudad, greatest caudal width of the dorsum about two-thirds the length of the same; cephalic margin very slightly arcuate and supplied with small tubercles, caudal margin obtuse-angulate, the immediate apex subtruncate; transverse sulci three in number, the caudal one the more pronounced and straighter than the others, the metazona and prozona sub-equal in length; median carina hardly apparent, no lateral carinae, the shoulder on the metazona not prominent; lateral lobes with their greatest dorsal length equal to their greatest caudal depth, the caudal margin of the lobes with the ventro-cephalic angle high, obtuse-angulate, the ventro-caudal angle slightly produced, obliquely subtruncate at the apex, ventral margin with its cephalic two thirds decidedly oblique-truncate, the caudal third slightly oblique. Tegmina appreciably more than twice the length of the caudal femora, exceeding the apex of the femora and of the abdomen by about the length of the head and pronotum, the greatest width contained five and one third times in the greatest length: costal lobe moderately large, the defining concavity of the same marked only on the proximal side, the costal margin straight thence to near the distal third where the margin slightly then rather abruptly rounds to the subtruncate apex, sutural margin nearly straight, the disto-sutural angle rectangulate.

Prosternal projection transverse, supplied with a median transverse impression, the cephalic fold slightly more elevated than the caudal; interspace between the mesosternal lobes moderately transverse, slightly narrower caudad than cephalad; metasternal lobes widely separated, the lobes moderately arcuate, the interspace very shallow. Cephalic and median limbs slender, slightly elongate. Caudal femora falling slightly short of the apex of the abdomen, tapering, the proximal extremity subtruncate, margins well elevated, the pattern of the pagina irregularly diamond-shaped, genicular lobes moderately acute; caudal tibiae slightly shorter than the femora, slender, straight, armed on the external and internal margins with nine spines; caudal tarsi slender, the first and third joints subequal.

General color uniform prout's brown, the abdomen and venter touched with tawny-olive, the tegmina with about a half a dozen scattered minute points of seal brown.



Fig. 13. *Desmoptera sundiaca* n. sp. Dorsal view of head and pronotum of type. ( $\times 2$ ).

#### Measurements.

Length of body . . . . .	30.5 mm.
Length of pronotum . . . . .	6. "
Length of tegmen . . . . .	30. "
Length of caudal femur . . . . .	13.2 "

The type is the only specimen of the species seen by the author.

**Oxyrrhepes lineatitarsis** (Stål). One male. (R. W.)

This species has been recorded from Burma, Hong Kong and Java.

**Quilta pulchra** n. sp.

Type: ♀; Bah Soemboe, Sumatra. (R. Weber.)

Allied to the type species *Q. mitrata* Stål, from the Cocos or Keeling Islands, Indian Ocean, but differing in the smaller size, the rotundate cephalic margin of the pronotum, the obtuse-angulate caudo-lateral angles of the lateral lobes of the pronotum, the absence of paired dorsal spines on the apex of the caudal femora and in the rounded tips of the tegmina.

Size medium; form moderately elongate, slightly compressed; surface of the dorsum, the sides and the greater portion of the head strongly, but not very deeply,

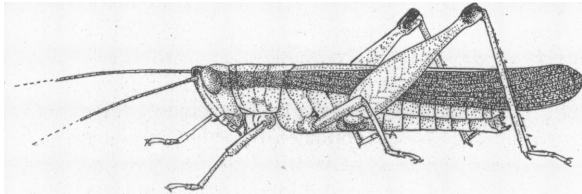


Fig. 14. *Quilta pulchra* n. sp. Lateral view of type. ( $\times 2$ .)

punctate. Head with its dorsal length slightly more than half the length of the dorsum of the pronotum; occiput gently arcuate, not elevated dorsad of the disk of the pronotum, slightly descending to the interocular region which is equal to about

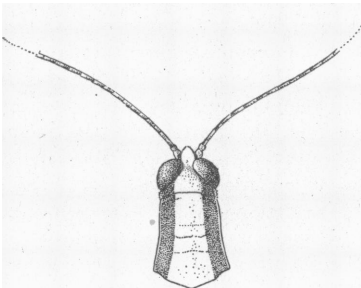


Fig. 15. *Quilta pulchra* n. sp. Dorsal view of head and pronotum. ( $\times 2$ .)

half the greatest fastigial width; fastigium, with its length about half again as long as its greatest width, sub-lanceolate, the sides gently arcuate, convergent, the immediate apex very narrowly truncate, the surface plane, the apex very slightly depressed when seen from the side; fastigio-facial angle acute-angulate, the immediate angle narrowly rounded, facial line considerably retreating: frontal costa subequal, sulcate; lateral facial carinae slightly divergent ventrad; eyes ovate in outline, flattened ventro-cephalad, subequal in length to the infra-ocular portion of the genae, slightly prominent when seen from the dorsum;

antennae nearly twice the length of the dorsum of the pronotum, filiform, apex, blunt. Pronotum with the greatest dorsal width contained one and two-thirds times in the length, cephalic margin moderately arcuate, caudal margin obtuse-angulate; median

carina weakly indicated on the metazona, obsolete elsewhere, no lateral carinae present, the shoulder of the metazona not prominent; prozona distinctly but not greatly exceeding the metazona in length, transverse sulci three in number, well impressed; lateral lobes very considerably longer than deep, the ventral margin considerably sinuato-emarginate cephalad. Tegmina slightly more than two and one half times the length of the head and pronotum, exceeding the apex of the abdomen by the length of the pronotum and the tips of the caudal femora by nearly the same distance, slender, subequal, the greatest width contained about seven and one half times in the length of the same; costal margin nearly straight, rounding in the distal fifth to the narrowly rounded apex, costal lobe hardly indicated; intercalary vein distinct, slightly irregular and ramose proximad. Prosternal spine conical, blunt, directed strongly caudad; interspace between the mesosternal lobes very slightly transverse, subequal in width to one of the lobes; metasternal lobes separated by a very narrow interspace. Ovipositor jaws short and thick, the apex and the margins strongly spinoso-dentate. Cephalic and median limbs of medium size. Caudal femora rather slender, about two and a half times the length of the dorsum of the pronotum, pattern of the pagina regular, rather shallowly impressed, genicular lobes acute spinose, dorsal portion of the genicular region unarmed; caudal tibiae distinctly shorter than the femora, straight, the distal half expanded with the margins developed into lamellate ridges, external margin armed with eight spines one of which is apical, internal margin with eight spines; caudal tarsi not quite half the length of the tibiae, the first and third joints subequal, the second quite short.

General color of the dorsum olive-yellow, of the sides, face, venter, cephalic and median limbs and caudal femora gamboge yellow, a broad postocular bar of bistre extending over the dorsal two-fifths of the lateral lobes and exposed dorsal edge of the pleura and suffusing all of the tegmina except the anal area. Eyes burnt amber; antennae of the dorsal color infuscated distad; apex of the caudal femora seal brown edged with ochraceous-rufous the genicular spines tipped with black; caudal tibiae pale glaucous washed with carmine at the genicular extremity, spines with more than their distal halves black.

*Measurements.*

Length of body . . . . .	21. mm.
Length of pronotum . . . . .	4.7 "
Length of tegmen . . . . .	20. "
Length of caudal femur . . . . .	12. "

The type is unique.

**Locusta consanguinea** (*Serville*). Two males, one female. (R. W.)

These specimens all have the disk of the wings rose-color.

**Locusta succincta** (*Linnaeus*). One male. (R. W.)

**Coptacra cingulatipes** *Bolivar*. Two males. (R. W.)

The types of this species were from Si-Rambé, Sumatra.

**Traulia dimidiata** (*Haan*). One male. (R. W.)

This species has been recorded from localities from Tenasserim to Amboina.

**Traulia stigmatica** *Bolivar*. One male. (R. W.)

This individual has been at some time immersed in a liquid preservative, and in consequence all the bright colors have been lost. The pattern is essentially as in Bolivar's description except that the reddish femoral maculation is not indicated.

**Catantops humilis** (*Serville*). One male, one female. (R. W.)

#### TETTIGONIDÆ.

**Elimæa rosea** *Brunner*. One male. (R. W.)

This specimen may not be true *rosea*, which was described from Borneo, and in such a case would represent a new form allied to the Bornean species. The fastigium is distinctly sulcate, the supra-anal plate is thicker and hardly narrowly lanceolate as described in *rosea*, while the cerci are distinctly incurved. Until true *rosea* is available for study, I would, however, consider the specimen that species.

**Exora dohrni** *Brunner*. One female. (R. W.)

This specimen differs from the original description in some slight color characters, and in the tegmina being slightly narrower mesad and less truncate at the apex. The type locality is Deli, Sumatra.

**Ducetia japonica** (*Thunberg*). One male. (R. W.)

**Elbenia nigro-signata** *Stål*. One male. (R. W.)

This species, which was described from Malacca, is here recorded from Sumatra for the first time.

**Arnobia pilipes** (*Haan*). One male. (R. W.)

This species has been recorded from Japan and Malacca, and as the anal appendages of the male are unknown the following description may be of interest.

Cerci falciform, curved inwards, tapering in the proximal half, the distal half slightly flattened, the apex with a blunt tooth. Subgenital plate compressed, scoop-shaped, produced into a truncate process bearing very short and blunt lateral false styles, a distinct median carina present on the ventral surface; when seen from the side the distal portion of the subgenital plate is very slightly elevated, the dorsal line arcuato-concave, the ventral line obtuse-angulate.

**Molpa emarginata** (*Dohrn*). One male. (R. W.)

This is the first mention of the species since the original description,<sup>1</sup> where it was recorded from North Borneo and Deli, Sumatra. The subgenital plate is so deeply divided in this species that it might justly be said

<sup>1</sup> Stett. Entom. Zeit., LIII, p. 68.



to have false styles, which would throw the genus into another section of the Phaneropterinæ according to Brunner's tables. The other two known species of the genus are from Ceylon and South India.

**Holochlora javanica** Brunner. One male. (R. W.)

The very peculiar anal appendages of this species are quite distinctive. In size this specimen is slightly smaller than the measurements given by Brunner.

**Holochlora prasina** n. sp.

Type: ♂; Bah Soemboe, Sumatra. (R. Weber.)

Allied to *H. signata* Brunner, from Borneo and Singapore, and *H. javanica*, but differing from the former in the divided anal segment and from the latter in the smaller size, more elongate tegmina, the non-produced anal segment, the slender and strongly incurved cerci and the longer styles of the subgenital plate.

Size medium; form slightly compressed; surface of the head polished except on the occiput, which, with the pronotum and pleura, is smooth but unpolished. Head with its dorsal length about two fifths that of the same portion of the pronotum; occiput gently arcuate, fastigium slightly projecting, compressed, slightly inflated proximad and with a very distinct longitudinal sulcus; facial fastigium not projecting, narrowly separated from the fastigium of the vertex; line of the face arcuate,

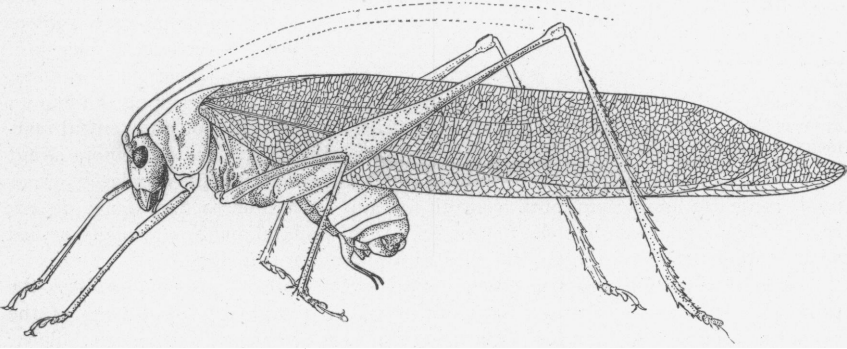


Fig. 16. *Holochlora prasina* n. sp. Lateral view of type. ( $\times 2$ .)

somewhat retreating; eyes quite prominent, subovoid in basal outline, the length about equal to the depth of the infraocular area; antennæ reaching at least to the apex of the tegmina, proximal joint moderately inflated, appreciably constricted mesad on the internal face. Pronotum with the greatest dorsal width three-fourths the length, the dorsum nearly (cephalad and mesad) or quite (caudad) flat; cephalic margin slightly arcuato-emarginate, caudal margin strongly arcuate, lateral shoulders well rounded, particularly cephalad; middle of the disk with an impressed V, the apex directed caudad; lateral lobes considerably deeper than long, rounded ventrad,

the elytral sinus rectangulate, not very deep, a deeply impressed sinuate sulcus present caudad of the cephalic margin of the lateral lobes. Tegmina elongate lanceolate, about six and one-third times the length of the dorsum of the pronotum, the greatest width contained about four and two-thirds times in the length of the same; costal margin gently arcuate, sutural margin nearly straight except toward the apex where it is obliquely sub-truncate, the apex narrowly rounded; mediastine vein short, nearly straight, touching the costal margin at about the length of the dorsum of the pronotum from the base of the vein; median vein diverging from the discoidal very slightly before the middle of the same, bifurcate slightly before the middle, both rami reaching the caudal margin; anal area narrow, stridulating vein much thickened. Wings exceeding the apex of the tegmina by nearly the dorsal length of the pronotum, acute-angulate at the apex. Mesosternal lobes moderately produced with the apices sub-rectangulate; metasternal lobes low, rounded. Abdomen slightly depressed; anal segment transverse, mesad with a broad, moderately deep emargination, this being flanked laterad by narrow ridges separating the median excision from a pair of lateral ones, shallow and more rounded in character; cerci tapering and bearing setiferous papillæ in the proximal half, strongly recurved near

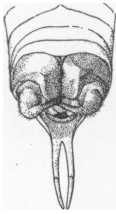


Fig. 17. *Holochlora prasinata* n. sp. Dorsal view of apex of abdomen. ( $\times 3$ .)

the middle, the distal portion slender, arcuate, lying ventrad of the anal segment, somewhat depressed, the apex obliquely truncate and finely dentate; subgenital plate subtrigonal, strongly produced mesad into a pair of elongate styliform processes, each bearing a true style about one half their own length. Cephalic femora about equal to the dorsal length of the pronotum, bearing four spines on the ventro-cephalic margin, ventro-caudal margin unarmed; cephalic tibiæ distinctly longer than the femora, tympanum conchate cephalad, with a complete aperture caudad, the median and distal portion of the tibiæ slender, unarmed dorsad, with three spines on each ventral margin. Median femora in length slightly exceeding the depth of the tegmina, armed with several recumbent spines on the distal portion of each margin, median tibiæ slightly exceeding the femora in length, armed with from three to nine spines on the ventral margins, one to five on the dorso-caudal margin. Caudal femora about five eighths the length of the tegmina, considerably inflated proximad, genicular lobes spiniform, ventral margins with four to five spines distad; caudal tibiæ about equal to the femora in length, sinuate, margins strongly armed with recumbent spines, the ventral ones with fewer than the dorsal.

General color uniform pea green; eyes burnt umber; antennæ (except the proximal joint) and a narrow edging on the caudal margin of the dorsum of the pronotum ochraceous; a narrow dash at the base of the mediastine vein black; genicular regions of the cephalic and median limbs and the vicinity of the tympanum on the cephalic tibiæ lined with blackish brown; spines brownish tipped with blackish brown; median excision of the anal segment washed with brownish, cerci with their proximal halves clear brownish.

#### Measurements.

Length of body . . . . .	21.	mm
Length of pronotum . . . . .	5.8	"
Length of tegmen . . . . .	38.2	"
Greatest width of tegmen . . . . .	7.4	"
Length of caudal femur . . . . .	23.	"

The type is the only specimen of the species which has been examined.

**Sympaestria acute-lobata** Brunner. Two females. (R. W.)

This species has been recorded previously from Borneo.

**Phaneroptera subnotata** Stål. One female. (R. W.)

**Isopsera scalaris** n. sp.

Type: ♀; Bah Soemboe, Sumatra. (R. Weber.)

Allied to *I. pedunculata* Brunner from Rangoon, Calcutta and Assam, but differing in the distinctly smaller size, the less rounded caudal margin of the lateral lobes of the pronotum, the more numerous transverse veins of the tegmina and the bent as well as curved ovipositor.

Size rather small; form decidedly compressed, surface of the body with a slight gloss. Head with its dorsal length slightly greater than half the dorsal length of the pronotum; occiput hardly arcuate, slightly descending to the fastigium, which latter is slightly compressed, blunt and with a decided longitudinal sulcus; facial fastigium touching the fastigium of the vertex; line of the face very gently arcuate, slightly retreating; eyes hardly prominent, ovate in outline, the greatest length of the same slightly exceeding that of the infra-ocular area; antennæ reaching to the tips of the wings, proximal joint slightly narrowed mesad. Pronotum with the greatest dorsal width nearly three fourths the greatest length of the same, the dorsum

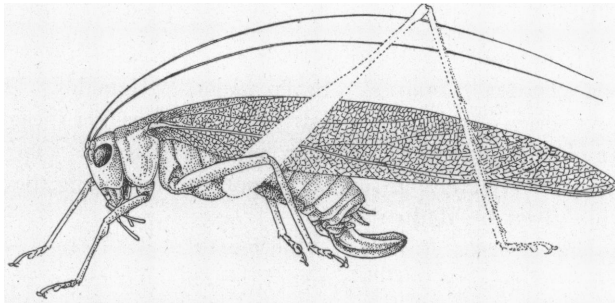


Fig. 18. *Isopsera scalaris* n. sp. Lateral view of type. (× 2.)

flat; cephalic margin very slightly concave, caudal margin strongly arcuate, lateral shoulders rather sharp, subparallel when seen from the dorsum; lateral lobes slightly longer than deep, ventral margin strongly rounded, the caudal margin obliquely sub-truncate, elytral sinus quite deep, acute-angulate. Tegmina rather elongate lanceolate, with the length about six and one half times that of the dorsal length of the pronotum and the greatest tegminal width contained four and one half times in the length of the same; costal and sutural margins gently arcuate, the apex rounded; median vein diverging slightly proximad of the middle, itself bifurcate proximad of its middle, the rami reaching the sutural margin. Wings exceeding the tips of the tegmina by about the length of the head and pronotum together, apex

produced acute-angulate. Mesosternal lobes slightly acute-angulate; metasternal lobes low, rounded, the caudal angle rounded rectangulate. Supra-anal plate trigonal, excavate; cerci rather short, styloform, slightly curved; ovipositor with its length in a straight line about equal to the dorsal length of the head and pronotum, moderately broad, bent arcuate, the apex slightly narrowed but decidedly blunt rotundate, dorsal margin crenulato-dentate for three fourths of its length, ventral margin with the distal fifth similar to the greater portion of the dorsal margin, remainder unarmed; subgenital plate acute trigonal, compressed, apex with a small but rather deep V-shaped emargination. Cephalic femora about as long as the dorsal length of the pronotum, ventro-cephalic margin armed with three spines distad, ventro-caudal margin unarmed; cephalic tibiae half again as long as the femora, slender mesad and distad, unarmed on the dorsum except for a single apical spine, ventral margins each with four spines, tympanum with a complete aperture on each face. Median femora equal in length to that of the dorsum of the head and pronotum combined, the ventro-cephalic margin armed distad with three small dentiform spines, ventro-caudal margin unarmed; median tibiae slightly longer than the femora, unarmed dorsad except for a single apical spine, ventral margins with six spines on the cephalic and four on the caudal side. Caudal limbs missing.

General color yellowish green (in all probability due to immersion in a liquid preservative); eyes vandyke brown.

*Measurements.*

Length of body . . . . .	20.5 mm.
Length of pronotum . . . . .	3.8 "
Length of tegmen . . . . .	26.2 "
Length of ovipositor . . . . .	5.2 "

The type is unique.

**Mecopoda elongata** (*Linnaeus*). Seven males, six females. (R. W.)

The above series of this widely distributed and variable species presents the usual amount of individual variation in size and color. One specimen, a female, is extremely large, in several proportions exceeding the maximum measurements given by Redtenbacher.

**Phylloimimus inversus** *Brunner*. One female. (R. W.)

This individual has the purplish cast of the genicular region of the caudal femora mentioned by Brunner present on one limb and absent on the other.

***Timanthes superbus* n. sp.**

Type: ♂; Benkoelen, Sumatra. (A. Schmiedell.)

Allied to *T. lobofolius* Haan and *latifolius* Brunner, but differing from the former in the larger size and the closely spinulose lateral margin of the caudal femora, as well as some details of the venation, and from the latter in the finely spined ventro-cephalic margin of the cephalic femora and in the tympanal field occupying but a third the length of the tegmina.

Size large; form robust, slightly compressed; surface of the head and limbs smooth, of the pronotum irregularly supplied with low tubercles. Head broad, short, the face quite flattened; fastigium produced, acute trigonal, the apex narrowly rounded, the dorsum of the fastigium faintly sulcate; eyes moderately prominent, subglobose; antennæ with the scrobes touching ventrad of the fastigium. Pronotum with the greatest dorsal length exceeding the greatest dorsal width by a third, dorsum of the pronotum arcuate in transverse section cephalad, deplanate caudad, cephalic margin of the dorsum gently arcuate, caudal margin rectangulate with the

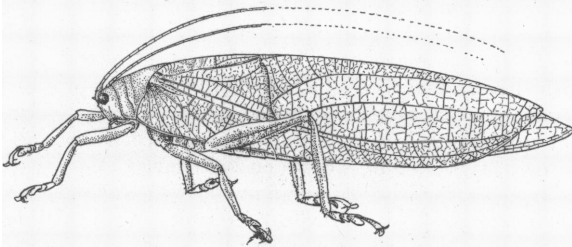


Fig. 19. *Timanthes superbus* n. sp. Lateral view of type. (Natural size.)

sides of the angle very slightly arcuate and the apex slightly rounded; rounded but distinct lateral shoulders present on the metazona; transverse sulci two in number, the cephalic straight on the dorsum, the caudal arcuate caudad, the metazona nearly twice the length of the prozona; lateral lobes slightly deeper than long, the cephalic margin moderately arcuate-emarginate, ventral margin arcuate, cephalic transverse sulcus strongly marked on the lateral lobes. Tegmina very large, inflated, in length three and one half times the length of the caudal femora, their greatest width slightly less than half the length, costal margin gently arcuate except for the distal third

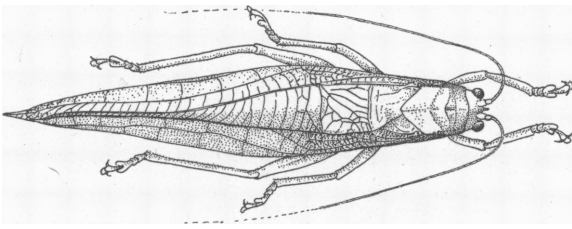


Fig. 20. *Timanthes superbus* n. sp. Dorsal view of type. (Nat. size.)

which is obliquely subtruncate rounding to the major portion of the costal margin, apex acute-angulate with the immediate apex narrowly rounded, sutural margin considerably arcuate proximad, very slightly arcuate mesad and distad; proximal lobe of the costal margin rounded sub-rectangulate; mediastine vein slightly sinuate, reaching the costal margin about a fourth of the length of the tegmina from the base; median vein reaching the costal margin very near the apex; anterior ulnar vein approaching very close to the discoidal proximad of the transverse fold; areas between the discoidal and median and median and anterior ulnar veins divided by straight

cross veins into quadrate areas; stridulating vein arcuate, the arcuation toward the apex. Wings exceeding the apex of the tegmina by about half the length of the pronotum, apex very acute-angulate. Mesosternum slightly transverse, the cephalo-lateral angles with rounded accessory lobes, foramina trigonal and separated by a space about equal to half the cephalic width of the mesosternum; metasternum narrowed caudad, foramina very closely placed and connected by an arcuate sulcus. Anal segment transverse, with a broad medio-longitudinal depression; supra-anal plate sub-lanceolate, apex obtuse-angulate with a shallow medio-longitudinal sulcus; cerci as long as the supra-anal plate, slightly arcuate, distal section narrowed chiefly by the more pronounced arcuation of the lateral margin, apex slightly rounded; subgenital plate broad, shallow, produced mesad into a bifurcate process, the stalk of which is quite slender and the arms appreciably depressed and sub-lamellate on the internal margin. Cephalic femora four fifths the length of the dorsum of the pronotum, the ventro-cephalic margin very weakly serrato-dentate; cephalic tibiae equal to the femora in length, quadrate in section, dorsal margins unarmed; ventral margins with three spines on each, tympanum conchate on both sides. Median femora slightly longer than the cephalic, the external margin with from six to eight serrations, the internal margin with several small proximal serrations; median tibiae about equal to the femora in length, dorsal margins unarmed, ventral margins spined. Caudal femora nearly twice the length of the dorsum of the pronotum, moderately inflated proximad, external face with a deep medio-longitudinal groove, external margin sub-lamellate, spinoso-dentate, internal margin with a number of smaller dentations; caudal tibiae as long as the femora, slightly arcuate, moderately compressed, all the margins spined.

General color citron yellow, becoming buff on the limbs and ochre yellow on the greater portion of the pronotum. Eyes burnt umber; antennae of the general color washed with reddish proximad.

*Measurements.*

Length of body . . . . .	33. mm.
Length of pronotum . . . . .	9. "
Length of tegmen . . . . .	52.5 "
Greatest width of tegmen . . . . .	21.5 "
Length of caudal femur . . . . .	14.8 "

The type is unique.

***Timanthes quadratus* n. sp.**

Type: ♀; Benkoelen, Sumatra. (A. Schmiedell.)

Allied to *T. lobifolius* but differing in the longer tegmina, shorter caudal limbs and regularly serrulate external margin of the caudal femora.

Size medium; form considerably compressed; surface without tubercles. Head distinctly depressed, the face markedly flattened, the facial line nearly parallel with the axis of the body; fastigium acutely produced, the apex hardly blunted, the whole apex of the fastigium having the margin distinctly elevated; interocular region broad, arcuate in transverse section; eyes slightly prominent, subglobose; antennae with

the proximal joint quite large, slightly depressed, very slightly exceeding the apex of the fastigium. Pronotum with its dorsal length about one and one half times that of the head, the greatest dorsal width of the same being equal to four fifths of the length; cephalic margin arcuate, caudal margin rounded obtuse-angulate, no lateral shoulders present except for an indication near the caudal margin, dorsum of the pronotum arcuate in section except caudad where it is deplanate; median carina weakly indicated caudad, transverse sulci two in number, the cephalic very faint on the dorsum, metazona slightly longer than the prozona; lateral lobes with the ventro-cephalic angle obtuse, the ventral margin supplied with a row of low tubercles. Tegmina lanceolate, about twice the length of the body, the greatest width contained more than three times in the length; costal margin nearly straight in the proximal half, moderately arcuate distad, sutural margin straight the greater part of its length, gently arcuate near the apex, the latter rather narrowly rounded; proximal lobe of the costal margin rectangulate, the costal margin with a distinct thickening throughout its length, but stronger and more apparent proximad; mediastine vein similar in character to the short oblique apically bifurcate veins of the costal field; median vein diverging slightly proximad of the middle, reaching the costal margin very near

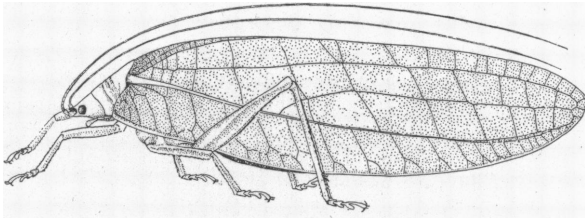


Fig. 21. *Timanthes quadratus* n. sp. Lateral view of type. ( $\times 1\frac{1}{2}$ .)

the apex; anterior ulnar vein nearly straight, reaching the apex; cross veins in the areas between the discoidal and anterior ulnar veins regularly placed, oblique. Wings hardly surpassing the tips of the tegmina, acute at the apex. Mesosternum without marked accessory lobes, foramina moderately spaced; metasternum considerably narrowed caudad, foramina closely placed, connected by a strongly arcuate sulcus; ovipositor robust, in length nearly equal to the caudal femora, the greatest width about a third the length, apex acute, dorsal margin serrulate for over half its length, ventral margin very minutely serrulate for a third its length; subgenital plate very short, trigonal. Cephalic femora equal in length to the dorsum of the pronotum, ventral margins serrate; cephalic tibiae slightly longer than the femora, dorso-caudal margin serrulate, dorso-cephalic margin entire, ventral margins with adpressed spines, tympanum strongly conchate on both faces. Median femora distinctly but not greatly longer than the cephalic femora, serrate on the ventral margins; median tibiae slightly longer than the femora, compressed, strongly serrate on the dorso-caudal margin, dorso-cephalic margin entire, ventral margins with small adpressed spines. Caudal femora slightly less than a third the length of the tegmina, moderately robust in proportion to the length, tapering but little, ventral margins serrato-dentate; caudal tibiae very slightly longer than the femora, compressed, dorso-cephalic margin entire, dorso-caudal margin distinctly serrate, ventro-cephalic margin slightly crenulate, ventro-caudal margin entire.

General color primrose yellow on the tegmina, becoming Naples yellow on the head, pronotum and antennæ, the limbs cream buff. Eyes liver brown; costal thickening of the tegmina maize yellow; ovipositor ochraceous tipped with blackish.

*Measurements.*

Length of body . . . . .	23.2 mm.
Length of pronotum . . . . .	4.8 "
Length of tegmen . . . . .	42. "
Greatest width of tegmen . . . . .	13. "
Length of caudal femur . . . . .	12.2 "
Length of ovipositor . . . . .	12. "

The type alone has been examined.

**Tympanoptera extraordinaria** Brunner. One male, one female. (A. S.)

As the female of this species has never been described a few notes on this sex may be of interest.

Head and pronotum similar to those parts in the male. Tegmina elongate, sub-lanceolate, the length slightly over three times that of the caudal femora, greatest width contained three and one half times in the length; costal margin arcuate to the apex which is narrowly rounded, sutural margin straight; costal area broad, supplied with regular oblique bifurcate rami of the humeral vein with which rami the median-stine vein becomes lost; median vein escaping from the discoidal vein but a short distance from the apex; principal transverse veins of the discoidal field dividing it into five areas; anal field very narrow and elongate. General color olive-yellow, four irregular blotches of bright green, ringed in all but the distal one more or less completely with purplish, placed on the principal transverse veins of the discoidal field. Length of tegmen, 66.5 mm.

This species has been recorded from Borneo and Deli, Sumatra.

**Aprion maculifolius** Pictet & Saussure. Two females. (R. W.)

**Cymatomera orientalis** n. sp.

Type: ♂; Bah Soemboe, Sumatra. (R. Weber.)

Allied to *C. denticollis* Schaum from S. E. Africa and *C. pallidipes* Brunner from Loanda; differing from the former in the smaller size, the different tubercle arrangement of the pronotum and the different coloration; from the latter in the very different coloration, and possibly somewhat in structure as very few structural characters are mentioned in the original description.

This is the first species of the genus recorded from outside of Africa.

Size medium; form slightly depressed; head smooth, pronotum strongly tuberculate. Head broad, depressed, with the dorsal length about two thirds that of the pronotum; occiput slightly descending to the very broad interocular region; fasti-



gium of the vertex considerably and sharply produced, moderately tapering, the proximal width but slightly exceeding half the width of one of the eyes, apex slightly surpassing the antennal scrobes, narrow, divided, dorsum of the fastigium deplanate cephalad and there supplied with a slight medio-longitudinal sulcus; genæ somewhat inflated, bullate; face nearly horizontal, flattened; eyes of medium size, slightly exserted, globose but slightly depressed; antennæ with the scrobes large, the cephalic angle of the same sub-acute, the low facial fastigium separating the scrobes ventro-cephalad, proximal joint large, supplied with a rather prominent node on the internal portion of the distal margin. Pronotum with the dorsal length about half that of

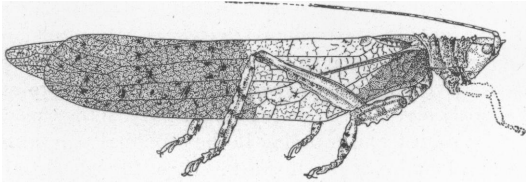


Fig. 22. *Cymatomera orientalis* n. sp. Dorsal view of type. ( $\times 1\frac{1}{2}$ .)

the caudal femora, the greatest width (between the ventral margins of the lateral lobes) distinctly greater than the length; form of the pronotum distinctly sellate; cephalic margin of the dorsum obtuse-angulate with the apex of the angle truncate, caudal margin somewhat produced and moderately arcuate; median carina absent, transverse sulci two in number, broadly and deeply impressed; lateral carinæ indicated by a pair of rows of tubercles, which are quite close together at the cephalic transverse sulcus and from which they regularly diverge cephalad and caudad, the terminal tubercle cephalad and caudad being larger than the others; caudal margin of the disk without tubercles, cephalic margin with a median pair of fair size and a number of very small lateral ones, the median section of the disk of the pronotum

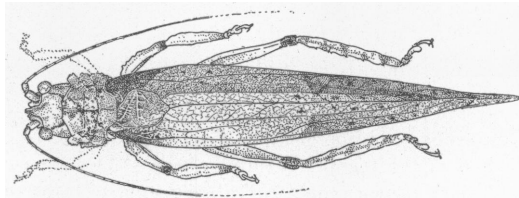


Fig. 23. *Cymatomera orientalis* n. sp. Dorsal view of type. ( $\times 1\frac{1}{2}$ .)

has several groups of fair-sized tubercles in addition to those already mentioned; lateral lobes slightly longer than deep, considerably extended laterad, the greatest width there being about twice that on the dorsum of the metazona, ventral margin sinuato-truncate, the cephalic and caudal angle sub-rectangulate, transverse sulci distinct, surface with an arcuate transverse row of small tubercles, all the margins slightly tuberculate, elytral sinus arcuate, shallow. Tegmina of the peculiar texture and with the low nodes on some of the short cross veins seen in other species of the genus, in length about one and one half times the length of the body, the greatest width contained three and two thirds times in the length; costal margin regularly

arcuate in general outline, though closer view shows it to be decidedly crenulate, sutural margin straight except for the enlarged tambourine, apical portion obliquely rotundato-truncate; mediastine vein becoming lost in the cross veins of the costal area; median vein diverging distinctly proximad of the middle, continuing subparallel to the discoidal vein and reaching the apical margin; anterior ulnar vein with two subapical rami, the vein itself reaching the apical margin; tambourine with its greatest width equal to its length, stridulating vein not very heavy, nearly straight. Wings extending caudad of the tips of the closed tegmina by a distance about equal to three fourths the dorsal length of the pronotum, the apex rounded. Venter distinctly deplanate. Mesosternum strongly transverse, the cephalic margin arcuato-emarginate with the lateral angles broadly rounded, foramina widely separated, the connecting sulcus straight; metasternum transverse, the caudal margin arcuato-emarginate, foramina widely separated, connected by an arcuate sulcus. Anal segment strongly transverse, arcuato-emarginate mesad; supra-anal plate semi-elliptical, margin slightly elevated; cerci reaching nearly to the tips of the subgenital plate, straight, rather robust and tapering in the proximal two thirds, thickly beset with fine tubercles and long hairs, distal third hooked, though not abruptly so, slenderer than the proximal portions, the apex acute, the distal portion covered with much shorter hairs than the proximal; subgenital plate produced into a pair of depressed styliform processes separated by a very narrow and deep median incision, styles slightly longer than the styliform processes of the plate, slightly broader and more depressed proximad, apices blunt acute. Cephalic limbs missing. Median femora slightly longer than the dorsal length of the pronotum, very decidedly compressed and lamellate dorsad and ventrad, the dorsal margin irregularly serrato-dentate, the ventral margin with four distinct rounded lobes; median tibiae about equal to the femora in length, inflated, compressed, the dorsal margin sinuate, the ventral ones with six to seven spines, the cephalic face with a marked longitudinal rounded sulcus. Caudal femora about twice the dorsal length of the pronotum, compressed, the dorsal margin sub-lamellate, regular, cephalo-ventral margin with two very low and three decided dentate lobes, genicular lobe on the cephalic face produced and rounded; caudal tibiae very slightly shorter than the femora, moderately compressed, the dorsal margin slightly sinuate, the ventral ones nearly straight, with seven to eight spines; third joint of the tarsi strongly depressed and expanded, V-shaped.

General color wood brown, suffused with drab at the base of the costal field of the tegmina and in a lesser degree on the distal half of the whole tegmina. Nodes on the veins of the distal half of the tegmina vandyke brown. Eyes prout's brown; antennae annulate with dark brown; median limbs irregularly spotted and the caudal tibiae incompletely annulate with vandyke brown, genicular region of the caudal femora of the same color. Abdomen blackish brown dorsad.

*Measurements.*

Length of body . . . . .	23.5 mm.
Length of pronotum . . . . .	5. "
Length of tegmen . . . . .	33.5 "
Length of caudal femur . . . . .	11. "

The type is unique.

**Tarpe novæ-hollandiæ** (*Haan*). One male, one female. (R. W. and A. S.)

These specimens have the tegmina distinctly longer than the maximum measurements given by Brunner.

***Pseudorhynchus calamus* n. sp.**

Type: ♀; Bah Soemboe, Sumatra. (R. Weber.)

Allied to *P. acuminatus* Redtenbacher from India, Burma, Java and Sumatra, but differing in the general smaller size and the greater length of the fastigium, tegmina and ovipositor.

Size medium; form decidedly elongate, very slender; surface rugulose. Head with its dorsal length distinctly greater than the dorsal length of the pronotum, acute produced, the fastigium slightly longer than the occiput and inter-ocular region, which latter have the dorsal outline horizontal when seen from the side;

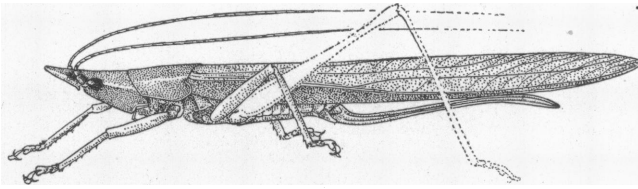


Fig. 24. *Pseudorhynchus calamus* n. sp. Lateral view of type. ( $\times 1\frac{1}{2}$ .)

fastigium acute lanceolate, the greatest width slightly more than a third the length, the apex very narrowly blunted, the whole fastigium having an almost imperceptible dorsal trend, the ventral surface of the same with a distinct median ridge, proximal tooth short, blunt, not touching the face; facial outline very strongly retreating, being on the same angle as the ventral line of the fastigium; eyes rather small, not at all prominent, sub-pyriform in outline with the apex directed cephalad; antennæ moderately long. Pronotum with the greatest (caudal) dorsal width very slightly more than half the length, the dorsum strongly flattened; cephalic margin very slightly arcuate emarginate, caudal margin moderately arcuate, lateral angles well marked; single transverse sulcus crossing the dorsum of the pronotum hardly a third the length from the cephalic margin; lateral lobes about one and one half times as long as deep, ventro-cephalic angle very slightly angulate, ventral margin slightly arcuate, descending slightly caudad, ventro-caudal angle obtuse-angulate, caudal margin strongly arcuate with the tegminal emargination slightly less than a right angle, the extreme angle rounded. Tegmina about one and one half times the length of the body, elongate lanceolate, subequal, the greatest width contained nearly twelve times in the length; costal margin nearly straight in the proximal half, moderately arcuate in the distal half, sutural margin nearly straight, the apex acute; median vein diverging slightly proximad of the middle and bearing three rami; mediastine vein parallel to the humeral vein for nearly half the length of the latter.

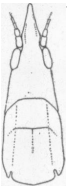


Fig. 25. *Pseudorhynchus calamus* n. sp. Dorsal outline of head and pronotum. ( $\times 1\frac{1}{2}$ .)

Mesosternal and metasternal lobes produced, the angles rectangulate. Ovipositor about three times as long as the head and pronotum, slender, the distal two thirds slightly arcuate with the convexity dorsad, apex acute; subgenital plate subtrigonal, the apex narrowly arcuate emarginate, the plate with a medio-longitudinal keel. Cephalic femora very slightly shorter than the dorsum of the pronotum, the distal portion of the ventro-cephalic margin with one to three spines, the ventro-caudal margins unarmed, genicular lobes spiniform; cephalic tibiæ very slightly longer than the femora, tympanum compressed conchate on both sides, unarmed dorsad, the ventral margins with from six to seven spines. Median femora slightly longer than the cephalic, armed with two to three spines on the ventro-cephalic margin and with the ventro-caudal unarmed, genicular lobes spiniform; median tibiæ about as long as the femora the ventral margins with six to seven spines. Caudal limbs missing.

General color yellowish green (doubtless altered from a purer green by immersion in spirits), the distal half of the tegmina and the lateral lobes of the pronotum pale apple green, the ovipositor with its proximal two thirds weak ochraceous, the limbs inclining toward the same color. Eyes walnut brown.

*Measurements.*

Length of body . . . . .	30.5 mm.
Length of pronotum . . . . .	7.2 "
Length of fastigium . . . . .	5. "
Length of tegmen . . . . .	46. "
Length of ovipositor . . . . .	23.5 "

The type only has been examined.

***Conocephalus sobrinus* Bolivar.** One male. (R. W.)

This specimen has the fastigium slightly shorter than the measurements given by Redtenbacher (3.8 mm.), in this respect approaching *C. longiceps* Redt. from New Caledonia and *brachycephalus* Redt. from Malaysia and China, but from both of these it differs in the longer tegmina. All three species seem to be very closely related.

***Conocephalus saussurei* Redtenbacher.** Two females. (R. W.)

***Agræcia aberrans* n. sp.**

Type: ♀; Bah Soemboe, Sumatra. (R. Weber.)

Allied to the Australian *A. differens* Redtenbacher, but differing in the very much shorter tegmina, the lesser general size and the different spine formulæ of the femora. It agrees with *differens* in having both margins of the caudal femora spined, a character which separates these two forms from the other members of the genus.

Size rather small; form much as usual in the genus; surface of the pronotum obsolete punctate, of the head, pleura and limbs smooth. Head with its exposed dorsal length about half that of the dorsum of the pronotum; occiput very slightly arcuate; fastigium slightly ascending, produced, slender, the apex abruptly truncate;

facial line distinctly retreating; eyes moderately prominent, very slightly compressed, crudely trigonal in basal outline; antennæ slightly over twice the length of the body, the scrobes with their rim moderately developed. Pronotum with the dorsal length about one and one half times the greatest caudal width of the disk; cephalic margin arcuate, subtruncate mesad, caudal margin arcuato-truncate, the lateral angles developed only on the caudal half of the metazona, broadly rounded cephalad and mesad; dorsum moderately arcuate in transverse section cephalad, deplanate caudad; transverse sulci strongly arcuate with the convexity caudad; lateral lobes with the greatest depth contained one and two thirds times in the greatest length, the greatest depth caudad, ventral margin oblique, the ventro-cephalic angle obtuse, the ventro-caudal margin broadly rounded, tegminal incision very shallow, subobsolete, the lobe with a distinct rounded depression extending some distance cephalad and ventrad of the incision. Tegmina slightly exceeding the apex of the abdomen, narrow, the greatest width proximad, tapering to the narrow apex which is oblique truncate; costal field tapering, widest proximad; median vein divergent distinctly distad of the middle. Wings reaching to the tips of the tegmina. Prosternum with a pair of very elongate, subparallel spines; mesosternal lobes slightly acute-angulate; metasternal lobes rectangulate. Cerci short, conic, acute;

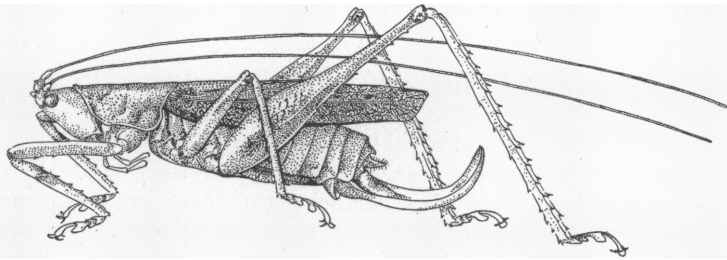


Fig. 26. *Agracia aberrans* n. sp. Lateral view of type. ( $\times 2$ )

ovipositor about half as long (measuring shortest distance) as the caudal femora, strongly falcate, apex acute, width moderate and nearly uniform except toward the apex; subgenital plate short, obtuse-angulate emarginate at the apex. Cephalic femora very slightly longer than the dorsum of the pronotum, armed on the ventro-cephalic margin with four spines, ventro-caudal margin armed with one spine in the distal third, cephalic genicular lobe acute, caudal genicular lobe rather rounded; cephalic tibiæ slightly longer than the femora, tympanum compressed conchate, dorsal margins unarmed, ventro-cephalic margin armed with eight spines, the ventro-caudal margin with six. Median femora about equal to the cephalic in length, the margins and genicular lobes similarly armed except that the ventro-caudal margin is not spined; median tibiæ slightly longer than the femora, the armament similar to that of the cephalic tibiæ except that the ventro-caudal margin has but five spines. Caudal femora about equal to the tegmina in length, considerably inflated proximad, quite slender distad, ventral margins armed with six to eight spines, genicular lobes spiniform; caudal tibiæ slightly longer than the caudal femora, all the margins supplied with spines, the ventral ones with a lesser number than the dorsal ones.

General color russet, the distal extremities of the femora, the tarsal joints, the tibial tympani and the mandibles marked with seal brown. Antennæ with widely

spaced narrow annuli of seal brown, the proximal antennal joint marked at the apex with the same. All the limbs more or less distinctly clouded with darker brown. Tegmina with a discal series of six or more small, irregularly shaped but rather regularly placed spots of seal brown, a clouding at the base of the costal field of the same color, the distal portion of the anal area being marked with a semi-elliptical spot of clear wood brown surrounded by seal brown. Eyes fawn color. Ovipositor ochraceous with the apex umber.

*Measurements.*

Length of body . . . . .	23.	mm.
Length of pronotum . . . . .	6.8	"
Length of tegmen . . . . .	17.8	"
Length of caudal femur . . . . .	18.	"
Length of ovipositor . . . . .	10.5	"

The type is unique.

**Macroziphus sumatranus** (*Haan*). One adult male, one immature male. (A. S.)

**Xiphidion longipenne** (*Haan*). Two males, two females. (R. W.)

Several of these specimens in some measurements, as the length of tegmina and of caudal femora, slightly exceed those given by Redtenbacher for this widely distributed species.

**Hexacentrus unicolor** *Serville*. One female. (R. W.)

**Gryllacris podocasta** *Haan*. One male. (R. W.)

This specimen is slightly larger than the measurements given by Brunner,<sup>1</sup> while the cephalic tibæ are uniform blackish and the paler pronotal margin present only on the lateral and caudal margins.

**Gryllacris amplipennis** *Gerstaecker*. One male. (A. S.)

This individual belongs to the type described by Brunner<sup>2</sup> from Java and Madras Province.

**Gryllacris borneensis** subsp. *fruhstorferi* *Griffini*. One male. (A. S.)

This specimen agrees fully with the description of this recently described form,<sup>3</sup> which may be entitled to specific rank. The ventral margins of the caudal femora possess more numerous spine series than are present in the type, the external having seven to eight spines instead of five, the internal thirteen instead of eleven. As the type, from Deli, Sumatra, is a female, the measurements of the male may be of interest: length of body 32.5 mm.; length of pronotum 7.5; length of tegmen 54.5; length of caudal femur 20.5.

**Gryllacris nigripennis** *Gerstaecker*. Two males. (R. W. and A. S.)

<sup>1</sup> Verh. K. K. Zool.-bot. Gesell. Wien, XXXVIII, p. 330.

<sup>2</sup> *Ibid.*, p. 336.

<sup>3</sup> Bollett. Mus. Zool. Anat. Comp., XXIII, N. 581, p. 13.

One of these individuals has the infuscation of the genicular regions and of the tarsi weaker than in the other. This species has previously been recorded from Malabar and Java.

**Gryllacris fuscifrons** Gerstaecker. Two males. (A. S.)

**Gryllacris larvata** n. sp.

Types; ♂ and ♀; Bah Soemboe, Sumatra. (R. Weber.)

Allied to *G. junius* Brunner, agreeing in the general form of the anal appendages, but differing in the somewhat greater size, the rather broader fastigium and in the depressed apex of the distinctly shorter appendage of the ninth dorsal abdominal segment.

Size rather large; form moderately robust. Head short, with the face decidedly flattened; occiput considerably arcuate, elevated very slightly dorsad of the disk

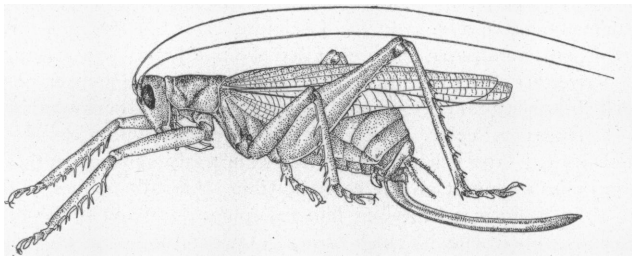


Fig. 27. *Gryllacris larvata* n. sp. Lateral view of female type. (Nat. size.)

of the pronotum, rounding over the interocular region and strongly descending to immediately dorsad of the suture between the fastigium of the vertex and that of the face; fastigium of the vertex about equal in width to one of the eyes; antennæ

about twice as long as the body, the proximal joint of the antennæ of medium size, slightly depressed, obtuse-angulate on the internal face, scrobes very slightly elevated above the level of the face; eyes ovate in outline, hardly prominent, very slightly longer than the infra-ocular portion of the genæ.

Pronotum with the greatest width distinctly but not greatly exceeding the length; cephalic margin slightly arcuate produced, caudal margin truncate, ventral margins of the lateral lobes slightly oblique truncate, ventro-cephalic angle obtuse-angulate, ventro-caudal angle obliquely truncate, elytral sinus very shallow; characteristic pronotal pattern

moderately impressed. Tegmina slightly more than one and one-half times the length of the caudal femora, moderately broad, the apex narrowly rounded. Penultimate dorsal abdominal segment of the male inflated, sub-bullate, terminal dorsal



Fig. 28. *Gryllacris larvata* n. sp. Dorsal view of head and pronotum of male type. (Nat. size.)

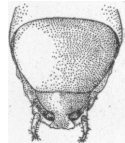


Fig. 29. *Gryllacris larvata* n. sp. Dorsal view of apex of male abdomen. ( $\times 2$ .)

abdominal segment narrower proximad than the proximal width of the penultimate segment, the process not very long, constricted mesad, expanded distad, the apex arcuato-truncate and strongly depressed, the lateral angles slightly acute; cerci of the male broken; subgenital plate very broad, short, the apical margin obtuse-angulate, the apex with a shallow but broad obtuse-angulate emargination, styles lateral, simple, slightly curved, about equal to the greatest length of the plate. Cerci of the female moderately long, tapering, acute; ovipositor with its length slightly exceeding that of the caudal femora, regularly falciform, subequal in width except at the apex which is acute; subgenital plate of the female very broad proximad, produced mesad into a moderately long, narrowing, apically obtuse-angulate emarginate projection, the surface of the plate bearing a deeply marked  $\Lambda$ -shaped impressed figure, the apex of the impression directed toward the apex of the plate. Limbs moderately long, the articulate spines of the cephalic and median tibiæ particularly long; caudal femora moderately robust, stouter in the female than in the male, the lateral margin with nine to ten spines, the internal with ten to twelve<sup>1</sup>; caudal tibiæ equal to the femora in length, dorsal margins well spined, ventral face with a pair of distal spines.

General color of the head, antennæ, pronotum, limbs and abdomen ochraceous,<sup>2</sup> of the tegmina cinnamon-rufous. Head with the proximal and second joint of the antennæ, the antennal scrobes and the fastigium black, in the male areas caudad of the insertion of the antennæ and a cloud on the middle of the occiput of the same color; eyes ferruginous to liver brown. Pronotum with the greater portion of the dorsum blackish, the lateral portions and a pair of spots slightly caudad of the middle of the disk of the general color. Genicular regions of the femora clouded or washed with blackish brown; the tibiæ more or less completely suffused with seal brown, the suffusion being strongest on the cephalic tibiæ; movable spines of the cephalic and median tibiæ uniform ochraceous, femoral spines and fixed spines of the caudal tibiæ ochraceous tipped with blackish brown. Ovipositor burnt umber.

*Measurements.*

	♂	♀
Length of body . . . . .	32.5 mm.	36.5 mm.
Length of pronotum . . . . .	7.5 "	8.8 "
Length of tegmen . . . . .	29. "	36.5 "
Length of caudal femur . . . . .	20.5 "	22.5 "
Length of ovipositor . . . . .		25.5 "

A paratypic female has been examined in addition to the types. It differs in no essential characters from the typical pair.

<sup>1</sup> One caudal femur of the male types appears to be abnormal, having but five spines on each margin. The limb, while full size, exhibits other evidence of injury or partially arrested growth.

<sup>2</sup> The female type has the face and mouth parts red brown, but this appears to be due to discoloration or is an individual variation, as the paratypic female is colored as in the male type.



## Family GRYLLIDÆ.

**Brachytrupes portentosus** (*Lichtenstein*). Three males, one female. (R. W.)

**Calyptotrypus helvolus** (*Serville*). One male. (R. W.)

This species ranges from the Malay Peninsula to the Moluccas.

**Crystallomorpha**<sup>1</sup> n. gen.

A member of the division *Podoscirtites* of the Eneopterinae, allied to *Hemiphonus* Saussure in having no speculum in the tambourine of the male tegmina. From the allied genus it can be separated by the short, broad head, very large eyes, the inflato-rimate tympanum on the cephalic face of the cephalic tibiæ, the much longer caudal metatarsi, the straight and uniramose oblique vein of the male tegmina and the non-ramose distal portion of the false discoidal vein in the same sex.

Head short and broad, deep; rostrum moderately protuberant; eyes large, considerably exserted. Pronotum broader than long, lateral lobes longer than the dorsum. Tegmina vitreous, equalling the apex of the abdomen, arcuate in section; mediastine vein ramose; stridulating vein rather weak; oblique vein uniramose; false discoidal vein without rami; distal portion of the dorsal field with a few sub-rectangular areas; no speculum present. Wings moderately caudate. Subgenital plate produced, moderately compressed. Cephalic tibiæ with the caudal face of the tympanum ovate, membranous, cephalic face inflato-rimate. Caudal limbs very long; metatarsi quite long, the dorso-lateral margin with four to five spines, internal margin unarmed.

Type: — *C. sumatrensis* n. sp.

**Crystallomorpha sumatrensis** n. sp.

Type: ♂; Bah Soemboe, Sumatra. (R. Weber.)

Size rather small; form moderately elongate. Head broad and deep; occiput

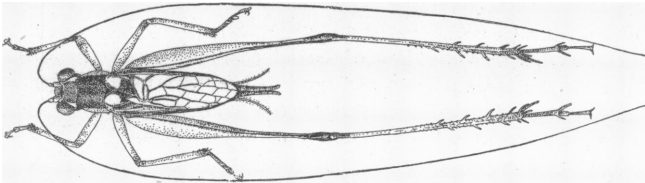


Fig. 30. *Crystallomorpha sumatrensis* n. gen. and sp. Dorsal view of type. ( $\times 2$ .)

and inter-ocular region regularly descending to the rostrum, the space between the

<sup>1</sup> Κρυσταλλος *crystal*, μορφή *form*.

eyes equal to the width of one of the same; rostrum hardly protuberant, slightly depressed and sub-sulcate dorsad, rounded into the slightly retreating facial line ventrad; ocellus small, disposed in a compressed V-shaped figure, the ventral one placed between the centers of the proximal antennal joints where the same are in a vertical position; eyes very large, subglobose, slightly directed cephalad; antennæ at least three and one half times the length of the body, proximal joint rather broad and short. Pronotum slightly sellate, the disk broader than long; cephalic margin slightly arcuato-emarginate, caudal margin bisinuate emarginate, the surface of the disk clothed with adpressed white hairs; lateral lobes about as long as deep, but extending caudad of the dorsum of the pronotum, ventral margin very slightly arcuate, ventro-cephalic angle narrowly rounded, the caudal margin arcuate, the ventro-caudal angle well rounded. Tegmina about three fifths the length of the caudal femora, hyaline, apex well rounded, costal margin hardly arcuate in the greater portion of its length; mediastine vein with six rami; stridulating vein strongly arcuate mesad, but straight proximad and distad; axillary veins two in number; single oblique vein sinuate but its general direction is not strongly modified, possessing one ramus which is itself bifurcate; no speculum present. Wings

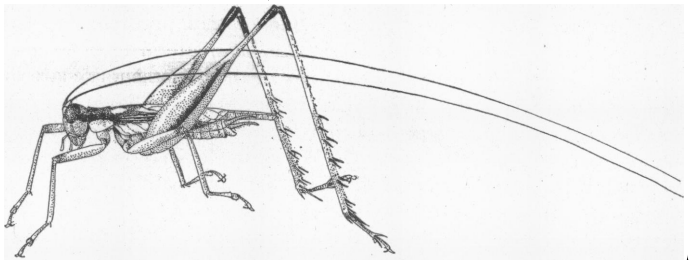


Fig. 31. *Crystalomorpha sumatrensis* n. gen and sp. Lateral view of type. ( $\times 2$ )

caudate, reaching caudad of the tips of the tegmina a distance equal to the tegminal dorsal width. Cerci tapering filiform distad, in length equal to the head and pronotum; subgenital plate moderately produced, compressed, the apex very narrowly subtruncate. Limbs slender. Cephalic tibiæ with the aperture on the cephalic face of the tympanum placed ventrad. Caudal femora considerably inflated proximad, quite slender distad, ventral margins unarmed, genicular lobes produced but the tips blunted; caudal tibiæ about equal to the femora in length, the dorsal margins with the serration spines rather large and distinctly spiniform, apical spurs on the internal face in length greatly exceeding those of the external face; caudal metatarsi elongate, slender, equal to the remainder of the tarsi in length, armed on the dorso-lateral margin with four to five spines, metatarsal spurs moderately long.

General color wood brown, the dorsum of the pronotum, the dorsal half of the lateral lobes of the same, genicular region of the caudal femora and tibiæ a broad line on the ventral portion of both faces of the caudal femora and a narrow dorsal line on the same blackish-brown. Tarsi and the distal extremity of the tibiæ blackish brown, the movable spines and spurs of the caudal tibiæ of the same color. Tegmina with a broad longitudinal bar at the angle of the two fields, a broad edging on the proximal third of the sutural margin and the principal veins of the dorsal field blackish brown; a pair of sub-circular spots of yellowish-white are placed one at the

end and the other at the bend of the stridulating veins, a much larger blotch of the same color being present at the base of the dorsal field. Abdomen with a fine lateral and a broader ventral blackish brown line. Head ochraceous with a subquadrate patch on the occiput, the apex of the rostrum and the two proximal antennal joints blackish-brown; eyes ferruginous; antennæ blackish brown with annuli of creamy-white on the proximal half, these narrower and closer proximad. Median and cephalic limbs slightly ferruginous.

*Measurements.*

Length of body. . . . .	12.2 mm.
Length of pronotum . . . . .	1.8 "
Length of tegmen . . . . .	8.5 "
Length of caudal femur . . . . .	14. "

A paratypic male has also been examined. It agrees fully with the type male except that the yellowish white spot at the bend of the stridulating vein is obsolete.

