

## REVISION OF THE INDIAN GRÝLLÍDÆ

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The late Dr. Annandale, whose loss is a source of great grief to everyone who knew him, sent me a few years ago the whole of the Gryllid material of the Indian Museum. This was such an important collection that its study induced me to undertake the publication of a complete revision of the Gryllidae of India.

I have been obliged to defer this publication, as numerous other collections from different museums in Europe and in India, which have been sent to me since then, have brought such abundant material that it has been impossible for me up till now to complete the work for such a faunistic study as I proposed to carry out. The work of exact determination of the species previously known and the descriptions of those which are new to science has proved a very big task. The new species have proved to be more numerous than was expected and there is no doubt that a certain number still await discovery in the material which remains to be worked out. I have, therefore, decided to publish the descriptions of the new species as the first part of my Memoir on the Gryllidae of British India.

### ***Scapteriscus leptodactylus*, sp. nov.**

Type : 1 ♀, Damukdia, E. Bengal, 7-vi-08.<sup>1</sup>

Size medium, rather slender. Head very narrow; ocelli large, separated in front by a space scarcely equal to their own length. Pronotum strongly narrowing anteriorly, regularly ovoidal posteriorly; anterior margin markedly concave; disk yellowish, with a big brown spot occupying the whole of the median part.

Process of the anterior trochanter very long, narrow, with parallel margins; the inferior one provided with spinuliform bristles all along its length. Anterior tibiae presenting an oval, completely uncovered drum; claws long and widely apart; claws of the tarsi also very long and narrow (fig. 1). Posterior tarsi with the 3rd joint very strongly enlarged, compressed, with subequal claws (fig. 2).

Elytra too badly damaged to show venation properly. Wings long. Length of body 27 mm.; pronotum 8 mm.

This is the first species of the genus found in the Old World. It is rather close to *S. oxydactylus* Perty, in having very long and distant claws; it also has some affinity with *S. borellii* Giglio-Tos and *S. mexicanus* Sauss. in the shape of the process of the trochanter, in having the tibial drum uncovered and the 3rd joint of the posterior tarsi enlarged, but the trochanter process being spinulose along the whole length of its inferior margin differentiates it from these two species.

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<sup>1</sup> Except where otherwise stated the types are in the Indian Museum.

**Tridactylus apicicornis, sp. nov.**

Type: 1 ♀, Medha, alt. 2,200 ft., Yenna Valley, Satara Dist., 17-23-iv-12 (*F. H. Gravely*).

Bronze-black, shining. Head bronzed, finely alutaceous; forehead wide, eyes wide apart, their internal margins parallel. Palpi brown. Antennae rather slender, black, with the last joint yellow.

Pronotum wide, bronzed, alutaceous, with scattered small depressions, anterior margin straight, posterior regularly rounded; lateral lobes spotted with yellow. Abdomen with the tergites black, lined posteriorly with yellow; inferior face yellowish brown, subgenital plate similar to the preceding sternite. Cerci and anal appendages blackish.

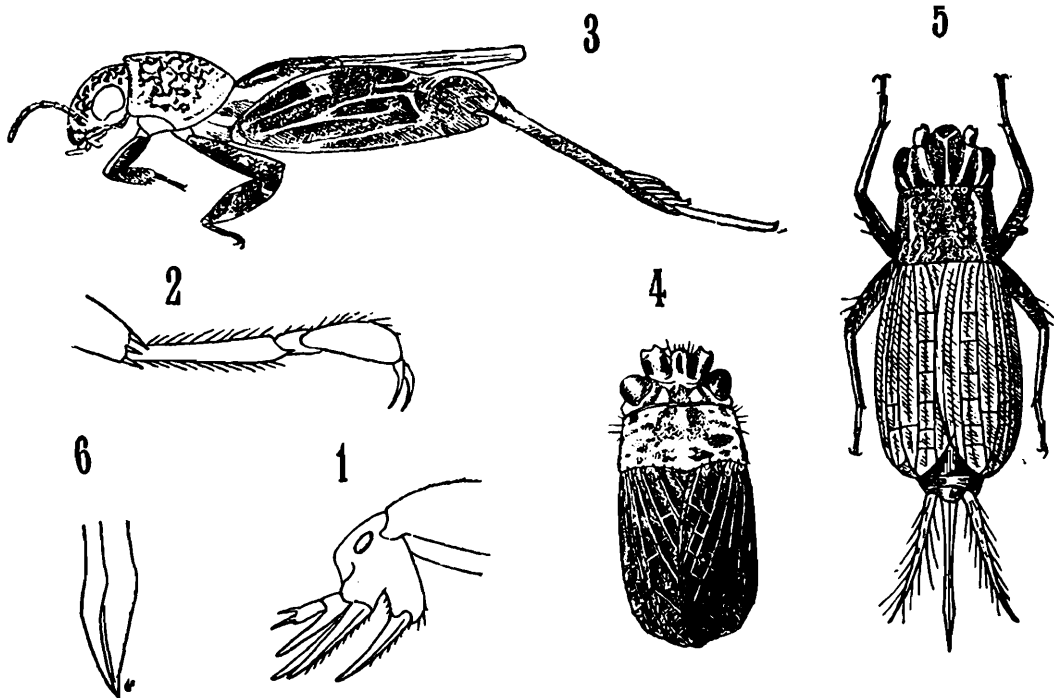


FIG. 1.—*Scapteriscus leptodactylus*, sp. nov., anterior tibia and tarsus; fig. 2. *id.*, posterior tarsus; fig. 3. *Tridactylus marmoratus*, sp. nov., lateral view; fig. 4. *Paranezobius vicinus*, sp. nov., head, pronotum and elytra of ♀; fig. 5. *Nemobius (?) strigipennis*, sp. nov., ♀; fig. 6. *Scottia minima*, sp. nov., apex of ovipositor.

Legs brown, adorned with yellow spots; intermediate tibiae as in *T. nigroaeneus*. Posterior femora with two yellow bands; tibiae with 3 internal and 4 external lamellae, inferior spurs very long; metatarsi very short, tuberculiform.

Length of body 5 mm.

This small species resembles *T. nigroaeneus* very much but differs from it in having a wider pronotum and the apex of the antennae yellow.

**Tridactylus marmoratus, sp. nov.**

Types: 1 ♂ 1 ♀, Yulaban, Naini Tal Dist., base of W. Himalayas, 22-iii-10.

Deep brown, adorned with yellowish stripes and markings (fig. 3). Head with rather narrow forehead, the ground colour yellowish with brown markings, forming on the occiput 2 spots and 2 longitudinal and

irregular bands extending up to the forehead ; facial shield with transverse brown markings ; clypeus with a brown transverse irregular stripe ; labrum brown. Maxillary palpi short, brown with yellow spots ; labial palpi yellowish. Antennae brown, rather short. Eyes with internal margin converging upwards, ocelli small, round.

Pronotum wide, marbled with brown and yellowish, anterior margin straight, posterior strongly and regularly rounded, disk feebly convex ; lateral lobes with inferior margin scarcely concave.

Abdomen brown above ; sternites in the male brown with posterior margin yellow, the last one rather widely rounded with wider yellow margin ; in the female abdomen yellow beneath with transverse brown band on the 7th and 8th sternites, 9th sternite conical. Cerci brown, with 2nd joint much shorter than 1st ; anal appendages as long as the cerci, yellowish above, brown beneath, slightly compressed.

Anterior legs, as in the genus, very short ; femora brown with a yellow stripe on the superior margin and a spot at apex of internal face. Intermediate femora lined with yellow above and beneath and spotted on the external face ; tibiae wide, as in *T. variegatus*, spotted with yellow. Posterior femora brown adorned with 4 fine longitudinal, yellow stripes, the middle one being furcate ; tibiae brownish with 3 internal and 4 external lamellae ; inferior spurs very long ; metatarsi tuberculiform.

Elytra short, adorned with yellow longitudinal spots. Wings variable in length.

Length of body ♂ 4 mm., ♀ 5 mm.

The general colouration is rather variable, some individuals presenting a much more abundant yellow colour, but the pattern is always the same.

#### ***Ellipes indicus*, sp. nov.**

Type : 1 ♂, Kalimpong, Darjeeling Dist., alt. 600-4,500 ft., 24-iv—10-v-15 (*F. H. Gravely*).

General appearance as of a small *Tridactylus variegatus*. Black, shining, somewhat bronzed. Head wholly black, forehead wide, eyes wide apart. Antennae rather slender, a little rufous. Pronotum entirely black, finely alutaceous, sparsely punctate. Elytra black ; wings smoky with a white band along the superior margin of the folded part when at rest. Abdomen brownish, 9th sternite wide, subtruncate at apex. Cerci blackish ; anal appendages brownish.

Anterior legs yellowish rufous. Intermediate legs black, spotted with yellow ; tibiae fusiform. Posterior femora blackish, tibiae rufous yellow with a light ring near the base, their superior margins rather strongly denticulate, without laminae ; superior spurs short, inferior ones long, rufous ; metatarsi very small, tuberculiform.

Length of body 5 mm.

1 ♀, Gangtok, alt. 7,000 ft., Sikkim ; 27-vii-24, Major R. W. G. Hingston (Everest Exp.) ; British Museum.

♀. Entirely similar to the male, but larger. Subgenital plate longer than broad with posterior margin widely rounded ; 8th sternite completely hidden, deeply bilobed ; 9th sternite a little carinate with posterior margin subangular.

Length of body 6.5 mm.

This is an interesting small species belonging to a genus till now known exclusively from America.

**Paranemobius vicinus, sp. nov.**

Types: 1 ♂, Parambikulam, Cochin State (Coll. Chopard); 1 ♀, Cochin State (all along the tramway, Western Ghats, October, 1914 (*F. H. Gravely*); Indian Museum.

Very close to *P. pictus* Sauss.; variegated with fine testaceous and black lines and spots as in that species; frontal rostrum narrower. Pronotum with posterior margin slightly angulate; lateral lobes ascending very little backwards, but weakly folded inwards, forming a small oblique keel running from the posterior margin to anterior angle. Legs shorter than in *P. pictus*, the posterior femora marked with rather wide blackish stripes which are transverse and not longitudinal as in *P. pictus*; posterior tibiae with rather shorter spines, the supero-internal apical spur not reaching the apex of metatarsus.

♂. Elytra extending to the posterior margin of 2nd abdominal tergite, without any speculum; the left elytron presenting 2 veins, the right one 3; both the longitudinal veins and transverse veinlets very much elevated; the areolae consequently resembling small cups. Subgenital plate rather long, slightly notched at apex, leaving space for a long process of the superior anal valve.

♀. Elytra as long as in male, overlapping in the median line; the internal margin of left elytron transparent, its apical margin a little truncate; dorsal field with veins standing out light against the dark background, 5 in number, a little oblique, discoidal vein furcate at apex (fig. 4), lateral field with 4 equidistant veins. Ovipositor very long as in *P. pictus*.

Length of body 10 mm.; post. fem. 8 mm.; elytra 4 mm., ovipositor 9.5 mm.

Although resembling *P. pictus* very much in general appearance, this species differs from it in certain important features, such as the disposition of the veins in the male elytra and the length of the elytra in the female.

**Nemobius (?) strigipennis, sp. nov.**

Type: 1 ♀, Soom, alt. 4,000-5,000 ft., Darjeeling Dist., 14-vi-14 (*F. H. Gravely*).

♀ (fig. 5). Size small. Head brown, with forehead somewhat flattened, adorned with seven yellow stripes, extending on occiput and forehead, 2 behind each eye, 1 behind the antennal socket, 1 in the middle; face rufous. Maxillary palpi with first 3 joints brown, 4th nearly white, short, 5th long, triangular, whitish in its basal half, apex brownish.

Pronotum blackish brown, shining, adorned with small yellow stripes and spots; lateral lobes brown. Abdomen brown. Cerci stout, brownish. Ovipositor short, straight, with apical valves long, acute and very feebly denticulate.

Anterior and intermediate legs rather short; femora brownish with a few light spots, bearing long bristles; tibiae and tarsi testaceous; anterior tibiae perforated at their outer side. Posterior legs wanting.

Elytra extending almost to the posterior extremity of abdomen, dark brown; dorsal field presenting four longitudinal veins, separated by false veins as in certain *Trigonidiinae*, lateral field dark with four parallel veins.

Length of body 5.5 mm.; ovipositor 3 mm.

This is a small species remarkable for the elytral venation which much resembles that of a *Trigonidium*, but I have for other reasons included it in the genus *Nemobius*.

***Scottia minima*, sp. nov.**

Type: 1 ♀, Mangaldai district, Assam-Bhutan Frontier, 25-xii-10 (*S. W Kemp*).

♀ (fig. 7). Apterous, small, rufous brown, with a silvery pubescence and very long black bristles. Head large, rounded, yellowish brown, with brown bands on the occiput; frontal rostrum wide, presenting four rows of bristles. Palpi concolorous with 4th joint shorter than 3rd, 5th rather long, a little enlarged and darkened at apex. Antennae yellowish, indistinctly ringed with brown. Eyes large, hardly projecting; ocelli arranged in a triangle.

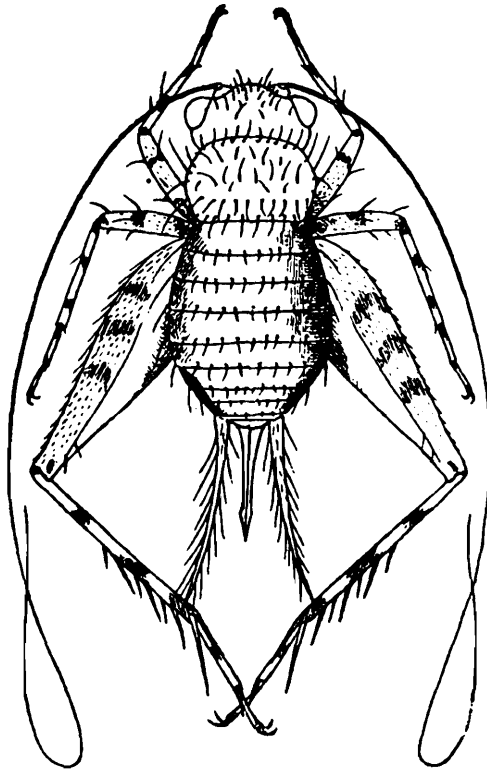


FIG. 7.—*Scottia minima*, sp. nov., ♀.

Pronotum transverse, with anterior and posterior margins straight; disk convex, rufous, bearing numerous black bristles along the anterior and 2 rows along the posterior margin; some others scattered chiefly in the anterior part; lateral lobes rather high, mottled with brown, their inferior margin slightly ascending forwards, posterior angle almost a right-angle but rounded.

Abdomen with parallel margins, rufous, with sides black; surface very pubescent near the apex with a row of bristles along the posterior margin of each tergite. Cerci long. Ovipositor short, straight, with apical valves rather large, almost wholly smooth, the superior margin of the superior ones scarcely denticulated (fig. 6).

Legs a little lighter than the body, very indistinctly ringed with brown. Anterior and intermediate femora compressed, rather thick; tibiae shorter than the femora, presenting 3 rather obvious brown rings; tarsi long, metatarsus a little longer than the other two joints together, base, apex and the 3rd joint brown. Anterior tibiae with a small oval drum at its external face. Posterior femora very much swollen, external face obliquely striated; tibiae presenting 3 wide brown rings and bearing on each side 3 very long spines which are brown in the middle; internal spurs very long, the inferior one about two-thirds of the superior which is as long as the metatarsus; inferior and superior external spurs of the same length, rather short, the middle one twice as long, equalling scarcely half the length of the metatarsus. Metatarsus rather long, brown in middle, with long spurs, especially the internal one; 3rd joint very long, brown at apex,

Length of body 4.5 mm.; post. fem. 3.8 mm.; ovipositor 2.5 mm.

This small species comes very close to *S. salticiformis* Bol. but has distinctly perforated anterior tibiae.

#### **Brachytrypes birmanus, sp. nov.**

Type: 1 ♀, Rangoon, Burma, (*J. Claine*, 1902); Museum de Paris.

In size equal to *B. orientalis* Burm., brown, very shining. Head as wide as pronotum, forehead with a rather strong, scarce, punctation.

Pronotum with anterior margin a little concave, posterior margin sinuate, sides straight, disk brown with two reddish brown impressed areas, lateral lobes almost entirely yellowish.

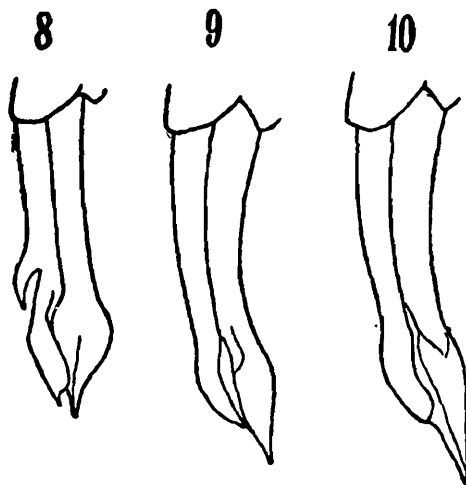


FIG. 8.—Ovipositor of *Brachytrypes birmanus*, sp. nov.; fig. 9. *id.*, *B. orientalis* Burm.; fig. 10. *id.*, *B. portentosus* Licht.

Legs slightly pubescent, posterior tibiae with five moderately strong spines on each margin.

Ovipositor very short, straight; superior valves enlarged at apex and ending in a point, inferior ones deeply notched (fig. 8).

Elytra brown, shining, with very regular veins (3 free veins and 9 branches from the discoidal); transverse veinlets numerous, forming nearly square areolae. Wings caudate.

Length of body 25 mm.; post. fem. 15 mm.; elytra 19 mm.; ovipositor 3 mm.

In general appearance, the shape of the pronotum, which is not at all enlarged anteriorly, and the character of the posterior femora, which are slightly pubescent, this species is somewhat similar to *Gymnogryllus pulvillatus* Sauss., but the shape of its ovipositor shows it to be a true *Brachytrypes*. It is the same size as *B. orientalis* but differs from this species in its pronotum being narrower in front, in the head being smaller, and the ovipositor shorter and with different apical valves (figs. 8, 9).

### ***Gymnogryllus ruficeps*, sp. nov.**

Type: 1 ♀, Coromandel, alt. ca. 2,500 ft., 23-x-10.

Rather large, blackish brown with reddish head. Head globular, shining; forehead a little sloping; face reddish; the facial shield presenting a deep transverse furrow above the clypeus. Palpi and antennae brownish. Eyes rounded, only slightly projecting; ocelli in a straight line.

Pronotum brown, a little reddish in certain parts, shining, slightly enlarged in front; anterior margin concave, posterior margin sinuate; surface finely shagreened; lateral lobes brown. Abdomen blackish. Cerci brown. Ovipositor missing.

Legs light rufous, rather large. Posterior tibiae armed with five rather strong spines on each side, the two large internal spurs being equal in length.

Elytra brown, shining, dorsal field presenting 9 veins rather close and almost longitudinal, 3 free and ending on the internal margin, the 1st curved over the 2nd, the 4th from the humeral angle giving rise to the 5th, the others arising from the discoidal; veinlets rather numerous, forming a somewhat irregular reticulation especially near the discoidal vein. Wings short.

Length of body 18 mm.

This species resembles *G. erythrocephalus* very much, but is larger, with the posterior femora wholly rufous, the cerci brown at base and the elytral venation somewhat more irregular.

### ***Gryllus carmichaeli*, sp. nov.**

Types: 1 ♂, 1 ♀, Sukna, alt. ca. 1,000 ft., Darjeeling Dist.; *Carmichael* coll., May 1913.

Size medium. Head and pronotum blackish, contrasting with the testaceous elytra. Head round, almost black, having only a narrow yellow stripe along the eyes. Pronotum transverse, widening very slightly in its anterior third; anterior and posterior margins almost straight; disk weakly convex, a little pubescent, blackish; lateral lobes slightly ascending backwards, spotted with yellow near the anterior angle. Abdomen blackish, pubescent. Legs rufous brown; anterior

tibiae perforated with a large external tympanum and a very small internal one; posterior tibiae armed with six spines on each side.

♂ (fig. 11). Elytra extending to the posterior extremity of abdomen, with a rather small, obliquely transverse, undivided speculum; chords much curved, the 1st united to the speculum by 3 small veins, and to the diagonal by one vein a little beneath the middle; 4 oblique veins, somewhat thickened at base, 1st broken, others only sinuate; apical field short, with large areas; lateral field blackish with 6 parallel veins, the mediastinal bearing two stems. Wings abortive.

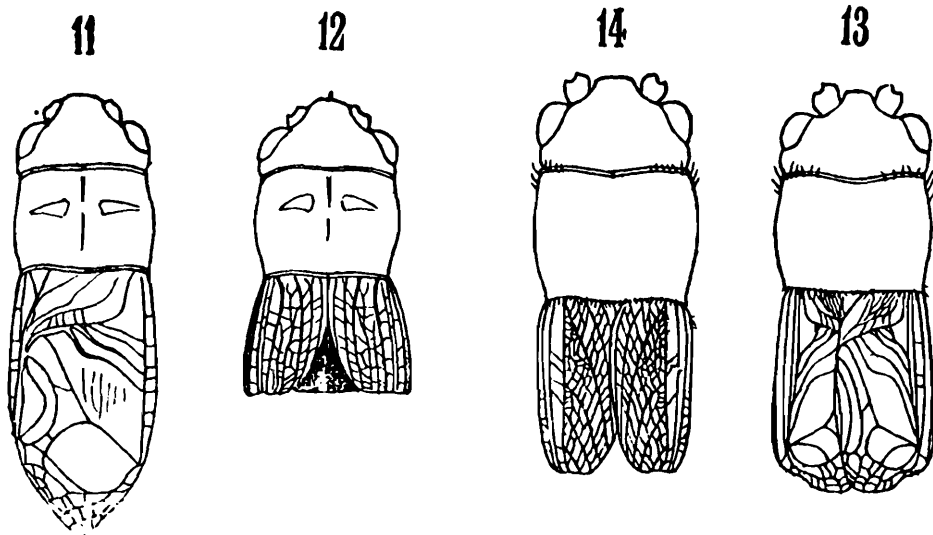


FIG. 11.—*Gryllus carmichaeli*, sp. nov., anterior part of body of ♂; fig. 12. *id.*, ♀; fig. 13. *Gryllus himalayanus*, sp. nov., anterior part of body of ♂; fig. 14. *id.*, ♀.

♀ (fig. 12). Elytra extending only to the posterior margin of 3rd abdominal tergite, widely rounded at apex, overlapping on the median line; dorsal field with rather thick veins, forming two groups, one composed of the two discoidal veins, and the other of three parallel, slightly curved veins; between these groups is an incomplete less visible vein; reticulation rather wide and irregular; lateral field black, with 6 veins, the mediastinal being furcate. Ovipositor long, with small, lanceolate apical valves.

Length of body ♂ 19 mm., ♀ 18 mm.; pronot. 5 mm.; post. fem. 14.5 mm.; elytra ♂ 12 mm., ♀ 5.5 mm.; ovipositor 15 mm.

This species seems to come near *G. quadrimaculatus* Sauss., but it is smaller with a quite different colouration; the elytra of the male are also longer.

#### ***Gryllus himalayanus*, sp. nov.**

Types: 1 ♂, Kurseong, alt. 5,000 ft., E. Himalayas, 9-VII-08; 1 ♀ Ghumti, alt. 1,000-3,500 ft., Darjeeling District, E. Himalayas July, 1911 (*F. H. Gravelly*).

Rather large, black. Head black, shining, with a yellow spot around the ocelli, the lateral extending up to the eye. Pronotum slightly widening in front, black, with a golden rufous, silky pubescence; lateral lobes dark brown with inferior margin slightly ascending backwards. Abdomen covered with a silky pubescence. Cerci long, rufous.

Legs rufous, hairy. Anterior tibiae presenting a large, oval, external tympanum and a very small internal one. Posterior femora rather



long ; tibiae bearing 6 spines on each margin ; inferior spurs of the same length ; the two big internal spurs long, especially the middle one, pubescent ; the middle external spur twice as long as the inferior one, superior one slender, like the last spine but a little longer ; metatarsi long, a little compressed, armed with 5-6 denticles above.

♂ (fig. 13). Elytra brown, extending a little beyond the middle of the abdomen, rounded at apex ; speculum small, nearly apical, somewhat oblique, divided in the middle ; apical field reduced to a few cells ; diagonal vein long, straight ; chords parallel, feebly curved ; five oblique veins, the first two of which are strongly sinuate, the others straight, somewhat confused ; anal vein slightly oblique, anal field short, reticulated ; lateral field presenting seven parallel, feebly curved veins and the furcate mediastinal vein.

♀ (fig. 14). Elytra a little shorter than in ♂, with parallel margins and truncated apex ; dorsal field presenting 3 almost straight veins and 3 branches of the discoidal ; reticulation close and rather irregular ; lateral field as in ♂. Ovipositor rather long, straight, with apical valves small and acute.

Length of body 18 mm. ; pronot. 5 mm. ; post. fem. 13·5 mm. ; post. tibiae 11 mm. ; post. tarsi 6·5 mm. ; elytra ♂ 7 mm., ♀ 5·5 mm. ; ovipositor 14 mm.

#### ***Gryllus gravelyi*, sp. nov.**

Types : 1 ♂, 1 ♀, Forest Tramway, mile 10 to 14, Cochin State 28-x-14 (*F. H. Gravely*).

♂ (fig. 15). Rather large, dark brown, body and legs very pubescent. Head chocolate-brown, with a yellow spot between the lateral ocelli and the eyes ; face brown.

Pronotum nearly squarish, with almost parallel margins ; disk slightly convex, uniformly brown, with a silky pubescence ; lateral lobes with inferior margin slightly ascending backwards, their inferior part a little lighter. Abdomen brown, with a fine silky pubescence.

Legs brown, the posterior ones long. Posterior femora a little reddish at base ; tibiae armed with 7 external and 6 internal spines ; metatarsi long, serrate on both superior margins.

Elytra extending only to the middle of abdomen, brown and shining ; speculum very much reduced, almost lost among the apical reticulation ; diagonal vein and chords almost straight, close to one another ; 2 oblique veins ; lateral field black, with seven regularly curved veins close together and the mediastinal vein bearing 2 stems.

♀ (fig. 16). Similar to the ♂, but lighter ; occiput showing traces of light bands. Elytra nearly as long as in ♂ ; dorsal field with very intricate venation ; veins, except those of the humeral margin, being lost amongst an abundant reticulation ; lateral field as in ♂, the mediastinal vein having a single branch only. Ovipositor straight, rather long and slender, with apical valves small, lanceolate.

Length of body 17 mm. ; pronot. 4·5 mm. ; post. fem. ♂ 14·5 mm., ♀ 15·5 mm. ; elytra ♂ 6 mm., ♀ 4·5 mm. ; ovipositor 16·5 mm.

*G. gravelyi* is allied to *G. himalayanus* Chop., but the ♂ has a different speculum and the ♀ has a much more confused venation of the elytra,

**Gryllus flavovittatus, sp. nov.**

Type : 1 ♀, Nilgiri Hills, alt. 3,500 ft., April, 1910 (*H. L. Andrewes*).

♀ (fig. 17). Rather large, brown, pubescent. Head rounded, shining, but finely pubescent; occiput and forehead dark brown, with a narrow yellow band along the internal margin of the eyes, extending to the lateral ocellus; a very narrow, scarcely visible, yellow line between the ocelli; face brown, shining; antennae and palpi brown.

Pronotum very slightly enlarged in front, with anterior and posterior margins nearly straight; disk pubescent, rufous brown, with a large, irregular, dark spot in middle; lateral lobes concolorous, with inferior margin slightly ascending backwards. Abdomen brown, very pubescent. Ovipositor rather long, straight, with apical valves small, acute.

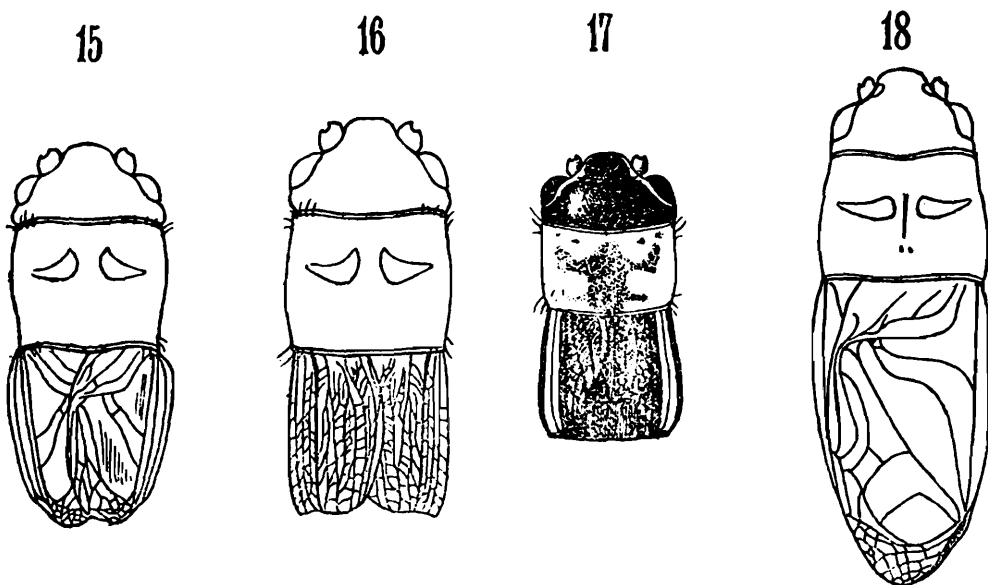


FIG. 15.—*Gryllus gravelyi*, sp. nov., anterior part of body of ♂; fig. 16. *id.*, ♀; fig. 17. *Gryllus flavovittatus*, sp. nov., anterior part of body of ♀; fig. 18. *Gryllopsis fuscus*, sp. nov., ♂.

Legs dark brown. Anterior tibiae bearing a large external tympanum and a small round internal one. Posterior femora rather short and thick; striated with brown at their external face; tibiae armed with 6 rather strong spines on each margin; spurs rather strong, pubescent, the superior internal one shorter than the middle one; matatarsi a little compressed, armed with 6 denticles on each side.

Elytra extending to the posterior margin of second abdominal tergite only, contiguous along the median line, with internal margin strongly oblique, almost black, with a very conspicuous yellow humeral band; dorsal field with four somewhat irregular, sinuate veins; transverse veinlets few and irregular; lateral field high, black, with 6 equidistant veins, mediastinal vein plain.

Length of body 18.5 mm.; pronot. 4 mm.; post. fem. 11 mm.; elytra 4.5 mm.

This species closely resembles *G. carmichaeli*, but it is more slender, elytra more obliquely truncated at their internal margin, with a yellow band, and the ovipositor is shorter.

***Gryllus pallidus*, sp. nov.**

Type : 1 ♂, Sevoke, alt. 1,000 ft., Darjeeling Dist., *Carmichael* coll., March, 1914.

♂ (fig. 19). Size and general shape similar to *Gryllodes sigillatus* Walk. Yellowish brown. Head rounded, presenting 5 indistinct brown bands on the forehead and occiput ; face yellow.

Pronotum a little wider than long ; anterior and posterior margins straight, disk mottled with brown, lateral lobes yellowish. Abdomen yellowish brown, the first four tergites presenting a pair of small round impressed areas on the median line.

Legs yellowish brown. Anterior tibiae perforated at their external face, but having only a depression on the internal one. Posterior femora rather thick and short ; tibiae armed with 6 external and 5 internal spines.

Elytra extending to the apex of third abdominal tergite, nearly transparent, somewhat darkened along the humeral vein and near the chords ; speculum small, quadrangular, divided by 2 veins, forming two cells ; 2 oblique veins ; diagonal long, very much inclined ; chords short, curved, the external one thick, the internal united to the mirror by two veinlets ; apical field very short, irregularly reticulated ; lateral field transparent, with 4 regular, longitudinal veins. Wings aborted.

Length of body 20 mm. ; pronot 3.5 mm. ; post. fem. 11.5 mm. ; elytra 7 mm.

This species is remarkable for its pale colouration and the elytra with the speculum divided into three cells.

***Gryllus castaneus*, sp. nov.**

Types : 1 ♂, 1 ♀, Bombay (*H. M. Lefroy*, 10-vi-04), Pusa Collection, British Museum.

Rather small ; uniformly chesnut brown. Head concolorous, without any markings ; forehead somewhat flattened ; frontal rostrum wide ; face short, the facial shield very convex, somewhat resembling that of *Mogoplistinae*. Palpi rufous, with joints 3, 4 and 5 subequal in length. Antennae brown.

Pronotum transverse, with anterior margin concave, posterior straight ; disk slightly convex, chesnut-brown, with the usual impressed areas a little lighter, covered with a rather abundant silky pubescence ; lateral lobes rather low, with inferior margin slightly ascending backwards. Abdomen brown. Cerci rufous. Ovipositor short, somewhat flattened and not very acute at apex.

Legs light rufous, rather short. Anterior tibiae perforated on either side. Posterior femora rather thick, uniformly rufous at their external face ; posterior tibiae short, presenting 5 internal and 6 external spines the two large internal spurs subequal in length ; metatarsi strongly denticulated.

Elytra extending to the apex of abdomen ; they are, in the male (fig. 20), translucent, smoky, darkened at apex ; speculum markedly transverse, divided much behind the middle ; 2 oblique veins ; apical

field short, presenting 4 veins and a regular reticulation. In the female (fig. 21), dorsal field presenting 4 rather irregular, parallel veins, the mediastinal one bearing 1 branch in the ♂, plain in the ♀. Wings caudate.

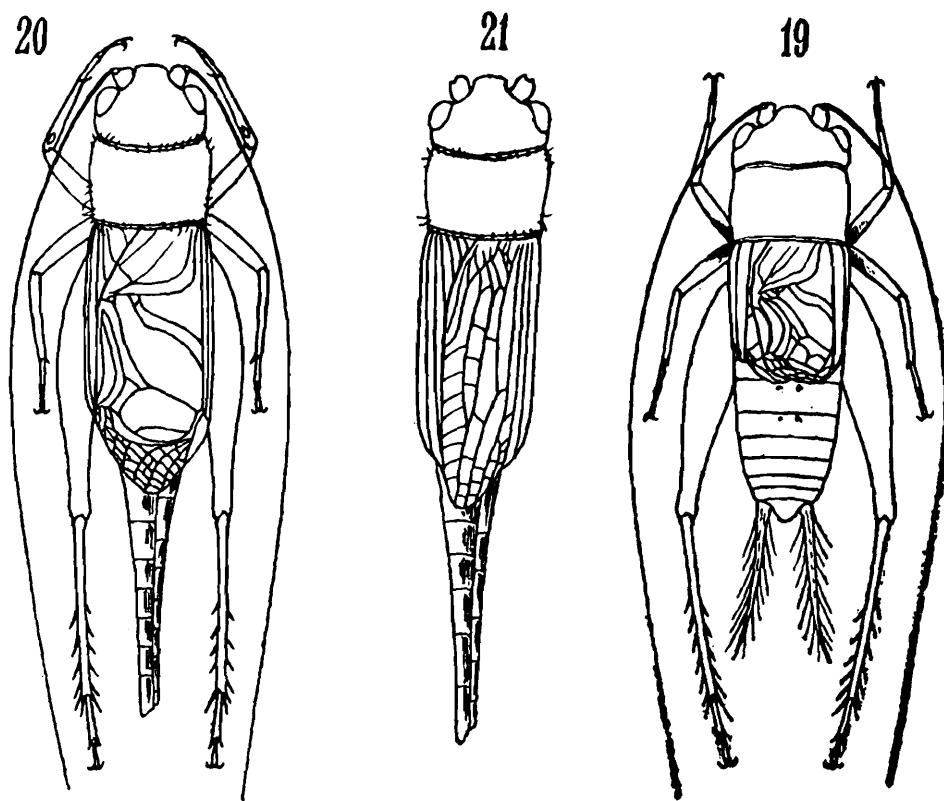


FIG. 19.—*Gryllus pallidus*, sp. nov., ♂; fig. 20. *Gryllus castaneus*, sp. nov., ♂; fig. 21. *id.*, ♀.

Length of body 12 mm.; length with wings 19 mm.; post. fem. 7 mm.; ovipositor 4·5 mm.; elytra 7·5 mm.

This small species is distinguishable by its uniform colouration, by the shape of the head, the elytral venation, and by the ovipositor being short and blunt at apex. It belongs to the *conspersus* group.

#### ***Gryllus minimus*, sp. nov.**

Types: 1 ♂, 1 ♀, Sureil, alt. 5,000 ft., Darjeeling Dist., 11—31-x-17 (N. Annandale and F. H. Gravely).

Very small species, brown, mottled with fawn, like *G. chinensis*. Head brown, shining; occiput adorned with 5 yellow lines; cheeks and inferior part of face yellow; without yellow stripe between eyes. Palpi brownish, 4th joint of maxillary palpi much shorter than 5th.

Pronotum mottled with yellow above, lateral lobes brown. Abdomen brown above, yellowish beneath.

Legs yellowish, marbled with brown bands and spots. Anterior tibiae perforated on both sides. Posterior femora rather thick; tibiae armed with 5 spines on each superior margin.

♂. Elytra extending to the apex of abdomen; anal vein with rounded angle; speculum large, nearly as long as wide, anterior and external angles of 90°, posterior and internal angles rounded, undivided; diagonal vein rather long, straight; 4 oblique veins, parallel, slightly sinuate;

apical field very short ; lateral field black in its superior part, whitish inferiorly, the plain mediastinal vein and 4 other veins feebly curved at base and converging a little towards the apex.

♀. Elytra covering scarcely half the abdomen, rounded at apex ; dorsal field with 6 veins rather close together, nearly longitudinal, slightly irregular and anastomosing ; lateral field coloured as in male, presenting 4 plain, equidistant veins. Ovipositor rather short, a little curved, with apical valves small, lanceolate, acute.

Length of body 8.5 mm. ; pronot. 2 mm. ; post. fem. 6.5 mm. ; elytra ♂ 5.5 mm. ; ♀ 3 mm. ; ovipositor 5 mm.

This species is distinguished by its very small size ; it closely resembles *G. clarellus* Sauss., but differs from it in the number of oblique veins and in having an undivided speculum.

I formerly separated from Saussure's old genus *Gryllodes* *G. parviceps* Walk. (type of the genus *Itaropsis* Chop.) and the species of the *pipiens* group (*Eugryllodes* Chop.). I now think it necessary to create the genus *Gryllopsis* for the species with large rounded head, nearly cylindrical body, elytra slightly shortened in the males, very short in the females. This genus *Gryllopsis* partly corresponds to the second and fifth groups of Saussure's *Gryllodes* ; the type is *G. hebraeus* Sauss.

#### ***Gryllopsis pubescens*, sp. nov.**

Type : 1 ♀, Ghumti, alt. ca. 4,000 ft., Darjeeling Dist., E. Himalayas, July, 1911 (*F. H. Gravely*).

Size medium ; testaceous, varied with brown, thickly pubescent, Head as wide as pronotum, rounded, forehead slightly flattened ; occiput and forehead rather dark brown, the former adorned with 6 yellow stripes ; internal margin of eyes narrowly lined with yellow ; face yellowish, mottled with brown. Palpi with 4th joint shorter than 3rd and 5th. Antennae brown.

Pronotum slightly narrow both in front and behind, with anterior and posterior margins nearly straight ; disk a little convex, mottled with brown ; lateral lobes with inferior margin slightly ascending backwards, inferior part yellowish, the extreme margin and superior part dark brown. Abdomen nearly cylindrical, tergites mottled with brown along their posterior margin. Ovipositor rather long, straight, with apical valves narrow, acute.

Legs mottled with brown, tibiae feebly ringed. Posterior tibiae armed with 5 internal and 6 external spines, the 1st external being very short.

Elytra very short, widely separated from each other, internal margin very obliquely truncated ; dorsal field very much reduced, with 3 small veins ; lateral field larger, with 4 longitudinal veins.

Length of body 12 mm. ; pronot. 3.5 mm. ; post. fem. 10.5 mm. ; elytra 1.5 mm. ; ovipositor 10 mm.

This species comes very close to *G. terrestris* Sauss. (= *fuscopunctatus* Chop.) but its elytra are much shorter. A second specimen is much lighter than the type and has a somewhat longer ovipositor.

**Gryllopsis fuscus**, sp. nov.

Types : 1 ♂, 1 ♀, Parambikulam, alt. 1,700-3,200 ft., Cochin State, 16-24-ix-14 (*F. H. Gravely*).

Size medium ; dark brown with rufous legs. Head globular, shining, brown above ; face and ocelli yellow ; palpi light yellow. Pronotum transverse, slightly narrowing in front, anterior margin slightly concave, posterior straight ; disk rather convex, dark brown, with two triangular reddish brown impressed areas ; lateral lobes whitish with a silky pubescence, their inferior margin straight, black. Abdomen dark brown above, yellowish beneath. Cerci brown.

Legs reddish brown. Posterior femora rather strong, darkened at apex, with a pale, ill-defined, antepical ring ; tibiae with 5 internal and 6 external spines.

♂ (fig. 18). Elytra extending to the apex of abdomen, dark brown, narrowing a little posteriorly ; speculum nearly as long as wide, with rounded angles, divided by an angular vein ; chords feebly curved, united to the mirror by a veinlet ; two diverging oblique veins ; apical field short, divided into small square areolae ; lateral field presenting the mediastinal vein with two stems and 6 parallel close-set veins. Wings short.

♀. Elytra extremely short, reduced to very small, lateral lobes, nerves hardly visible. Ovipositor short, straight, with apical valves furcate, the inferior being much shorter than the superior ones.

Length of body ♂ 14 mm., ♀ 16.5 mm. ; pronot. 3.5 mm. ; post. fem. ♂ 11.5 mm., ♀ 12 mm. ; elytra ♂ 9 mm., ♀ 0.6 mm. ; ovipositor 8.5 mm.

This species is very close to *G. rufoniger* Chop., but differs from it in having a more uniform colouration of the head and pronotum ; in *G. rufoniger*, moreover, the male elytron presents 3 oblique veins, those of the female being much longer. The ovipositor is shorter in *G. fuscus*, with the apical valves formed as in *G. virgulatus* Bol. This latter species also comes very close to *G. fuscus*, but it is smaller, the ♂ being somewhat depressed and the ♀ wholly apterous.

**Cophogryllus ornatus**, sp. nov.

Type : 1 ♀, Mungphu, alt, ca, 4,000 ft., Darjeeling Dist., 11—31-x-17 (*N. Annandale and F. H. Gravely*).

♀ (fig. 22). Small, apterous, dark brown, adorned with rufous spots. Head as wide as pronotum in front, brown, shining ; forehead a little sloping ; frontal rostrum narrow ; face rufous. Palpi yellowish ; 7th joint of maxillary palpi much shorter than 3rd, 5th large, triangular.

Pronotum shining, narrowing a little in front and behind, brown, variegated with rufous ; disk convex, with sides much rounded ; lateral lobes brown, with inferior margin slightly ascending backwards, anterior angle of about 90°, posterior one a little rounded. Mesonotum, metanotum and abdominal tergites brown, adorned with two large rufous spots. Cerci brown. Ovipositor rather short, straight, with apical valves a little curved, beak-like, the inferior being shorter than the superior.

Legs rather long, yellowish rufous. Anterior tibiae unperforated. Posterior femora rather thick, striated with brown on their external face ; tibiae rather short, armed with 3 spines on each margin ; tarsi long, especially the metatarsi.

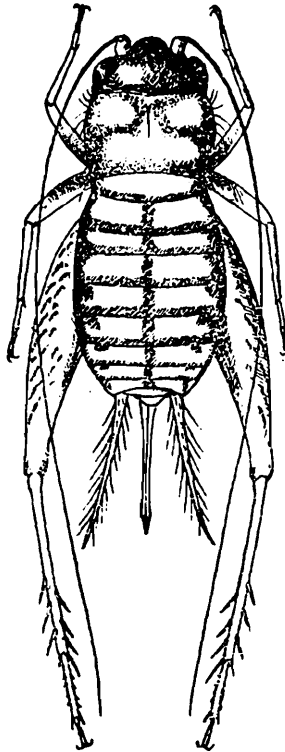


FIG. 22.—*Cophogryllus ornatus*, sp. nov., ♀.

Length of body 8·5 mm. ; post. fem. 6·5 mm. ; ovipositor 5 mm.

A second dry specimen of this species, much better preserved than the *type*, shows an abundant pubescence with fewer bristles, with the result that the pronotum is not so shining and the rufous spots are less conspicuous.

### ***Cophogryllus brunneus*, sp. nov.**

Type : 1 ♀, Siripur, Saran, Bihar, Aug., 1913 (*M. Mackenzie*).

Size small, brown, pubescent. Head as wide as pronotum, black, shining, without any ornament ; forehead slightly sloping ; frontal rostrum wide ; face brown. Antennae rufous. Ocelli very small.

Pronotum wide, rather markedly narrowing posteriorly ; anterior margin a little concave, posterior straight ; disk brown, pubescent, very slightly tinged with yellowish near the posterior margin ; lateral lobes black, with inferior margin very little ascending backwards. Abdomen rather narrow, strongly pubescent, brownish. Ovipositor short, straight, apical valves small and very acute.

Legs brownish. Posterior femora rather thick ; tibiae armed with 5 external and 4 internal spines ; metatarsi rather long, serrulate.

Length of body 10 mm. ; post fem. 7 mm. ; ovipositor 5·5 mm.

This small species has very much the same general shape as *Cophogryllus martini* Bol., but its head is wholly black above and the ovipositor is much shorter.

**Cophogryllus angustus, sp. nov.**

Type : 1 ♀, Singla, Darjeeling dist. (Coll. Chopard).

♀ (fig. 23). Size medium ; elongate, narrow ; uniformly blackish brown with rufous legs. Head rounded, shining ; frontal rostrum narrow. Palpi rufous ; 4th joint of the maxillary palps a little shorter than 3rd, 5th triangular, obliquely truncated at apex.

Pronotum longer than wide, slightly narrowing posteriorly ; anterior margin a little concave, posterior straight ; lateral lobes rather high, with posterior angle very much rounded. Mesonotum very short. Metanotum and abdomen blackish brown ; abdomen as wide as pronotum, with nearly parallel margins. Ovipositor rather long, slender, with very narrow, lanceolate apical valves.

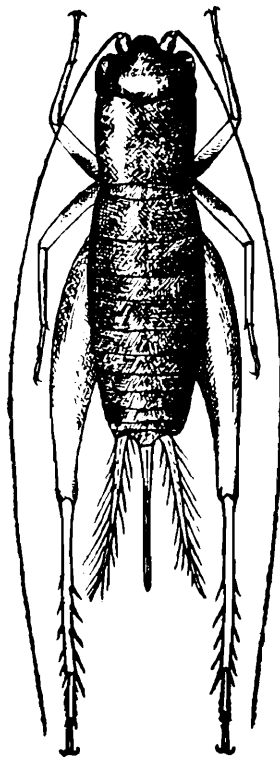


FIG. 23.—*Cophogryllus angustus*, sp. nov. ♀.

Legs rather long. Anterior tibiae unperforated ; anterior and intermediate tarsi short, the metatarsus equalling the 3rd joint. Posterior femora rather large, a little darker than the other legs ; tibiae much shorter than the femora, armed with 5 external and 4 internal spines ; metatarsi rather strong, pubescent, with 4 or 5 denticulations.

Length of body 13.5 mm. ; pronot. 3 mm. ; post. fem. 9 mm. ; post. tibiae 6 mm. ; ovipositor 7 mm.

**Cophogryllus maindroni, sp. nov.**

Type : 1 ♀, Cote de Malabar, Mahé (*M. Maindron*, 1902) ; Museum de Paris.

Rather large, entirely apterous ; shape and general appearance of a female *Gryllopsis*, but with a large head and pronotum widening rather strongly in front. Head globular, brown, shining ; occiput with indistinct short light bands ; cheeks spotted with yellow ; face rufous ; palpi



whitish, 4th joint equal to 3rd, 5th longer, feebly enlarged at apex. Antennae brown, slender. Eyes much flattened, their convexity not stronger than that of the head ; ocelli yellow.

Pronotum widening in front, with anterior and posterior margins nearly straight ; disk convex, brown ; lateral lobes with inferior margin slightly ascending backwards, their inferior part yellowish, especially in the anterior region, the extreme margin brown. Mesonotum, metanotum and abdomen brown above, yellowish beneath. Ovipositor rather long, very slender, with apical valves extremely narrow and acute.

Legs lighter than the body. Anterior and middle tibiae a little compressed, anterior tibiae without any perforation ; metatarsi a little longer than the other two joints together. Posterior femora thick, their external face somewhat rufous, unicolorous ; tibiae armed with 5 spines on each side ; spurs strong, the 2 large internal ones equal in length, the external middle one very long ; metatarsi compressed, rather long, armed with 5 internal and 7 external denticles.

Length of body 17 mm. ; pronot. 4 mm. ; width of pronot. anteriorly 5.1 mm., posteriorly 4.5 mm. ; post. fem. 12 mm. ; ovipositor 12.5 mm.

This species is distinguishable from other species of *Cophogryllus* by its large size, the pronotum widening in front, and by the very narrow apical valves of the ovipositor.

#### **Scapsipedus latithorax, sp. nov.**

Type : 1 ♂, Pusa, Bihar ; (*H. M. Lefroy*, June, 1907), at light ; British Museum.

♂ (fig. 24). Small, blackish brown. Head large ; occiput and forehead convex, black, shining, without any marking ; face distinctly depressed ; mouth-parts somewhat lengthened, as in small individuals of *S. mandibularis* Sauss. ; palpi rufo-testaceous.

Pronotum distinctly transverse, with anterior and posterior margins straight ; disk feebly convex, blackish, pubescent ; lateral lobes slightly ascending backwards, tinged with yellow, their extreme inferior margin black. Abdomen brownish.

Legs rufo-testaceous, a little mottled with brown ; anterior tibiae perforated at their external face, the internal face being only depressed. Posterior femora thick, weakly striated with brown at their external face ; tibiae armed with 5 spines on each side.

Elytra extending to the apex of abdomen ; speculum lozenge-shaped ; divided beneath the middle by a curved vein ; 3 oblique veins ; diagonal vein very close to the first chord ; apical field short, widely reticulated ; lateral field darkened along the humeral vein, presenting 5 oblique, rather regular veins ; mediastinal vein bearing 2 branches. Wings caudate.

Length of body excluding wings 10 mm., including wings 18.5 mm. ; pronot. 2 mm. ; post. fem. 7.5 mm. ; elytra 7 mm.

This small species differs from the other species of the genus by its very wide pronotum, in the absence of markings on the head and by the elytral venation.

**Scapsipedus parvus, sp. nov.**

Types : 1 ♂, 1 ♀, Sitong ridge, alt. ca. 4,700 ft., Darjeeling dist., 22—28-x-17 (*N. Annandale and F. H. Gravely*).

Very close to *S. mandibularis* Sauss., but smaller. Head presenting 6 narrow, yellow stripes on the occiput, and a yellow band uniting the lateral ocelli. Face rather strongly flattened, but the mandibles much less lengthened than in *S. mandibularis*, being nearly normal in shape.

Pronotum as in *S. mandibularis*.

Elytra of male extending to the apex of abdomen, with speculum wider than long, rounded posteriorly, divided about the middle by a curved vein; apical field very short; lateral field with regular parallel veins. Elytra of female scarcely extending to the middle of the abdomen, with longitudinal veins in the dorsal field; transverse veinlets numerous and forming a very irregular, lengthened reticulation.

Length of body 12·5 mm.; post. fem. 10 mm.; elytra ♂ 8 mm., ♀ 4·5 mm.; ovipositor 11·5 mm.

**Scapsipedus ceylonicus, sp. nov.**

Types : 1 ♂, Peradeniya, Ceylon, 14-v-10; 1 ♀, Latrigama, Ceylon, 28-xi-09.

Small, light brown. Head wide, rounded, adorned with 6 faintly visible light bands on the occiput, and a transverse narrow, yellow band between the antennae; face yellowish, facial shield a little darker with a yellow median band extending to the ocellus. In the male, the face is rather strongly flattened, the forehead is, however, only slightly projecting and the mandibles present a normal shape.

Pronotum slightly widening in front in both sexes; anterior margin a little concave, posterior straight; disk light rufous brown, dull; lateral lobes with superior part dark, inferior part very light, the distinction between the two parts very conspicuous.

Legs testaceous. Posterior tibiae armed with 5 internal and 6 external spines.

♂. Elytra extending to the apex of abdomen; speculum rather large, subquadrangular, divided much behind the middle; chords united to the speculum by a small vein coming near the angle; diagonal vein a little sinuate; 2 oblique veins; lateral field a little darker, presenting 6 very close and regular veins, and the mediastinal one having two branches more distant from each other. Wings short.

♀. Elytra extending to the middle of the abdomen only; dorsal field presenting 4 free veins and 2 branches from the discoidal; transverse veinlets numerous and irregular; lateral field with 6 regular veins, the mediastinal and the first one being furcate near the apex. Ovipositor broken.

Length of body ♂ 12·5 mm., ♀ 11·5 mm.; pronot. 2·5 mm.; elytra ♂ 7 mm., ♀ 4 mm.

*S. ceylonicus* is very close to *S. parvus* Chop., but with the head still less differentiated. The colouration and shape of the pronotum are characteristic of the species, and the elytra of the female are shorter than in the other species of the genus.

***Loxoblemmus latifrons*, sp. nov.**

Types : 2 ♀, Chiplun, Vashishti Valley, Ratnagiri dist. (*F. H. Gravely*, May, 1912) ; coll. Chopard and Indian Museum.

♀ (fig. 25). Rather small, testaceous, a little variegated with brown. Head wide ; occiput slightly convex, adorned with 3 wide rufous stripes ; frontal process short, very wide, a little angular at apex ; face (fig. 26) wholly flattened in its upper part, forming almost a triangle without any projecting angle, margins a little curled, disk slightly concave, and presenting a few transverse ridges. Mouth-parts very short ; palpi pale yellow. Antennae very slender, with 1st joint small, plain.

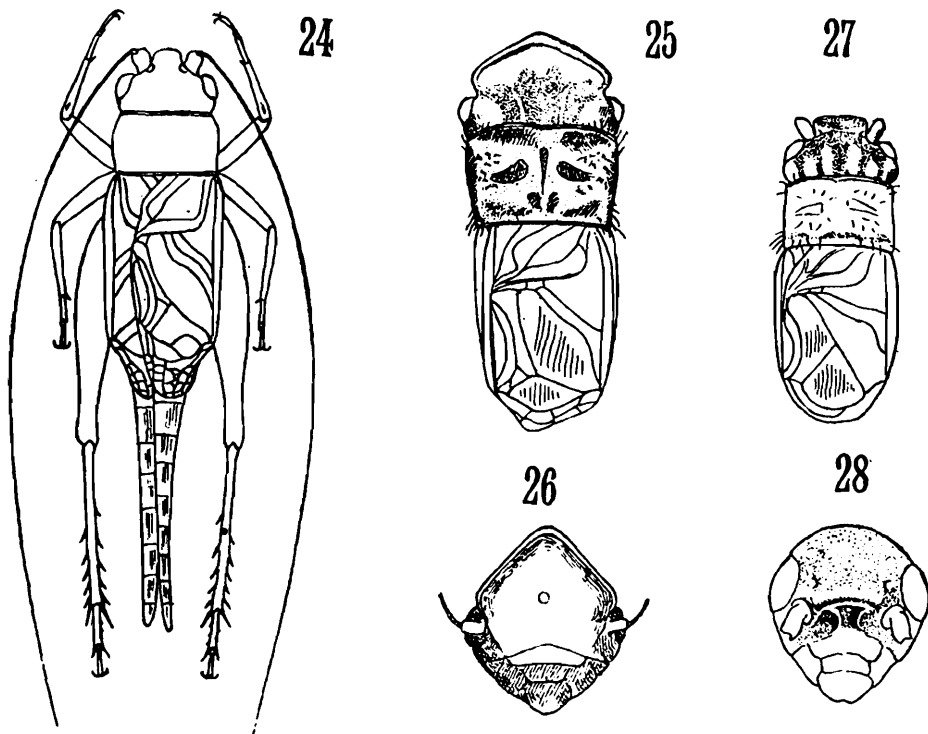


FIG. 24.—*Scapsipedus latithorax*, sp. nov., ♂ ; fig. 25. *Loxoblemmus latifrons*, sp. nov., anterior part of body of ♂ ; fig. 26. *id.*, facial shield seen from in front ; fig. 27. *Loxoblemmus cavifrons*, sp. nov., anterior part of body of ♂ ; fig. 28. *id.*, frontal view of head.

Pronotum wide, with anterior and posterior margins straight ; disk a little mottled with brown ; lateral lobes very pale, except their superior part, which is brown. Abdomen brown above, yellowish beneath.

Legs rather short, testaceous. Anterior tibiae perforated by a large external tympanum. Posterior tibiae armed with 4 or 5 spines on each margin, the 1st being very small ; spurs rather strong, the two large internal ones equal in length ; metatarsus rather short, with 5 internal and 7 external strong denticles.

Elytra extending to the apex of abdomen, brownish. Speculum very small, distinctly transverse ; diagonal vein long, almost straight ; chords slightly curved, the internal united with the mirror by a veinlet ; 2 oblique veins, the 1st a little sinuate, the 2nd straight ; apical field very short ; lateral field blackish along the edge, becoming almost transparent beneath, presenting 3 straight, equidistant veins.

Length of body 9.5 mm. ; pronot. 2.5 mm. ; post. fem. 7 mm. ; elytra 5 mm.

This is a small species, easily recognizable by the shape of the frontal process and by the elytral mirror.

***Loxoblemmus cavifrons*, sp. nov.**

Type : 1 ♂, Pondicherry (*M. Maindron*, 1881) ; Museum de Paris.

♂ (fig. 27). Small, rufo-testaceous. Head rather large, globular, shining ; occiput presenting 5 light lines ; forehead entirely dark brown, frontal rostrum very wide, truncated and feebly concave at apex ; face brown, except the clypeus and the bottom of facial shield, which are yellowish ; shield axe-shaped (fig. 28) and forming a rather deep hollow. Palpi yellow, 4th joint of maxillary palps shorter than 3rd.

Pronotum wide, with anterior and posterior margins straight, sides parallel ; disk rufo-testaceous, with posterior margin slightly darkened ; lateral lobes very pale, their inferior margin straight. Abdomen yellowish.

Legs yellowish. Anterior tibiae perforated at their external face only. Posterior legs wanting.

Elytra extending to the apex of abdomen, nearly transparent, darkened at both base and apex ; anal field small, the anal vein highly curved ; speculum rather large, almost square ; diagonal vein long, straight ; chords slightly curved, very distant from the diagonal ; 2 oblique veins, slightly diverging, the longer one very sinuous ; apical field extremely short.

Length of body 8·5 mm.

*Loxoblemmus cavifrons* is a very small species distinguished by the shape of the frontal rostrum and of the facial shield.

***Landreva semialata*, sp. nov.**

Type : 1 ♀, Talewadi near Castle Rock, N. Kanara Dist., 3-x-16 (*S. Kemp*).

♀ (fig. 29). Size rather large, rufous brown. Head shining, without any ornamentation ; palpi whitish.

Pronotum widening a little anteriorly, with anterior margin rather strongly concave, posterior straight ; disk uniformly brown ; lateral lobes with inferior margin slightly ascending backwards, black, anterior angle yellowish, covered with a whitish pubescence. Abdomen brownish, pubescent, with small black spots along the posterior margin of the tergites. Ovipositor straight, long, with apical valves narrow and equal in length, as in species of the genus *Gryllus*.

Legs lighter than the body, a little mottled with brown ; anterior tibiae perforated at their external face only. Posterior legs wanting.

Elytra extending no farther than the 1st abdominal tergite, but touching each other along the median line ; dorsal field very obliquely truncated at apex, the internal margin short, much rounded ; 5 longitudinal nerves, faintly visible, and united by a very irregular reticulation ;

humeral band light-coloured ; lateral field rather high, with 5 regularly distant, parallel veins, the mediastinal one furcate near the apex.

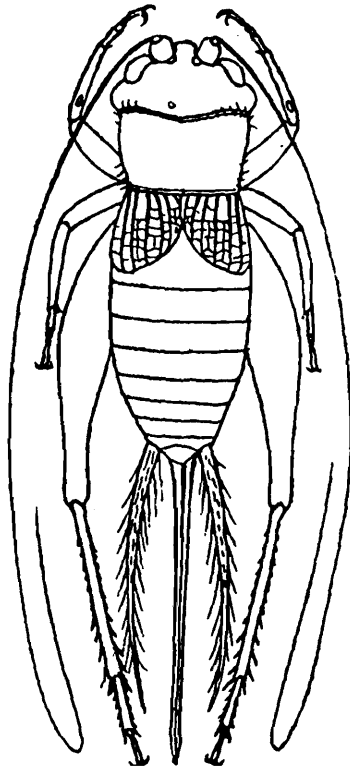


FIG. 29.—*Landreva semialata*, sp. nov., ♀.

Length of body 19 mm. ; pronot. 4·5 mm. ; elytra 3 mm. ; ovipositor 14 mm.

***Myrmecophila albicincta* Chop. var. *concolor*, nov.**

Type : 1 ♂, Matiana, alt. 8,000 ft., Simla Hills, 28—30-iv-07 (*N. Annandale*).

Size and shape of *M. albicincta* but without any light band on the mesonotum ; 10th abdominal tergite rather strongly notched, forming two small tubercles bearing a few bristles. Armature of the legs exactly as in *albicincta* but metatarsus a little thicker, bearing 3 spinelets.

Length of body 3 mm.

This form is perhaps a distinct species, but the males alone are very difficult to separate in this group.

***Myrmegryllus*, gen. nov.**

General shape and habit of *Myrmecophila* ; forehead pubescent ; inferior margin of posterior femora bearing small tubercles ; tibial spines and spurs as well as posterior metatarsi and their spurs provided with a very long pubescence.

***Myrmegryllus pilipes*, sp. nov.**

Type : 1 ♂, Peradeniya, Ceylon, 16-v-10.

Small, dark brown. Frontal rostrum rather narrow, its sides angulate, with a rather long pubescence. Maxillary palpi with 4th joint very

short and dilated at apex, 5th large, elongate and triangular. Antennae rather thick, brown, with a short pubescence. Eyes small.

Pronotum wide, with anterior margin almost straight. Abdomen dark brown, a little lighter towards the apex, 10th tergite with much projecting angles; superior anal valve triangular, small; subgenital plate a little notched at apex. Cerci rather long, not very thick, showing 11 distinct joints.

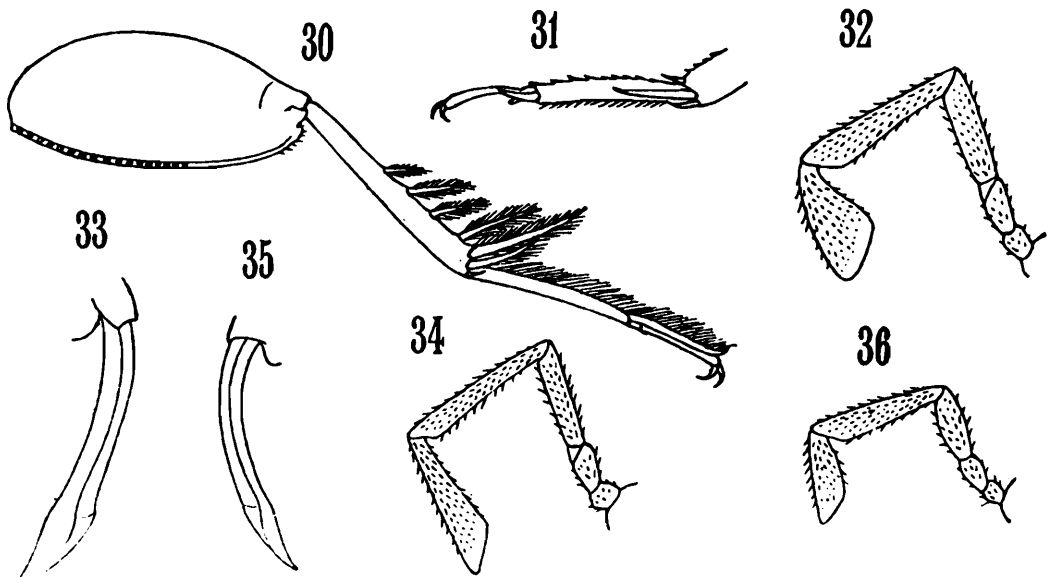


FIG. 30.—*Myrmegryllus pilipes*, sp. nov., external face of posterior leg; fig. 31. *Cryptoptilum indicum*, sp. nov., apex of posterior tibia and tarsus; fig. 32. *Cryptoptilum maindroni*, sp. nov., maxillary palpus; fig. 33. *id.*, ovipositor; fig. 34. *Ornebius ceylonicus*, sp. nov., maxillary palpus; fig. 35. *id.*, ovipositor; fig. 36. *Ornebius henryi* Chop., maxillary palpus.

Legs a little lighter than the body; anterior and intermediate ones rather long and slender, tarsi very long, about three-fourths of the length of the tibiae. Posterior femora (fig. 30) relatively slightly swollen, their inferior margin slightly convex, presenting a row of about 15 small rounded tubercles. Tibial spines and spurs very hairy (fig. 30); 4 internal spines, 1st a little shorter than the 2nd, the latter equal to the 3rd, 4th very long; only one rather long external spine; superior spurs very long, intermediate ones about half as long, inferior ones very short; tarsi long, the metatarsus presenting 2 small spines above on the median line, its superior margins also provided with a very long and thick pubescence; metatarsal spurs very long, equal in length, extending to the apex of 3rd joint and provided with the same long pubescence.

Length of body 3.2 mm.

#### ***Cryptoptilum indicum*, sp. nov.**

Type: 1 ♂, Trichur, Cochin State, 1-x-14 (*F. H. Gravely*).

♂ (fig. 37). Rufous brown. Head as wide as pronotum; occiput convex; forehead sloping, frontal rostrum short and wide, undivided, rounded at apex; face short, the facial protuberance feebly projecting, presenting two small impressions. Palpi dark brown; maxillary palpi with 4th joint longer than 3rd, 5th scarcely equal to 4th, feebly enlarged at apex, with superior and inferior margins nearly straight. Antennae extremely slender. Eyes small.

Pronotum wide in front, rather strongly expanded posteriorly, with lateral margins somewhat convex. Abdomen brown, a little depressed ; subgenital plate wide, rounded.

Legs short, covered with brown scales. Anterior tibiae perforated on their internal face ; metatarsi thick, 3rd joint of the tarsi long. Posterior femora short, rather thick ; tibiae flattened above, with serrulate margins ; internal spurs rather long, specially the middle one ; external spurs much shorter than the internal, but still relatively long, the middle one longer than the other two ; metatarsi rather strong, with superior margins serrulate ; 3rd joint very slender (fig. 31).

Elytra wholly concealed by the pronotum.

Length of body 8 mm. ; pronot. 4 mm. ; post. fem. 5.5 mm.

This species of *Cryptoptilum* differs from the American species of the genus in the shape of the pronotum.

### *Cryptoptilum maindroni*, sp. nov.

Types : 1 ♂, 1 ♀, Coonoor, Nilgiri hills (*M. Maindron*, 1902); Museum de Paris.

♂ (fig. 38). Rather small ; dark brown, with grey and brown scales. Head as wide as the anterior margin of pronotum ; forehead sloping, with two small impressions near the base of the rostrum ; rostrum very wide, rounded, presenting an inconspicuous median ridge ; facial protuberance rather strongly projecting. Palpi brown (fig. 32) ; 4th joint of maxillary palpi much longer than 3rd and 5th, the 5th relatively short and wide, triangular. Antennae very slender, yellowish, with a

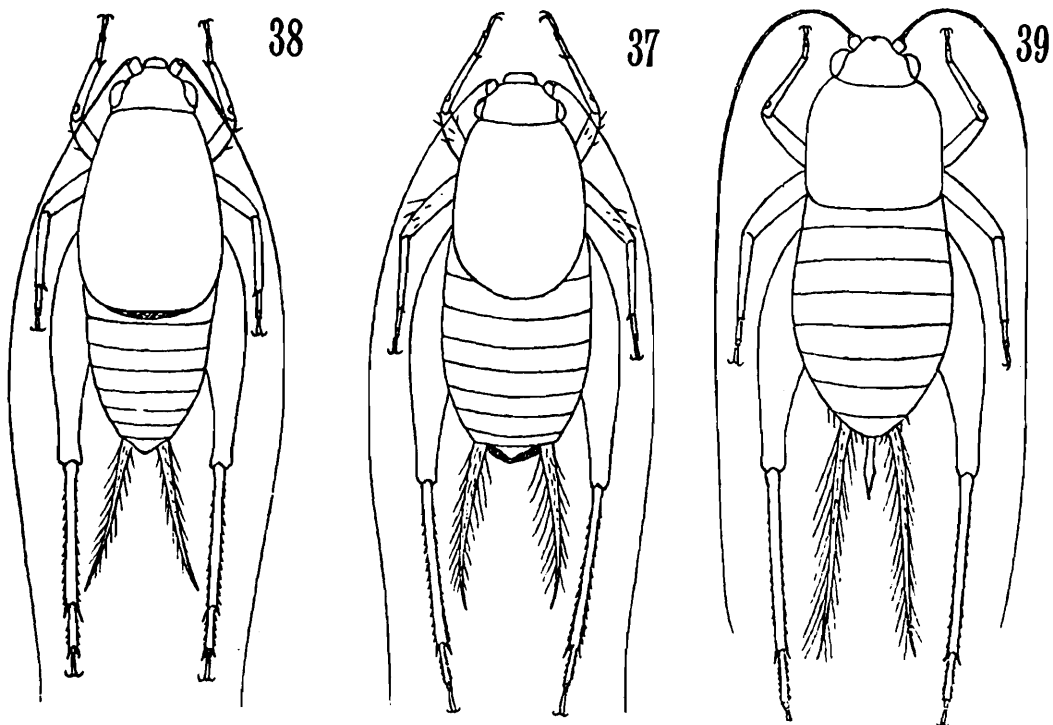


FIG. 37.—*Cryptoptilum indicum*, sp. nov., ♂ ; fig. 38. *Cryptoptilum maindroni*, sp. nov., ♂ ; fig. 39. *Ornebius ceylonicus*, sp. nov., ♀.

few brown rings. Eyes small, rounded ; lateral ocelli visible near the antennal sockets but exceedingly small.

Pronotum narrowing slightly in front, produced backwards, but its posterior margin nearly straight; disk slightly convex, brown. Abdomen a little depressed, brown; last tergite large, triangular; subgenital plate very wide; anal valves without any process. Cerci rather long, slender.

Legs short; anterior and middle tibiae with a small ring of yellowish scales; anterior tibiae bearing a small, round tympanum near their base; tarsi short, the metatarsus equalling the other two joints. Posterior femora rather long, not very thick; tibiae slightly compressed, with two small yellowish rings near the base, their superior margins serrated; external spurs short, internal ones a little longer, the middle spur on each side the longest; metatarsi compressed, yellowish at base, serrated, 3rd joint short, slender.

Elytra very short, visible only behind the median part of the posterior margin of pronotum.

♀. Head and legs as in male. Pronotum longer than wide, with anterior and posterior margins nearly straight, sides a little convex. Ovipositor short, a little curved, with apical valves rather long, lanceolate and acute (fig. 33).

Length of body ♂ 7 mm., ♀ 8 mm.; pronot. ♂ 3.5 mm., ♀ 2.5 mm.; post. fem. ♂ 5 mm., ♀ 5.5 mm.; ovipositor 3.5 mm.

The male of this species is recognisable by the shape of the pronotum; the female looks very much like *O. ceylonicus* Chop., but is readily distinguished by the shape of the palpi which are more similar to *C. henryi* Chop., also from Ceylon (fig. 36).

### ***Crnebius ceylonicus*, sp. nov.**

Type: 1 ♀, Kandy, Ceylon, 12-vi-10.

♀ (fig. 39). Size medium. Very dark brown; abdomen and legs covered with scales. Head as wide as pronotum in front, with forehead a little flattened, sloping; rostrum wide but very short; frontal protuberance rounded, rather projecting, presenting a scarcely visible smooth median ridge. Maxillary palpi (fig. 34) light, especially the last two joints, 4th joint longer than 3rd and 5th, the last one triangular, slightly widening at apex. Antennae very slender, yellowish, with a few brown, somewhat nodular joints. Eyes large, rounded; ocelli very small, the anterior one not perceptible.

Pronotum as long as wide, very slightly narrowing in front, anterior margin a little concave, posterior straight; disk weakly convex, brown, shining; lateral lobes very little raised, with inferior margin a little notched, angles very much rounded.

Abdomen brown, a little enlarged in the middle; subgenital plate very short, rounded. Cerci rufous. Ovipositor very short, a little curved near the base, with apical valves very large, smooth and lanceolate (fig. 35).

Legs short, with brown scales. Anterior tibiae perforated with a small round tympanum on the internal face. Posterior femora rather strong, swollen; tibiae short, a little curved, provided with minute denticles on their superior margins; internal spurs long, especially the



middle one, inferior decidedly longer than the superior (which is somewhat reflected to the superior margin); external spurs shorter than the internal, but presenting the same proportions; metatarsi rather long, their superior margin armed with 7 or 8 denticles.

Length of body 7 mm.; pronot. 2.5 mm.; ovipositor 3 mm.

This species looks very much like *O. leucopygus* Chop., but is smaller, with narrower frontal protuberance and with the ovipositor a little longer and not so straight. Both these species have the appearance of a *Mogoplistes*.

### **Pseudendacustes, gen. nov.**

Close to *Endacusta* Br. and *Parendacustes* Chop. Head with frontal rostrum very narrow; lateral lobes of pronotum triangular, with inferior margin ascending backwards; anterior femora presenting a small internal tympanum; posterior tibiae with medio-external spur longer than the other two, supero- and medio-external spurs equal in length. Elytra covering about three-fourths of the abdomen in both sexes; ♂ without any very distinct speculum, numerous oblique veins; ♀ with longitudinal veins.

### **Pseudendacustes gravelyi, sp. nov.**

Types: 1 ♂, 1 ♀, Forest tramway, miles 10 to 14, Cochin State. 29-ix-14 (*F. H. Gravely*).

♀ (fig. 40). Rather small, rufous, shining. Head a little wider than the pronotum in front, rufous; forehead much excavated, frontal rostrum very narrow, presenting a furrow, the edges of which converge forwards; a few long bristles at apex; face rufous, elongate. Maxillary palpi rather slender, a little darkened, with 4th joint a little shorter than 5th and equalling 3rd. Eyes large, projecting, rounded; ocelli small, the anterior one at the extreme apex of the rostrum, but visible from above, lateral ones at base of rostrum, very close owing to the narrowness of the rostrum. Antennae rufous at base, brown distally.

Pronotum dark brown, adorned with two rufous stripes on each side; anterior margin slightly convex, posterior slightly concave; disk shining, somewhat embossed; lateral lobes triangular, with inferior margin strongly ascending backwards; anterior angle a little rufous.

Abdomen brownish. Cerci long. Ovipositor broken.

Legs a little lighter than the body, rather long, provided with short and strong bristles. Anterior tibiae slender, having on their internal face a depression and a small tympanum; tarsi very long and slender, the metatarsus a little darkened, in length equalling the other joints together, armed beneath with spiniform bristles. Posterior femora rather large, with filiform apical part very much reduced; tibiae armed with 4 external and 3 internal rather short spines, denticulated up to the base; middle external spur twice as long as the inferior, which is a little longer than the superior; infero-internal spur short, middle and superior ones long and equal in length; metatarsi darkened except at base, armed above with a row of 5 to 6 denticles.

Elytra brown, shining, extending to three-fourths the length of the abdomen (this is much retracted), with projecting veins; dorsal field

with 5 longitudinal, somewhat diverging veins, transverse veinlets fairly numerous, feebly visible, irregular ; lateral field with 3 longitudinal, plain veins.

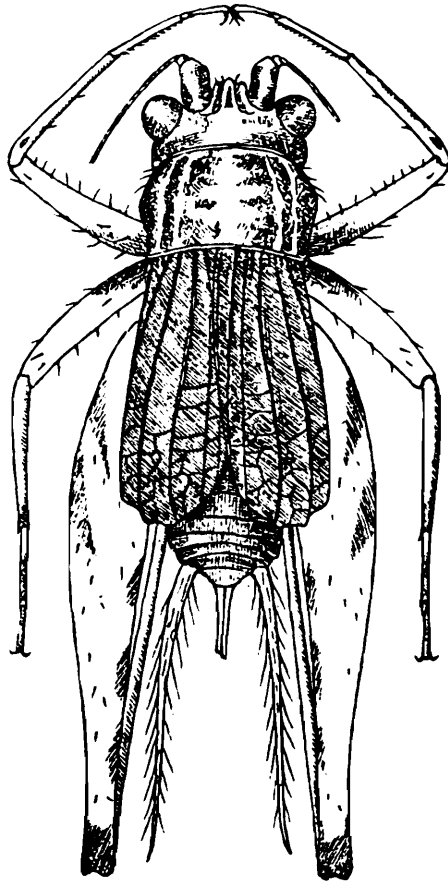


FIG. 40.—*Pseudendacustes gravelyi*, sp. nov., ♀.

♂ (fig. 41). Similar to the female. Abdomen a little mottled with brown ; subgenital plate elongate, slightly truncated at apex. Elytra extending but little beyond the middle of abdomen, truncated at apex, presenting a blackish spot in the axillar field, and a second, larger one, occupying the greater part of the disk ; dorsal field presenting no well defined speculum ; 6 rather neat oblique veins and a 7th less visible ; diagonal and 2 chords rather badly defined ; lateral field blackish, with 3 parallel veins.

Length of body ♀ (abdomen retracted) 8.5 mm., ♂ 10 mm. ; pronot. ♀ 2 mm., ♂ 2.3 mm. ; post. fem. 9 mm. ; elytra ♀ 4.5 mm., ♂ 4 mm.

***Speluncacris* (?) *annandalei*, sp. nov.**

Type : 1 ♀, Sureil, alt. 5,000 ft., Darjeeling dist., E. Himalayas, 11—31-x-17 (*N. Annandale and F. H. Gravelly*).

♀ (fig. 42). Size medium, apterous, rufous brown varied with dark brown. Head narrower than pronotum in front ; occiput and forehead weakly convex, brown, with 5 narrow light stripes ; frontal rostrum narrower than the 1st joint of antennae, rounded ; face shining, rufous, with a pale band in the middle. Palpi brown, rather long ; 4th joint of maxillary palpi a little longer than 3rd, 5th equal to 4th, rather

strongly dilated at apex, with superior margin concave. Antennae rather thick, profusely ringed with light brown and yellow. Eyes rounded, slightly projecting; ocelli very small, the anterior one in a small depression nearly at apex of rostrum.

Pronotum widening considerably a little before the middle, with anterior and posterior margins nearly straight; disk convex, a little embossed, dark brown with rufous markings; lateral lobes with inferior margin strongly rounded, especially in the posterior region, but not quite triangular in shape. The other two thoracic segments and abdominal tergites brown with a golden pubescence, adorned with a light median band most conspicuous on the anterior segments. Cerci rather long, brown. Ovipositor long, straight, with apical valves small, acute at apex.

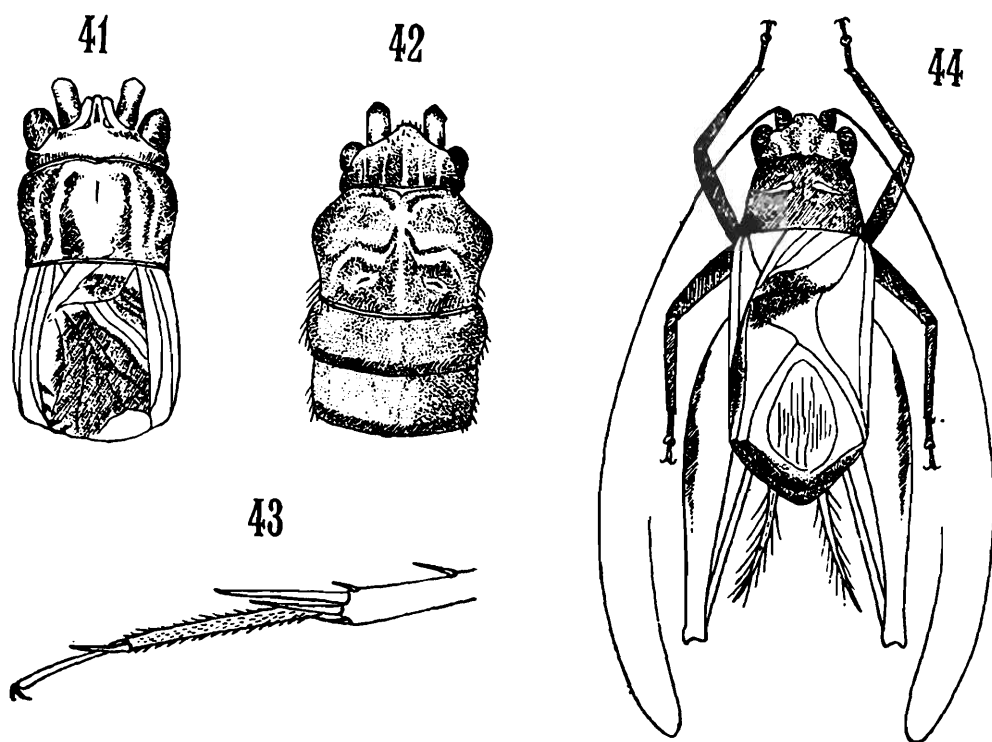


FIG. 41.—*Pseudendacustes gravelyi*, sp. nov., head, pronotum and elytra of ♂; fig. 42. *Speluncacris* (?) *annandalei*, sp. nov., anterior part of body of ♀; fig. 43. *id.*, apex of posterior tibia and tarsus; fig. 44. *Paratrignidium unifasciatum*, sp. nov., ♂.

Legs ringed with brown; anterior tibiae not perforated. Posterior femora rather thick, obliquely striated at their external face, filiform at apex; tibiae serrated and armed with 4 spines on each side, the last much shorter than the others and the external ones longer than the internal; internal spurs much longer than the external, the superior one being the longest on each side, the internal extending to about the middle of the metatarsus; metatarsus long, slender, bearing above a few weak denticles on its upper surface (fig. 43).

Length of body 11 mm.; pronot. 3 mm.; width of pronot. 3.5 mm.; post. fem. 10 mm.; post. tib. 11 mm.; ovipositor 9.5 mm.

The male being unknown, it is difficult to be certain as to whether this species really belongs to the genus *Speluncacris*; it is remarkable for its small head and wide pronotum.

**Paratrigonidium unifasciatum**, sp. nov.

Type: 1 ♂, Soom, alt. 4,000-5,000 ft., Darjeeling dist., 14-vi-14  
(*F. H. Gravely*).

♂ (fig. 44). Head brown, with three somewhat indefinite light bands on occiput. Antennae yellow, with two first joints brown. Palpi testaceous, with 4th joint short, 5th large, triangular, lengthened. Eyes rounded.

Pronotum wide, uniformly blackish brown, with anterior margin rather convex, posterior straight. Abdomen brown. Cerci yellowish.

Anterior and intermediate legs long, blackish brown. Posterior legs testaceous; femora presenting a wide, longitudinal brown band. Anterior tibiae perforated at their external face only.

Elytra with parallel margins, transparent, except for three smoky spots, one at base of the anal field, a second on the chords and the third at apex of the elytron; speculum large; diagonal vein short, sinuate; lateral field brown, with 3 veins, the superior of which is straight, the other two sinuate. Wings very short.

Length of body 5.5 mm.

**Metioche pallidinervis**, sp. nov.

Type: 1 ♂, Talewadi near Castle Rock, N. Kanara dist., 8-x-16  
(*S. W. Kemp*).

♂ (fig. 45). Rather large for the genus, blackish, with elytral veins light yellow standing out against the dark background. Head rufous, with a brown spot on occiput; frontal rostrum brown; face rufous yellow,

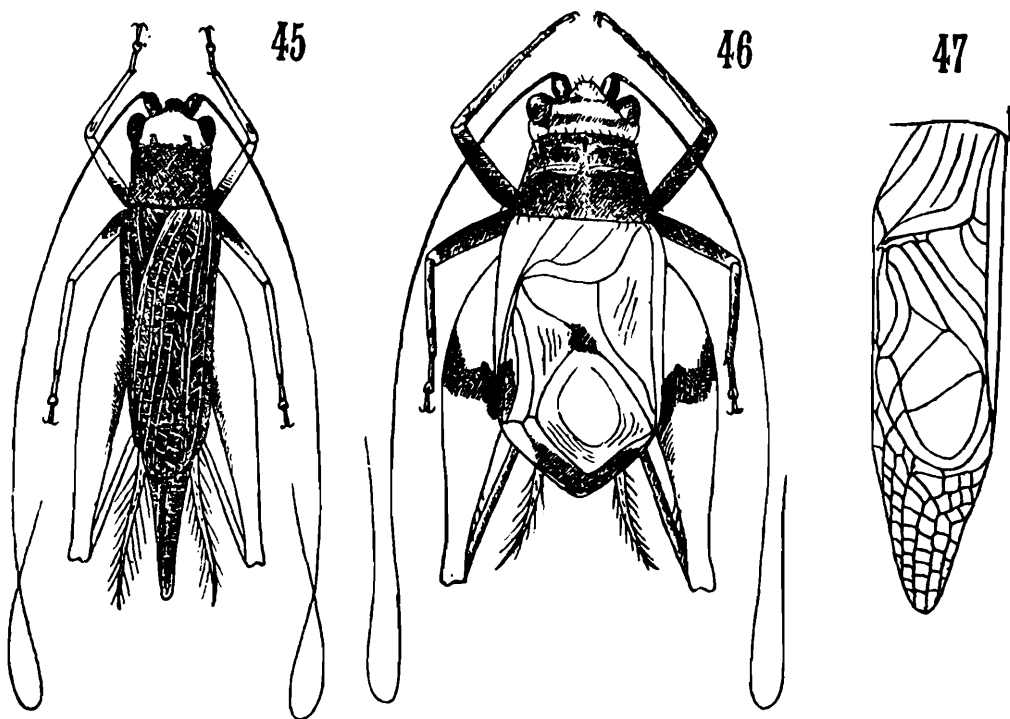


FIG. 45.—*Metioche pallidinervis*, sp. nov., ♂; fig. 46. *Anaxipha nigrithorax*, sp. nov., ♂,  
fig. 47. Right elytron of *Madasumma gravelyi*, sp. nov.

shining. Palpi yellowish; 4th joint of maxillary palpi shorter than 3rd, 5th a little longer than 4th, widening slightly at apex. Antennae

brownish, with first two joints and a few rings draker. Eyes rather large, rounded.

Pronotum nearly black, with only the extreme margin of lateral lobes yellowish; anterior margin a little convex, posterior one weakly sinuate. Abdomen blackish, except for a yellow stripe on each side. Cerci black. Subgenital plate with a small yellow point in the middle of posterior margin.

Legs yellow. Anterior tibiae perforated on their internal face only. Posterior tibiae with brown spines.

Elytra black with yellow veins, except in the covered part of the left elytron which is wholly black; dorsal field presenting 3 rather regular longitudinal veins and the discoidal one bearing two irregular branches; transverse veinlets rather close, regular between the free veins, irregular between the discoidal and its branches; lateral field black, rather pubescent, with 2 long straight veins, and 2 short curved ones. Wings rather long, blackish, iridescent.

Length of body 7 mm.; length including wings 10.5 mm.; post. fem. 7 mm.; elytra 6 mm.

This species is well characterized by its colour and by its general shape which is rather like that of an *Amusurgus*, but with more regular elytral veins than in that genus. The colouration and general aspect somewhat remind one of a *Nisitira*.

#### ***Anaxipha nigrithorax*, sp. nov.**

Type: 1 ♂, Eppukadu, alt. 2,300 ft., Nilgiri Hills (*H.L. Andrewes*).

♂ (fig. 46). Size medium; testaceous brown, adorned with blackish brown spots and bands. Head wide; forehead short, convex, adorned with a transverse brown band; face blackish, shining. Palpi long, testaceous, the 5th joint triangular, elongate, darkened. Antennae yellowish with two first joints black. Eyes large, rounded.

Pronotum slightly narrowing in front, wholly black, with a whitish pubescence and scattered long black bristles; lateral lobes rounded anteriorly. Abdomen black; subgenital plate narrowing posteriorly. Cerci yellowish.

Anterior and intermediate femora black, except the apex, which is light; tibiae greyish, the anterior perforated only on their external face; tarsi rather long, greyish. Posterior femora stout and rather short, testaceous, adorned with two bands, a wide brown band, commencing from base, extending a little on the external face and coming back widening to the internal margin, and a second narrower brown band along the inferior margin of the external face, extending from about the anterior fourth to the apical third. Posterior tibiae greyish, with long spines.

Elytra smoky, with brown spots at apex, along the internal margin and in the anterior angle of speculum, which is large and wide; diagonal vein very short, sinuate; chords almost straight; lateral field brown, with 4 veins, the 1st straight and diverging, 2nd a little sinuate, 3rd very short, incomplete, and 4th strongly sinuate. Wings abortive.

Length of body 6.5 mm.; post. fem. 5 mm.

*A. nigrithorax* comes very close to *A. musicus* Sauss., but differs from it in having the anterior legs almost entirely black, posterior femora with only two brown stripes, and pronotum wholly black.

**Dionymus carmichaeli, sp. nov.**

Types: 1 ♂, 1 ♀, Darjeeling dist., alt. 1,000-3,000 ft., *Carmichael* coll., May-June, 1912.

Size same as that of *D. marmoratus* Haan; colour testaceous brown. Head small, shining, rufous brown with indistinct light bands on the occiput; frontal rostrum rather wide, truncate at apex. Palpi testaceous; last joint of the maxillary palpi brown, 4th joint a little shorter than 3rd, 5th slightly enlarged at apex. Eyes rounded, slightly projecting; ocelli yellow, rather large.

Pronotum somewhat narrowing in front, anterior margin weakly concave, posterior margin a little sinuate; disk rufous, almost flat; lateral lobes lighter in the inferior part; inferior margin straight; anterior angle of 90°, but slightly rounded, posterior angle rounded.

Abdomen brownish; subgenital plate of the ♂ long, narrow.

Legs rufous. Anterior and intermediate femora slightly marbled with brown and presenting a brown ring, not very distinct, towards the apex; anterior tibiae a little swollen at base, presenting an oval external tympanum, the internal one being reduced to an undulated slit; tarsi rather long, the metatarsus equalling the 3rd joint in length. Posterior femora feebly swollen, with a brown ring near the apex; tibiae brown, denticulated at base and armed with 4 spines on each superior margin; infero-internal spur short, middle and superior ones rather long, especially the former; inferior and superior external spurs short, the intermediate one much longer; metatarsi long, armed with 6 or 7 denticles on each side.

♂. Elytra long and rather wide; anal vein a little sinuate, strongly angulate; speculum transverse, divided in the middle; diagonal vein rather long, a little curved; chords parallel, feebly convex; 5 somewhat irregular oblique veins; apical area long and rounded, with 7 sectors, of which the 6th is furcate; lateral field presenting 4 veins and the mediastinal, the latter having 7 branches, the first 3 or 4 being somewhat broken. Wings rather long.

♀. Elytra brown, presenting in the dorsal field 8 oblique and rather regularly distant sectors; transverse veinlets forming rather regular, long areas; lateral field not so overlapping as in ♂, the mediastinal vein bearing 3 branches. Free veins 4 in number, longitudinal, rather regular. Ovipositor almost straight, with apical valves small, lanceolate, separated by a small depression.

Length of body 17 mm.; length including wings 25 mm.; pronot. 2.5 mm.; post. fem. 9 mm. elytra 15 mm.; ovipositor 11 mm.

This species has much the same general form as *D. marmoratus*, but differs from it in its more rufous, uniform colouration, its shorter legs and the medio-internal spur of the posterior tibiae being not so long; in the ♂ the elytral venation is very different, while in the ♀ the transverse veinlets are more numerous.

***Madasumma maindroni*, sp. nov.**

Type : 1 ♂, Cote de Malabar, Mahé (*M. Maindron*, 1902) ; Museum de Paris.

♂ (fig. 48). Size medium ; yellowish varied with blackish brown. Head rather small, but still a little wider than the pronotum in front ; forehead flattened ; rostrum narrow, truncated at apex, with margins straight, much converging ; face brownish, facial shield very narrow between the antennae, presenting two yellowish callosities, almost in contact on the median line. Palpi testaceous, pubescent ; 4th joint of the maxillary palpi much shorter than 3rd, 5th rather large, feebly dilated at apex, with superior margin convex. Antennae yellowish, with 1st joint brownish. Eyes large, rounded ; ocelli rather large, the anterior one in a very small depression.

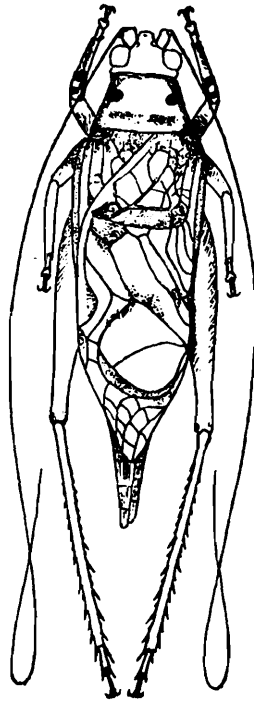


FIG. 48.—*Madasumma maindroni*, sp. nov., ♂.

Pronotum markedly widening posteriorly, the insertion of lateral lobes nearly angular ; anterior margin slightly concave, posterior straight ; disk slightly raised along the posterior margin, nearly flat in front, rufous, with two lateral brown bands in which are included the two impressed areas which are much more lateral than usual ; lateral lobes yellow. Abdomen yellowish ; subgenital plate rather long, subacute at apex. Genitalia very short, truncated at apex (in very bad state).

Legs yellowish. Anterior tibiae subquadrate, very strongly swollen at base, their superior face brown with a small yellowish callosity above the swollen part ; external tympanum rather large, oval, internal one very hollow under the swollen margin ; metatarsi very short and thick, 3rd joint very slender ; middle tibiae a little thick and compressed ; tarsi as the anterior ones. Posterior femora feebly swollen, uniformly rufous yellow ; tibiae with 5 spines on each side ; metatarsi rather short thick.

Elytra rather wide, translucent in the dorsal field, but presenting brown spots along the anal vein, around the mirror, on the chords and along the humeral band; speculum large, nearly square, divided in the middle; chords almost angular; diagonal short, sending a branch to the 1st oblique vein; anal and axillary veins very strong, anal field widely reticulated; 6 oblique veins, 2 of which are long and somewhat irregular, the others shorter and parallel; apical field short and reticulated in large areas; lateral field yellow, the mediastinal vein bearing 8 branches. Wings a little longer than the elytra.

Length of body 13 mm.; length with wings 18.5 mm.; pronot. 2 mm.; post. fem. 8.5 mm.; elytra 12.5 mm.

***Madasumma bimaculata*, sp. nov.**

Type: 1 ♂, Bhoutan, Pedong (ex *R. Oberthür*, 1897); Museum de Paris.

♂ (fig. 49). Size medium, rather elongate; testaceous, more or less greenish on the sides. Head small, a little flattened; frontal rostrum very narrow, with a rather deep depression in which the anterior ocellus is located. Face short, yellowish. Palpi brownish, testaceous; 4th joint of maxillary palpi much shorter than 3rd, 5th also rather short, wide, triangular. Antennae brown, rather thick, their base nearly black. Eyes rather small, rounded.

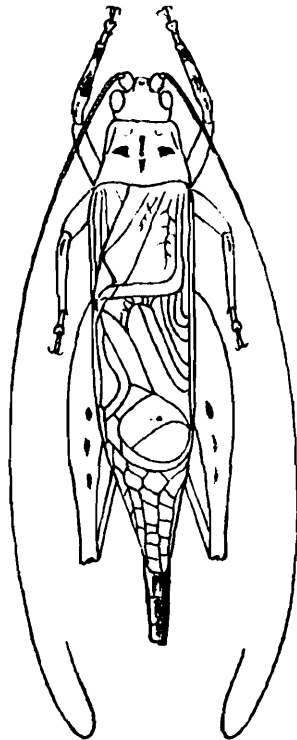


FIG. 49.—*Madasumma bimaculata*, sp. nov., ♂.

Pronotum flat above, the limit of lateral lobes subangular; anterior margin straight, posterior one a little convex; lateral lobes not very high, with inferior margin ascending very little forwards; disk greenish, with a brown median line and two blackish triangular impressions; lateral lobes also greenish, but with extreme margin brown, the limit between the disk and the lobes forming a somewhat callous yellow band; the band lined with black beneath.



Abdomen testaceous; superior anal valve triangular, rounded at apex, black; genitalia (figs. 50 and 51) rather short, presenting two lateral lobes, notched at apex, and two median pieces, ascending between the lobes and ending in a very sharp point.

Legs short, pubescent. Anterior tibiae rather strongly swollen, testaceous brown, with a blackish spot on the swollen part extending to the base, the apex equally blackish; external tympanum nearly square, internal one narrow, almost slit-like. Posterior femora narrow, adorned with 3 black spots above; tibiae armed with 5 external and 6 internal spines; external spurs very short, internal spurs a little longer, especially the superior one; metatarsi short, thick, 3rd joint very long and slender.

Elytra rather narrow, very long, brownish, with a greenish humeral band; anal field very large, with 3 strong axillary veins; anal vein broken at a right angle; speculum rather small, nearly round; diagonal vein rather short; 6 nearly regular oblique veins; apical field with very distant veins and a very wide reticulation; mediastinal vein with 10 branches. Wings a little longer than the elytra.

Length of body 17.5 mm.; length including wings 25 mm.; pronot. 3 mm.; elytra 19 mm.; post. fem. 10.5 mm.

This species is very remarkable for its colouration and is distinguished by the proportion of the length of elytra to the anterior part of the body.

#### ***Madasumma gravelyi*, sp. nov.**

Type: 1 ♂, Kalimpong, Darjeeling dist., E. Himalayas, 24-iv—10-v-15 (*F. H. Gravely*).

Size rather large, shape elongate; testaceous brown with a yellowish stripe along the elytral edge. Head somewhat mottled with brown; frontal rostrum as wide as 1st joint of antennae, flat, not at all furrowed above; ocelli small; face and palpi yellowish, the 5th joint of maxillary palpi slightly enlarged at apex.

Pronotum mottled with brown; disk a little darker than the lateral lobes; anterior margin slightly concave, posterior sinuate.

Abdomen yellowish brown with a median dark longitudinal band beneath. Cerci yellowish. Superior anal valve wide, rounded at apex. Subgenital plate rather long, triangular. Genitalia (fig. 52) very large, composed of two large lateral valves, curved upwards, and a very long acute median process, carrying at its base two small hooks directed upwards.

Legs mottled with brown; anterior tibiae slightly swollen at base, the internal tympanum almost slit-like. Posterior legs wanting.

Elytra long (fig. 47), rather narrow, with speculum longer than wide; diagonal vein short; 5 oblique veins, of which 2 are long and parallel, and 3 short and curved, forming two widely separate groups; apical field long with regular nervation; mediastinal vein with 12 stalks. Wings a little longer than the elytra.

Length of body 22 mm.; length including wings 27.5 mm.; elytra 17 mm.

This species belongs to the *marginipennis* group, but the abdominal end is very characteristic.

***Madasumma darjilingensis*, sp. nov.**

Type: 1 ♂, Pashok, Darjeeling dist., E. Himalayas, Oct., 1917  
(*F. H. Gravely*).

Rufous brown, with a yellow stripe on the lateral lobes of pronotum and on the margin of elytra; feebly pubescent. Head with frontal rostrum flat, narrowing in front, its margins slightly projecting. Ocelli rather large, especially the lateral ones, the anterior one located almost at base of rostrum. Maxillary palpi testaceous, with 4th joint short, 5th rather long and very little enlarged at apex. Antennae uniformly rufous.

Pronotum with anterior margin straight, posterior margin very little sinuate, disk almost flat, slightly darkened and mottled with brown; lateral lobes yellowish.

Abdomen yellowish. Cerci slender, yellowish, a little darkened near the apex. Posterior abdominal region much differentiated, posterior margin of 9th tergite thick and feebly notched, 10th tergite widely notched (fig. 53), forming two triangular lobes; superior anal valve large, with thick margins, a little notched in the middle, its angles rounded; genitalia large (fig. 54), formed of a superior large, bifid piece, dentate at base and directed upwards at apex, and two inferior hooks projecting laterally; subgenital plate rather long, narrowing posteriorly but with apex rounded.

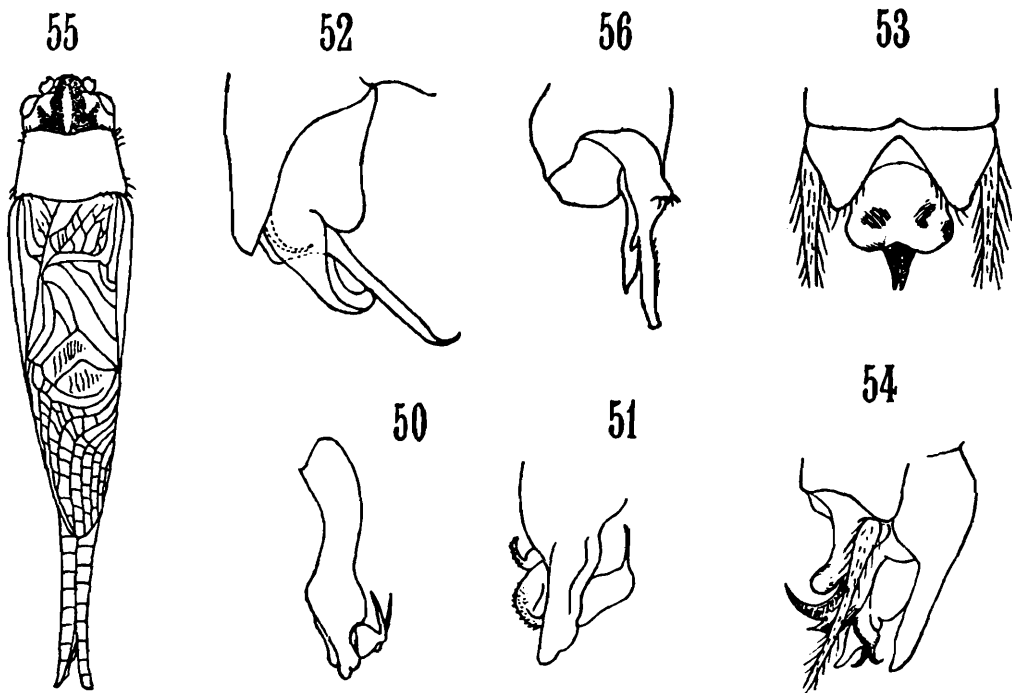


FIG. 50.—*Madasumma bimaculata*, sp. nov., genitalia of ♂, lateral view; fig. 51. apical part of the same, magnified; fig. 52. *Madasumma gravelyi*, sp. nov., genitalia of ♂, lateral view; fig. 53. *Madasumma darjilingensis*, sp. nov., apex of abdomen of ♂, dorsal view; fig. 54. lateral view of the same; fig. 55. *Mnesibulus andrewesi*, sp. nov., ♂; fig. 56. *id.*, lateral view of genitalia.

Legs hairy, rufous, a little mottled with brown. Anterior tibiae rather thick, flattened above, a little dilated at base; internal tympanum

in the form of a wide slit, external one oval. Posterior tibiae armed with 5 spines on each margin; metatarsus short, thick, armed with 3 external and 1 internal denticle.

Elytra rather wide, pubescent, with a yellowish humeral band, but without a spot of the same colour; axillary field with 3 very distinct veins, 2 of which are oblique and the 3rd strongly elbowed; anal vein broken at right angle; speculum slightly longer than wide, divided a little before the middle; chords feebly curved; 7 oblique veins, almost equidistant, 3 of which are almost straight, the other 4 short and curved; apical field rather short, presenting 4 sectors, reticulated in large areolae. Wings a little longer than the elytra.

Length of body 25 mm.; pronot. 3.5 mm.; post. fem. 13 mm.; elytra 18.5 mm.

This species is very close to *M. greeni* Chop. from Ceylon; it differs from it in the absence of a yellow spot on the elytra, in the speculum being placed a little more posteriorly, so that the diagonal vein and the chords are longer and the apical field shorter, and lastly and chiefly in the posterior abdominal region which is very different in the two species.

#### ***Mnesibulus fuscipennis*, sp. nov.**

Type: 1 ♀, Chalakudi, Cochin State, 14—30-ix-14 (*F. H. Gravely*).

Size medium; colouration more uniform than in the other species of the genus. Head reddish brown; frontal rostrum a little narrower than the 1st joint of antennae, feebly rounded at apex and slightly furrowed above; face dark brown; cheeks and palpi much lighter, reddish yellow; maxillary palpi with 4th joint very short, 5th a little longer than the 3rd and of the shape of an almost equilateral triangle. Antennae yellowish brown.

Pronotum narrowing a little anteriorly, with anterior margin straight, posterior subangulate; disk nearly flat but slightly raised posteriorly, reddish brown with two irregular dark bands on the sides; lateral lobes lighter, with inferior margin rounded.

Abdomen brown above, yellowish beneath. Cerci long, yellowish. Ovipositor as long as the cerci, straight, with apical valves small, black, forming a small rounded mass, granulose in its apical half only, and ending in two obtuse teeth.

Legs uniformly reddish brown; anterior tibiae a little darkened, strongly swollen at base, fusiform, with external tympanum oval, internal one hollow and almost quadrangular. Posterior tibiae bearing 5 spines on each superior margin; spurs short, especially the external ones.

Elytra rather narrow, rather dark brown with a darker spot at base and a blackish stripe on the shoulder, a blackish spot a little before the middle of the edge and a few small light spots along this same edge; dorsal field with 10 veins, rather oblique, regular, except the 4th and 5th which are more distant than the others; first three veins free, the others emerging from the discoidal; transverse veinlets rather regular, forming nearly square areolae; lateral field lighter than the dorsal field; mediastinal vein bearing 6 branches. Wings extending much beyond the elytra.

Length of body 13 mm. ; length including wings 20·5 mm. ; post. fem. 8 mm. ; elytra 14 mm. ; ovipositor 7 mm.

**Mnesibulus andrewesi, sp. nov.**

Type : 1 ♂, Nilgiri Hills, alt. 5,500 ft., April, 1910 (*H.L. Andrewes*).

♂ (fig. 55). Size medium ; testaceous brown. Head rounded, a little wider than the pronotum, presenting a wide brown band, extending from occiput to the apex of frontal rostrum and divided in the middle by a very slender light line ; rostrum wide, a little rounded at apex ; face yellowish, short. Palpi testaceous ; 4th joint of maxillary palpi a little shorter than 3rd, 5th triangular, very obliquely truncated at apex. Antennae slender, rufous. Eyes rounded ; ocelli rather large, yellow.

Pronotum feebly transverse, very slightly narrowing anteriorly, with anterior margin slightly concave, posterior sinuate ; disk rufous brown ; lateral lobes lighter, with inferior margin nearly straight. Abdomen testaceous. Cerci very long. Genitalia very long, almost tubular, the superior part longer than the inferior (fig. 56).

Anterior and intermediate legs rufous. Anterior tibiae strongly swollen, with an external oval tympanum opening above the swollen part ; internal tympanum quite slit-like. Posterior legs wanting.

Elytra rather narrow, testaceous ; speculum nearly rounded, with inferior margin interrupted a little before the external angle ; diagonal vein short ; chords feebly curved, united with the mirror by two veinlets ; anal vein broken at right angle ; anal field with somewhat reticulated veins ; 4 oblique veins, 2 of which are long and slightly diverging, and 2 short ; apical field long, with 6 nearly longitudinal, regular sectors ; transverse veinlets numerous, forming almost square areolae. Wings very caudate.

Length of body 14 mm. ; length including wings 20·5 mm. ; pronot. 2·2 mm. ; elytra 12 mm.