

VII. MAMMALS.

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The collection of mammals made by Mr. Stanley Kemp, assisted by officers of the Abor Expeditionary Force, is not a large one and contains specimens of 26 species only. No specimens were collected at any altitude above 4000 ft. and therefore the collection contains no actual novelties as would probably have been the case if collecting had been possible above seven or eight thousand feet. The series of the recently described *Sciurus stevensi* is however interesting, while the single specimen of *Dremomys pernyi* indicates a very wide range for a very distinct species originally described from Sze-chuen. Otherwise the species present belong to the ordinary sub-Himalayan and Assamese fauna.

1. *Macaca* (?) *rhesus* (Audebert).

Macacus rhesus, Blanford, Faun. Brit. Ind. Mamm., p. 13 (1888)

A haversack obtained at Debuk Damda by Mr. Kemp appears to have been made from the body skin of this or an allied form or is possibly derived from *Macaca assamensis*. Positive identification is of course impossible.

2. *Presbytes*, sp.

A small pouch for flint and steel, obtained in the same locality as the preceding specimen, is evidently made from the skin of some species of Langur, probably *P. entellus* or *P. schistaceus*. The latter species is stated by Butler (*Journ. Asiat. Soc. Bengal*, xliv (i), p. 332, 1875) to occur in the Naga Hills, but Blanford (*op. cit.*, p. 30) throws doubt on the identification.

3. *Viverra zibetha*, Linn.

Blanford, *op. cit.*, p. 96.

The large Indian civet is represented by two ethnographical specimens, an ornament for a sword hilt made out of a tail obtained at Debuk Damda and a haversack of body skin, from Komsing, both secured by Mr. Kemp. The body fur is, as might be expected, much thicker than in southern specimens with a distinct woolly underfur, which is almost absent in examples of the same species from the Malayan region.

A fairly adult and an immature skull of the same species were found by Captain I. Burn Murdoch in an Abor hut near Upper Rotung, January 8th, 1912.

4. *Mustela flavigula flavigula*, Bodd.

Mustela flavigula typica, Bonhote, Ann. Mag. Nat. Hist., (7) vii, p. 344 (1901).

An adult skin and skull of the Indian Marten collected by Dr. J. Falkiner are now in the Museum of the Bombay Natural History Society. The fur is fairly long with a woolly underfur and the colour of the head is almost jet black.

5. *Ursus torquatus*, Wagner.

Blanford, *op. cit.*, p. 197.

A haversack purchased at Komsing is probably made from the skin of the Himalayan black bear.

6. *Tupaia belangeri* (Wagner).

Tupaia ferruginea, Blanf. (*nec* Raffles), *op. cit.*, p. 210.

A single male from Kobo, altitude 400 ft., must apparently be referred to *T. belangeri* (Wagn.) which is a northern race of *T. ferruginea*, Raffles, from the Malay Peninsula, from which it differs mainly in its smaller size, and the more yellowish olivaceous speckling of the upper surface, totally devoid of any ferruginous tint. The specimen before me, which is quite adult, shows the character relied on by Anderson for the separation of his *T. chinensis*¹ from *T. belangeri*, viz. the fusion of the two median external cusps of the first molar. This feature is, however, much affected by the relative wear of the teeth and is met with in aged specimens of *T. ferruginea* from Singapore and the southern parts of the Malay Peninsula. Such dimensions as can be taken from the very imperfect skull before me indicate that it belongs to a considerably larger animal than the type of *T. chinensis*. Further material, however, is desirable before any very positive identification can be made. A second young adult animal from Misshing collected by Dr. Falkiner also differs from *T. chinensis* in its larger size.

7. *Talpa micrura*, Hodgs.

Hodgson, Journ. Asiat. Soc. Bengal, x, p. 910 (1841); Blanford, *op. cit.*, p. 225.

A female from Kobo, 400 ft., and another from Rotung, 1,300 ft., are referable to this species, which was apparently common, though difficult to procure.

The species is distinguished from *T. leucura*, which inhabits higher altitudes in the same countries and extends throughout Burma, by possessing four and not three premolars only.

¹ Anderson, Anat. and Zool. Res., p. 129, pl. vii, figs. 8, 9 (1878).

The skulls of the present specimens are rather small, measuring 33 mm. in total length against about 35 mm., which is the length given by Blanford and others. This may, however, be due to the fact that they are females and not very old specimens, though quite adult.

8. *Crocidura fuliginosa* (Blyth).

Sorex fuliginosus. Blyth, Journ. Asiat. Soc. Bengal, xxiv, p. 362 (1855).

A female in spirit from Kobo, 400 ft., and a female skin from the Upper Rotung, ca. 2,000 ft., present no tangible differences when compared with a series from the Malay Peninsula, which have themselves been compared with the type, which came from Central Tenasserim. Should large series from the original locality prove the existence of any real differences Himalayan specimens will have to bear the name *Crocidura rubricosa*,¹ the types of which came from Sibsagar, Assam.

Crocidura fuliginosa in its broad sense has a very wide distribution, ranging from Sikkim to Flores, through the Malay Peninsula and Borneo, analogous to the case of certain Himalayan birds such as *Muscicapula maculata*.

9. *Pteropus giganteus* subsp. *leucocephalus*, Hodgs.

Pteropus leucocephalus, Hodgson, Journ. Asiat. Soc. Bengal, iv, p. 700 (1835).

Pteropus giganteus leucocephalus, Anderson, Cat. Chir. Brit. Mus. (2nd. ed.), i, p. 333 (1912).

A male from Sadiya, N. E. Assam, belongs to the eastern race of the Common Indian Flying Fox (*Pteropus medius*, auct.), differentiated from the peninsular form by its somewhat longer and softer fur.

10. *Pipistrellus abramus* (Temm).

Vesperugo abramus, Dobson, Mon. Asiat. Chir., p. 97 (1876); Blanford, *op. cit.*, p. 313.

A pair taken at Rotung, 1,300 ft., in March and a female from Kobo, 400 ft., obtained in November are typical examples of the Common Indian Pipistrelle.

11. *Nycticejus ornatus*, Blyth.

Blyth, Journ. Asiat. Soc. Bengal, xx, p. 159 (1851); Blanford, *op. cit.*, p. 322.

Of the strikingly coloured Harlequin Bat, originally described from the Khasia Hills, there is a single female obtained at Balek on March 25th, 1912, by Capt. J. Masters.

¹ Anderson, Journ. Asiat. Soc. Bengal, xlvi, pt. ii, p. 280 (1877).

12. *Petaurista magnificus* (Hodgs.).

Pteromys magnificus, Blanford, *op. cit.*, p. 364.

A skin without skull collected by Major E. H. Sweet and Capt. B. R. Nicholl near Renging has the upper surface glistening dark maroon, intermixed with longer black hairs, parachute rich orange rufous, underparts orange buff; tail clay brown, terminal three inches black intermixed with brown and rufous, extreme tip pure white.

The specimen can be provisionally referred to this species but the whole of the Indian and Indo-Chinese section of the genus is in a state of great confusion.

13. *Sciuropterus alboniger*, Hodgs.

Blanford, *op. cit.*, p. 367.

A fragmentary specimen collected by Dr. Falkiner at Misshing in February, 1912, is evidently this species. Another was seen at Renging.

14. *Ratufa gigantea* (McClell.).

Sciurus giganteus, McClelland, P. Z. S., 1839, p. 150 (Assam).

Sciurus bicolor, Blanford, *op. cit.*, p. 373.

Ratufa gigantea, Wroughton, Journ. Nat. Hist. Soc. Bombay, xix, p. 889 (1910).

There is a specimen of the large black and buff squirrel from Upper Renging, 2,150 ft., collected by Capt. M. de Courcy and another flat skin from Pasighat, secured by Major E. H. Sweet and Capt. B. R. Nicholl which differ in no particulars. Externally they are typical examples of this race which extends through North Burma and Siam grading into the Malayan species *R. melanopepla* in northern Tenasserim. The measurements of the skull are slightly smaller than those given by Wroughton for *R. gigantea* and approach those of *R. macruroides* (Hodgs.), but the colour characters are those of the former race.

15. *Sciurus erythraeus erythrogaster*, Blyth.

Sciurus erythrogaster, Blyth, Journ. Asiat. Soc. Bengal, xi, p. 970 (1842).

Sciurus erythraeus erythrogaster, Bonhote, Ann. Mag. Nat. Hist., (7) vii, p. 162 (1901).

The whole series of red-bellied grizzled squirrels comprised under the two group names *Sc. erythraeus*, Pall., and *Sc. castaneoventris*, Gray, are involved in almost inextricable confusion, partly owing to the insufficiency of the original descriptions and the bad condition or non-existence of the types, and partly to the paucity of exactly localized and properly collected material and the doubt as to whether certain of the forms undergo seasonal

variation or not. Of the considerable series before me three (two from Pasighat and one from between Kalek and Misshing) with marked black tips to their tails and of somewhat larger size are certainly referable to this subspecies, while one from between Kalek and Misshing is intermediate between the present race and *Sc. erythraeus intermedius*, Anderson. (For particulars and measurements see table, *postea*, p. 93).

16. *Sciurus erythraeus intermedius*, Anderson.

Sciurus gordonii var. *intermedia*, Anderson, Zool. and Anat. Res., p. 241 (1878).

Sciurus castaneiventris griseopectus, Bonhote, Ann. Mag. Nat. Hist., (7) vii, p. 164 (1901).

The series from Kobo agrees well with the original type and must be referred to Anderson's subspecies, having nothing to do with *Sc. griseopectus*, Blyth, a name which has been applied to Assamese specimens by Bonhote, *loc. cit.* The median grizzled line on the abdomen is generally absent but is faintly indicated in some individuals. The specimens from between Kalek and Misshing are intermediate between this and the preceding subspecies though, with one exception, they lack the black termination to the tail. The present form is however somewhat smaller as the table of dimensions (*postea*, p. 94) shows.

17. *Sciurus stevensi*, Thomas.

Oldfield Thomas, Journ. Nat. Hist. Soc. Bombay, xviii, p. 246 (1908).

The series detailed in the table of measurements is very uniform and agrees well with the description of the type, which was obtained at Beni-Chang in the Abor-Miri Hills at an altitude of 4,000 ft. The species is regarded by its describer as allied to *Sc. atrodorsalis*, which inhabits Pegu, Northern and Central Tenasserim.

18. *Tamiops macclellandi* (Horsf.).

Sciurus macclellandi typicus, Bonhote, Ann. Mag. Nat. Hist., (7) v, p. 51 (1900).

The three specimens in the collection (for details of which see table of measurements, *postea*, p. 95) belong to the typical Himalayan form. The race inhabiting Manipur¹ is greyer and much less yellowish on the upper surface, while the Burmese and Malayan² forms are separated at a glance by having three black stripes on the back instead of a single median one.

¹ *Sciurus macclellandi manipurensis* (Bonhote).

² *Sciurus macclellandi barbei*, Blyth, and *Sc. m. novemlineatus*, Miller.

19. *Dremomys lokriah* (Hodgs.).

Sciurus lokriah, Hodgson, Journ. Asiat. Soc. Bengal, v, p. 232 (1836).

Sciurus locria, Blanford, *op. cit.*, p. 376 (1890).

A perfectly typical example from Komsing.

Oldfield Thomas has pointed out (*Journ. Nat. Hist. Soc. Bombay*, xviii, p. 245, 1908) that the group of squirrels to which this species belongs and to which the generic term *Dremomys*, Heude, is applicable, is readily differentiated by its more elongated muzzle and by its gently sinuous lateral profile, not regularly curved as in *Lariscus* or sharply bent as in true *Sciurus*. From *Rhinosciurus*, which it resembles in its elongated muzzle, it is at once distinguished by the characters of the teeth.

As an external means of recognition it may be stated that all the species of the genus have a tuft of pale silky fur behind the ear.

20. *Dremomys pernyi* (A. Milne-Edwards).

Sciurus pernyi, A. Milne-Edwards, Rev. et Mag. de Zool., p. 230 (1867); Anderson, Anat. and Zool. Res., p. 255 (1878).

Dremomys pernyi, Thomas, Journ. Nat. Hist. Soc. Bombay, xviii, p. 249 (1908).

A single female was obtained by Capt. I. Burn-Murdoch in the Sirpo Valley, indicating a wide extension of range for this Chinese species originally described from Sze-chuen. An allied form is found in Central Tenasserim, Siam and the Karen Hills and other species of the genus are found in Borneo, Formosa and the Malay Peninsula.

21. *Epimys "rattus"* (Linn.).

Mus rattus, Blanford, *op. cit.*, p. 406.

Without larger material from the surrounding districts and direct comparison with the types, it is impossible to say which of the numerous names available for Indian rats of this section is applicable to these specimens, details of which are given in the table on p. 96.

All four specimens are fairly uniform, having pale feet and dull grey bellies not sharply defined from the flanks. Fur of the upper surface long and soft, without spines and with numerous long black piles on the lower back. General colour above greyish black, grizzled with bistre, more abundantly on the sides.

22. *Lepus* sp.

I am unable to identify precisely a hare from Kobo, 400 ft., collected by Capt. R. L. Bignell. Judging from descriptions only, it seems in many respects intermediate between the common Indian hare, *Lepus ruficaudatus*, and the Burmese form, *Lepu*

peguensis, Blyth. The tail is sandy brown above with the base of the fur sooty black.

23. *Budorcas taxicolor*,¹ Hodgson.

Hodgson, Journ. Asiat. Soc. Bengal, xix, p. 65, pls. i-iii (1850).

There are three frontlets of the Takin in the collection, two purchased at Balek by Mr. Kemp and stated to come from the hills at the northern end of the Yamne Valley and a third from the Mishmi hills brought in to Sadiya, N. E. Assam, and presented by Mr. Ballantyne.

No.	Sex.	Locality.	Length of horn. In.	Circumference of horn. In.	Distance between tips. In.
9170	♂	Yamne Valley	17.6	11.2	10.3
9171	♀	Ditto	15.8	10.2	9.9
9172	♂	Mishmi Hills	19.75	10.9	10.4

There has been some difference of opinion as to whether the horns of the two sexes are identical, but I am inclined to follow Hume (*P.Z.S.*, 1887, p. 483) and to regard the simply curved horns not closely approximating on the forehead as those of females and not necessarily of immature animals.

24. *Capricornis sumatraensis* subsp. *jamrachi*, Pocock.

Abstract, *P. Z. S.*, 1908, No. 55, p. 12 (1908); *id.*, *P.Z.S.*, 1908, i, pp. 183-185, figs.

Nemorhaedus bubalinus, auct. Blanford, *op. cit.*, p. 513.

Body skin.—Shot near Balek by Capt. J. Masters.

Adult skull.—From Parong *moshup*, presented by Capt. A. L. Molesworth.

Skin.—Between Janakmukh and Balek, collected by Major E. H. Sweet and Capt. B. R. Nicholl.

The skins agree fairly well with the description and figure of the type of the subspecies, which came from Kalimpong, near

¹ No Takin were seen on the expedition, but there is, I believe, very little doubt that they occur in the higher ranges of the Abor country, probably all along from Bhutan to the Mishmi country. As corroboration of the origin of the frontlets obtained at Balek, it may be mentioned that Sir George Duff-Sutherland-Dunbar has discovered that the Pasi-Minyongs, who inhabit this village, have themselves immigrated within comparatively recent times from the Upper Yamne.

The village 'moshups' or bachelor-houses always contain large numbers of skulls, karkar predominating along with hog-deer, serow, mithan and monkey and an occasional sambar, tiger and leopard. In no other village but Balek did I find any Takin heads, but Major Alban Wilson found one at Geku, which was stated to have been washed down the Dihang R., and others at Dosing. He writes as follows concerning the latter:—"I found four or five Takin heads in Dosing on the right bank of the Dihang: two were quite fresh. The Abors said the heads came from the Bori country, away west of Riga, which fact, coupled with what the Geku people said about the Takin being washed down the river, certainly shows that the animal is found inside the Dihang valley." (S. K.).

Darjiling, except that there appears to be a greater admixture of white on the sides of the body possibly indicating an approach to *C. sumatraensis milne-edwardsi* (David) from Eastern Tibet, and to the Nepalese and Sikkim form *C. s. thar*, Hodgs., (*Nemorhaedus bubalinus*, auct.) from which it is only doubtfully distinct.

The horns in the skull before me, which would appear to be that of an aged male, are much larger than in either of the specimens mentioned by Pocock, which were 4 and 6 inches in length against 10.15 in length and 6 inches in circumference in the present specimen.

25. *Cervulus muntjac*, Zimmerman.

Blanford, *op. cit.*, p. 532.

A somewhat imperfect skull of an adult male Barking-deer from the village Moshup at Komsing. Length of horn from the burr, 5.45; from the base of the bony pedicel, 7.6; zygomatic breadth, 3.73; maxillary tooth row, 2.24 inches. In a Malay skull of similar age from the Dindings territory the two latter dimensions are 3.44 and 2.56 inches. The species in the broad sense are probably divisible into many local races, but large series from all localities are required before this can be attempted.

26. *Sus cristatus*, Wagner.

Blanford, *op. cit.*, p. 560; Miller, Proc. U. S. Nat. Mus., xxx, p. 745, pl. lviii, fig. 1 and lix, figs. 1, 2 (1906).

An adult female skin and skull from Kobo, 400 ft.

The Malayan form, to which probably specimens from Tenasserim and parts of Burma belong, has been separated by Miller under the name *Sus jubatus*, on account of the smaller ear and the less complicated enamel pattern of the posterior molar.

Measurements of *Sciuridæ* and *Muridæ*.

(In millimetres.)

Sex.	Locality.	Date.	BODY. (Collector's measurements in flesh.)				SKULL.								REMARKS.	Indian Museum No.
			Head and body.	Tail.	Hind Foot.*	Ear.	Total length.	Condylor-Basilar length.	Zygomatic breadth.	Interorbital breadth.	Cranial breadth.	Diastema.	Maxillary tooth row.	Median length nasals.		
♀	<i>Ratufa gigantea</i> . Upper Renging, 2150' ..				89	..	77.5	63.5	..	31.0	33.9	17.1	14.2	25.8	Adult, teeth worn ..	9166
♀	<i>Sciurus erythraeus erythrogaster</i> . Pasighat	26-iii-12	252	230	48	22	57.2	48.0	33.3	19.9	24.1	13.0	11.2	17.2	Ditto ..	9154
♀	Pasighat	26-iii-12	251	229	49.5	22	57.8	48.8	33.8	20.0	24.9	12.6	11.2	17.5	Adult teeth slightly worn.	9153
♂	Between Kalek and Misshing	17-iii-12	260	233	49.0	18	57.1	47.0	33.1	19.3	24.1	12.4	10.7	17.8	Ditto worn ..	9150
♂	Between Kalek and Misshing	17-iii-12	223	226	48.5	20	56.3	48.1	34.5	21.7	25.0	12.8	10.4	16.6	Adult, teeth slightly worn, intermediate between <i>S. e. erythrogaster</i> and <i>S. e. intermedius</i> .	9157

*In dried skin.

Measurements of *Sciuridæ* and *Muridæ*—(continued).
(In millimetres.)

Sex.	Locality.	Date.	BODY. (Collector's measurements in flesh.)				SKULL.								REMARKS.	Indian Museum No.
			Head and body.	Tail.	Hind Foot.*	Ear.	Total length.	Condyl. Basilar length.	Zygomatic breadth.	Interorbital breadth.	Cranial breadth.	Diastema.	Maxillary tooth row.	Median length nasals.		
	<i>Sciurus erythraeus intermedius.</i>															
♂	Between Kalek and Misshing	17-iii-12	218	210	49.0	18	53.4	45.3	31.9	18.9	24.7	12.9	10.0	16.3	Imm., teeth slightly worn	9163
♂	Kobo	9-xii-11	225	193	48.0	20	55.0	45.9	32.7	19.1	24.2	12.6	10.4	17.1	Adult, ditto ..	9159
♂	Between Kalek and Misshing	17-iii-12	218	225	49.5	20	53.3	45.8	30.8	18.0	23.5	12.0	10.5	16.3	Imm., milk dentition ..	9155
♀	Kobo	3-xii-11	224	200	44.5	20	54.2	46.2	32.8	18.2	24.2	12.3	10.2	16.3	Adult, teeth slightly worn	9164
♀	Do.	11-xii-11	230	200	45.0	20	..	..	30.9	17.1	23.0	12.8	10.2	17.0	Ditto unworn ..	9162
♀	Do.		220	195	45.0	19	55.8	46.9	32.3	19.3	24.1	12.7	10.2	16.9	Ditto slightly worn	9160
♀	Do.	9-xii-11	245	194	45.5	20	54.4	46.1	31.9	18.2	23.3	13.0	10.3	17.0	Ditto worn ..	9156
♀	Do.	29-iii-12	223	197	44.7	18	56.1	47.6	33.9	19.1	24.5	12.4	10.3	17.6	Ditto unworn	9151
♂	Do.	29-iii-12	222	199	44.5	18	53.6	45.8	..	18.1	23.4	12.9	10.1	17.2	Ditto slightly worn	9161

♀	Do.	..	..	7-xii-11	250	210	46.5	22	52.3	44.2	30.7	17.8	23.5	12.8	10.0	16.6	Imm.	..	..	9152
..	Sirpo Valley	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....	..	..	9158
<i>Sciurus stevensi.</i>																				
♀	Balek	..	..	24-iii-12	212	180	42 *	20	51.9	43.5	29.3	16.1	22.0	12.8	10.1	15.8	Adult, teeth worn	..	..	9139
♀	Do.	..	..	26-iii-12	..	..	44 *	..	51.3	43.5	..	15.9	22.1	12.2	9.9	15.3	Ditto	..	..	9140
♀	Do.	..	..	23-iii-12	..	..	44.5*	..	50.7	42.0	29.5	15.7	22.2	12.6	9.7	15.2	Young adult, teeth unworn	..	..	9143
♀	Rotung, 1300'	..	..	8-iii-12	205	176	42 *	20	50.4	42.3	29.6	15.7	22.7	12.0	10.2	14.9	Ditto	..	..	9141
♀	Do. 1300'	..	..	7-iii-12	208	180	43 *	20	50.3	42.2	29.8	16.1	21.9	12.4	10.0	15.0	Ditto	..	..	9144
♀	Do. 1300'	..	..	..	201	180	42 *	17	48.1	40.2	..	15.2	22.1	11.5	9.9	14.2	Ditto	..	..	9145
♀	Do. 1300'	..	..	9-iii-12	200	176	41.5*	17	49.7	41.2	28.6	15.4	22.1	11.7	10.0	14.6	Adult, teeth slightly worn	..	..	9146
♂	Near Kalek	..	..	15-iii-12	215	184	43.5*	20	..	..	..	16.3	..	12.3	10.0	15.4	Ditto	..	..	9148
♂	Between Kalek and Misshing	..	..	18-iii-12	192	170	43.5	20	49.7	41.4	..	15.1	22.5	12.1	10.2	15.1	Young adult, teeth unworn	..	..	9147
♂	Beni-Chang, Abor-Miri Hills 4000' (H. Stevens.)	..	..	19-ii-06	230	190	45	17	..	..	30.0	17	..	..	..	15	Adult, B. M. 7-11-26-2 Type.	..	..	..
<i>Tamiops macclellandi.</i>																				
♀	Kobo, 400'	..	..	3-xii-11	120	80	24	12	32.2	26.9	18.8	..	..	8.0	6.0	8.1	Young adult, teeth slightly worn.	..	..	9135
♂	Do.	..	..	8-xii-11	113	90	25.5	12	32.8	27.1	..	12.0	..	7.9	5.8	8.4	Adult, teeth worn	..	..	9136
♀	Rotung, 1300'	..	..	..	120	102	25.5	12	32.7	27.2	19.1	11.3	15.3	7.8	6.0	..	Ditto	..	..	9142

* In dried skin.

Measurements of *Sciuridæ* and *Muridæ*—(concluded).

(In millimetres.)

Sex.	Locality.	Date.	BODY. (Collector's measurements in flesh.)				SKULL.									REMARKS.	Indian Museum No.
			Head and body.	Tail.	Hind Foot.*	Ear.	Total length.	Condylor-Basilar length.	Zygomatic breadth.	Interorbital breadth.	Cranial breadth.	Diastema.	Maxillary tooth row.	Median length nasals.			
♀	<i>Dremomys lokriah.</i> Komsing	24-ii-12	208	160	..	20	53·4	44·1	30·1	15·4	22·9	13·1	9·1	17·1	Adult	9149	
♀	<i>Dremomys pernyi</i> Sirpo Valley	16-iv-12	..	..	..	..	52·5	44·1	..	15·2 (app.)	22·4	12·9	9·6	15·1	Adult, teeth worn	9138
♀	<i>Epimys "rattus."</i> Komsing	24 iii-12	200	190	34	24	43·7	38·6	22·0	6·1	16·7	12·3	7·2	18·2	Adult	9127	
♀	Komsing	2-iii-12	195	190	35	22	..	..	..	..	..	..	..	Do.	9126	
♀	Rotung, 1300'	10-iii-12	185	156	35	22	42·1	37·2	20·3	6·0	16·5	11·9	7·3	17·2	Adult, teeth unworn	9128	
♀	Upper Rotung, 2,000'	6-1-12	115	118	25	18	33·0	28·7	17·6	5·2	14·1	8·3	6·5	12·3	Imm., half grown	9125	

*In dried skin.

APPENDIX.

PARASITES FROM MAMMALS.

[The list of parasites obtained from the mammals taken during the Abor Expedition is not a long one, although great care was exercised (at any rate so far as external parasites were concerned) in looking for them on each specimen. We have to thank Mr. Cecil Warburton, who prefers not to describe the new forms at present, for examining the ticks, Mr. T. Southwell for identifying a parasitic worm and Mr. E. Brunetti for naming a Pupiparous fly. The various parasites are listed under the names of the mammals on which they were found. [N. A.]

6.—*Tupaia belangeri* (Wagner) (p. 86).

ARACHNIDA (IXODIDAE).—*Haemaphysalis* sp. near *koeningsberneri* (nymph *indet.*).

—? *Hyalomma syriacum*, Koch? (nymphs).

Kobo (400 ft.): 9-xii-II.
About these specimens Mr. Warburton writes: "It is a remarkable thing that we can never find nymphs of this species (*H. syriacum*), though it is common on tortoises all over the world. I have a strong belief, however, that these specimens belong to it, but the point must remain in doubt until we see undoubted *H. syriacum* nymphs." A similar specimen was taken by Mr. Gravely on a man's leg in Tenasserim.

9.—*Pteropus giganteus leucocephalus*, Hodgs. (p. 87).

DIPTERA PUPIPARA.—*Cyclopodea horsfieldii*, de Meij. Many specimens.
Sadiya.

16.—*Sciurus ethrythraeus intermedius*, Anderson (p. 89).

ARACHNIDA (IXODIDAE).—*Ixodes angustus* var. nov. Mr. Warburton regards these specimens as representing a new variety of the American squirrel-tick.
Kobo: 29-iii-12.

26.—*Sus cristatus*, Wagner (p. 92).

ARACHNIDA (IXODIDAE).—Many specimens of *Ablyomma testudinarium*, Koch.
Kobo: 5-xii-II.

ENTOZOA (ACANTHOCEPHALA).—Numerous specimens of *Echinorhynchus gigas*, Goeze, from the intestine.
Kobo: 5-xii-II.

In addition to the ticks actually found on mammals a small specimen of the common *Haemaphysalis bispinosa*, Neum., was taken "by sweeping" at Dibrugarh and females of the equally common *Ablyomma testudinarium* were obtained in the same manner at Kobo and on the banks of the Siyom below Damda: also under a log at Sadiya. A female of *Ixodes acutitarsis*, Karsch, of which Mr. Warburton thinks that his *H. gigas* may be the male, was taken at Yembung. *H. bispinosa* and *A. testudinarium* are commonly found among long grass through which the larger mammals are in the habit of passing, while specimens of *I. gigas* have been taken under stones near Darjiling. All three (? or four) species are parasitic on various mammals. An undescribed species of *Haemaphysalis*, probably also a mammal-parasite, was taken among grass at Yembung and indeterminate nymphs of *Haemaphysalis* were collected at several places.

VIII COLEOPTERA, I: RHYSODIDAE, NITIDULIDAE, COLYDIIDAE, CUCUJIDAE, PASSANDRIDAE, DISCOLOMIDAE, CRYPTOPHAGIDAE, MYCETOPHAGIDAE, DRYOPIDAE.

Par A. GROUVELLE.

RHYSODIDAE.

Rhysodes alticola, n. sp.

Elongatus, oblongus, nitidus, fusco-piceus. Antennae subincrassatae; articulis 2°—11° transversis, 11° apice pulvinate, haud acuto. Caput elongatum, suboblongum; lobis posticis elongatis, basi subacuminatis, intus angulosis et inter se admotis, antice cum margine laterali junctis; spatio mediano inter posticos lobos producto, acuminato, antice arcuatim attenuato. Prothorax elongatus subdepressus, capite latior, quadricostatus; costis subdepressis, sulcis externis basi latioribus; sulco mediano basi vix occluso, apice breviter aperto. Elytra valde punctato-striata; intervallis convexis, quam striis paulo angustioribus, 4°, 5° et 6° ante apicem conjunctis.

Long. 5 mill.

Allongé, oblong, brillant, brun de poix. Antennes médiocrement épaisses, progressivement un peu atténuées vers l'extrémité, surtout à partir du milieu de la longueur; articles 2^{me} à 11^{me} transversaux, 11^{me} au moins deux fois plus large que long, terminé par un bouton conique, surbaissé, émoussé. Tête suboblongue, un peu plus de deux fois plus longue que large au niveau des yeux; lobes postérieurs allongés, convexes, subacuminés à la base, anguleux et rapprochés en dedans, soudés en avant, près de la base des antennes aux bourrelets marginaux de la tête, espace médian en forme de fer de lance allongé, acuminé en arrière, engagé entre les lobes postérieurs jusqu'au niveau du bord antérieur des yeux, terminé en avant par un lobe allongé, subparallèle, impressionné à l'extrémité. Prothorax subovale, subparallèle, environ une fois et un tiers plus long que large, plus large que la tête, arrondi en avant, subtronqué à la base, chargé sur le disque de quatre côtés longitudinales, subdéprimées, subégales; sillon interne légèrement rétréci au milieu, presque fermé à la base, étroitement ouvert à l'extrémité; sillons externes subégaux au sillon interne, ouverts aux extrémités, élargis dans la partie basilaire; sillons marginaux très étroits, visibles de dessus, sauf aux angles antérieurs. Elytres oblongs, plus larges que le prothorax, profondément

ponctués-striés; intervalles des stries convexes, un peu plus étroits que les stries; 4^{me}, 5^{me} et 6^{me} intervalles soudés un peu avant le sommet de l'élytre, prolongés en un faible bourrelet, séparé, près du sommet, du 7^{me} intervalle réduit à une courte carène émoussée, par une courte ligne de points qui vient se réunir à la 7^{me} ligne ponctuée discoidale.

2 exemplaires. Kobo, 400 pieds.

Voisin de *R. longiceps*, Grouv., distinct par les carènes du prothorax toutes déprimées; voisin également de *R. intrusus*, Grouv. mais distinct par les intervalles des stries discoidales des elytres presque plus étroits que les stries.

NITIDULIDAE

Carpophilus dimidiatus, Fabr.

Carpophilus dimidiatus, Fabr., 1792, Ent. Syst., p. 261.

Carpophilus dimidiatus var. *contingens*, Walk., 1858, Ann. Nat. Hist., (3) ii, p. 206.

1 exemplaire. Kobo, 400 pieds.

Carpophilus obsoletus, Er.

Carpophilus obsoletus, Er., 1843, Germ. Zeitschr., iv, p. 259.

1 exemplaire. Rotung, 1400 pieds.

Haptoncus ocellaris, Fairm.

Haptoncus ocellaris, Fairm., 1849, Rev. Zool., p. 363.

Haptoncus tetragonus, Murr., 1864, Monog. Nitid., p. 401.

2 exemplaires. Rotung, 1400 pieds.

Ipidia variolosa, Reitt. var.

Ipidia variolosa, Reitt., 1879, Deutsche Ent. Zeitschr., p. 215.

1 exemplaire. Dibrugarh, N. E. Assam.

Megauchenia angustata, Er.

Megauchenia angustata, Er. (*Ischaena*), 1843, Germ. Zeitschr., iv, p. 288.

7 exemplaires. Kobo, 400 pieds.

Megauchenia quadricollis, Reitt.

Megauchenia quadricollis, Reitt., 1883, Notes Leyden Mus., v, p. 10.

3 exemplaires. Kobo, 400 pieds.

***Pria mirmidon*, n. sp.**

Breviter ovata, convexa, nitidula, tenue flavo-pubescentis, picea; antennis, pedibus, bucca et abdominis ultimo segmento testaceis; capite prothoraceque interdum rufo-piceis. Antennae apud marem subelongatae; articulis 1°—5° plus minusve elongatis, vel subelongatis, 5° quam vicinis vix incrassatis, 6°—8° plus minusve transversis, 8°—11° piriformem clavam efficientibus; apud feminam breviores; articulis 8°—10° subcylindricam clavam efficientibus. Caput circiter tam elongatum quam latum, convexum ante antennarum bases arcuatim inflexum, antice truncatum, fronte dense punctulatum; labro profunde emarginato. Prothorax antice subvalde, postice vix angustus, transversus, dense punctulatus; margine antico parum emarginato; angulis anticis rotundatis, posticis obtusis; lateribus arcuatis; basi subtruncata. Scutellum triangulare. Elytra lateribus arcuata, vix ampliata, apice conjunctim subtruncata, paulo breviora quam simul latiora, dense punctulata, pygidium obtegentia. Striae marginales posticarum coxarum juxta apicem inflexae. Feminae caput prothoraxque angustiores.

Long. 1.2 mill.

Environ une fois et demie plus long que large dans sa plus grande largeur, ovale, convexe, un peu brillant, à peine visiblement alutacé, couvert d'une pubescence flave, très fine, ne masquant pas la couleur du tégument, brun de poix avec la bouche, les antennes, le pygidium et les pattes testacés; tête et thorax parfois un peu rougeâtres. Antennes du mâle modérément allongées; 1^{er} article épais, dilaté-arrondi au côté interne, environ une fois et demie plus long que large; 2^{me} moins épais, également environ une fois et demie plus long que large; 3^{me} plus étroit presque trois fois plus long que large; 4^{me} suballongé; 5^{me} un peu allongé, un peu plus large que 4^{me} et 6^{me}; 6^{me} transversal; 7^{me} subcarré; 8^{me} très transversal, amorçant la massue; celle-ci piri-forme presque trois fois plus longue, y compris le 8^{me} article, que large; 9^{me} article transversal, en forme de tronc de cône; 10^{me} à peine aussi long que 9^{me}, sinué au sommet; 11^{me} plus étroit que 10^{me}, subacuminé au sommet, environ aussi long que large. Antennes de la femelle plus courtes que celles du mâle; massue subcylindrique. Tête du mâle à peine plus large que longue y compris les mandibules, rétrécie à la naissance des antennes, subparallèle en avant, tronquée au sommet, infléchie en arc vers la naissance des antennes; front convexe, densément pointillé; labre grand, profondément échancré; yeux saillants, n'échancrant pas les côtés du front, ceux-ci droits, convergents en avant. Prothorax rétréci en avant, à peine à la base, environ deux fois plus large dans sa plus grande largeur que long, densément pointillé, mais moins fortement que la tête; bord antérieur faiblement échancré; angles antérieurs arrondis; côtés arqués, subparallèles un peu en avant des angles postérieurs, ceux-ci obtus; base subtronquée. Écusson triangulaire, égal à la base au quart de la longueur de la base du prothorax, très finement alutacé.

Elytres de la largeur du prothorax à la base, arrondis, à peine élargis sur les côtés, presque tronqués ensemble au sommet, un peu moins longs que larges ensemble, densément pointillés; marges latérales, étroitement rebordées; stries marginales des hanches postérieures infléchies à l'extrémité. Tibias allongés. Tête et prothorax plus étroits chez la femelle.

1 mâle, 2 femelles. Dibrugarh, N.É. Assam.
Dans les fruits du *Pandarus odoratissimus*.

***Pria diluticollis*, n. sp.**

Ovata convexa nitidula, flavo-aureo-pubescentis, fulvo-testacea, elytris piceis, apice dilutioribus. Antennae graciles; articulis 1°—5° plus minusve elongatis vel subelongatis; 6° et 7° transversis; 8°—10° piriformem clavam efficientibus. Caput transversum, convexiusculum, antice truncatum, tenuissime alutaceum, parce punctulatum, ante antennarum bases arcuatim inflexum; labro emarginato. Prothorax antice valde, postice vix angustus, transversus, alutaceus, subparce punctulatus; margine antico subtruncato; angulis anticis rotundatis; lateribus modice arcuatis, tenuissime marginatis; angulis posticis obtusis; basi subtruncata ad extremitates late subsinuata, tenuiter marginata. Scutellum triangulare, magnum. Elytra lateribus arcuata, sat ampliata, apice separatim breviter rotundata, vix breviora quam simul latiora, alutacea, subparce punctulata, punctis transversim vix perspicue strigosis. Striae marginales posticarum coxarum juxta apicem inflexae.

Long. 1.5 mill.

Un peu plus d'une fois et demie plus long que large dans sa plus grande largeur, ovale, modérément convexe, un peu brillant, alutacé, couvert d'une pubescence flave-dorée, ne masquant pas la couleur du tégument, fauve-testacé avec les elytres brun de poix plus clairs vers l'extrémité. Antennes grêles; 1^{er} article épais, dilaté-arrondi en dedans, environ une fois et un tiers plus long que large; 2^{me} moins épais, environ une fois et demie plus long que large; 3^{me} plus étroit, deux fois plus long que large; 4^{me} et 5^{me} suballongés; 6^{me} subtransversal; 7^{me} transversal; 8^{me} très transversal, amorçant la massue, celle-ci piriforme, environ deux fois plus longue, y compris le 8^{me} article, que large; 9^{me} article transversal, en forme de tronc de cône; 10^{me} sensiblement aussi long que 9^{me}, sinué au sommet; 11^{me} plus long et plus étroit que 10^{me}, subcylindrique, terminé à l'extrémité en forme de cône surbaissé. Tête un peu moins longue avec les mandibules que large avec les yeux, rétrécie à la naissance des antennes, puis subparallèle, tronquée en avant, infléchie en arc en avant des naissances des antennes; front subconvexe, éparsément pointillé; labre assez grand, fortement sinué; yeux médiocrement saillants, échancrant les marges du front, celles-ci convergentes en avant. Prothorax rétréci en avant; à peine à la base, un peu moins de deux fois plus large dans sa plus grande largeur que long, assez éparsément pointillé; bord antérieur subtronqué; angles antérieurs arrondis; côtés faible-

ment arqués, sauf contre les angles postérieurs, très finement rebordés; angles postérieurs obtus; base tronquée, très largement subsinuée, rebordée vers les extrémités. Écusson triangulaire, occupant environ le quart de la longueur de la base du prothorax, éparsément et très finement pointillé. Élytres de la largeur du prothorax à la base, arqués sur les côtés, assez élargis, séparément et largement arrondis au sommet, presque aussi longs que larges ensemble dans leur plus grande largeur, très étroitement rebordés sur les côtés, couverts d'une ponctuation plus forte que celle du prothorax, un peu éparsée, transversalement substrigieuse lorsqu'elle est vue de bas en haut. Stries marginales des hanches postérieures infléchies à l'extrémité. Tibias allongés.

1 exemplaire. Près Kalek, 2500 pieds.

Amystrops montana, n. sp.

Ovata, convexa, nitida, parce tenue flavo-pubescent, rufo-testacea, elytris sat dilute rufo-castanea. Antennae subgraciles; 3° articulo elongato quam 2° paulo longiore, clava paulo minus duplo longiora quam latiora, ultimo articulo quam praecedente longiore et angustiore. Caput modice transversum, dense punctatum, antice truncatum; labro magno, profunde emarginato. Prothorax antice angustus, parcius sed fortius capite punctatus; margine antico late emarginato; angulis anticis rotundatis; lateribus rotundatis, basin versus parallelis, tenuiter marginatis; angulis posticis acutis, retrorsum productis, basi medio subtruncata, utrinque scutelli breviter sinuata, ad extremitates inflexa et tenuiter marginata. Scutellum magnum, subtriangulare, parce punctatum. Elytra ovata, in maxima latitudine prothorace vix latiora, ad apicem conjunctim truncata, breviora quam simul latiora, quam prothorace fortius et paulo densius punctata; angulis humeralibus rotundatis. Pygidium haud occultum, dense punctatum. Caput et prothorax infra subleves. Metasternum abdomenque parce punctulata.

Long. 1.6 mill.

Ovale, un peu plus d'une fois et demie plus long que large dans sa plus grande largeur, convexe, brillant, couvert d'une pubescence flave, fine, espacée, roux testacé avec les élytres roux marron clair. Antennes presque grêles; 1^{er} article à peu près aussi long que large, dilaté arrondi au côté interne; 2^{me} plus étroit que le 1^{er}, environ une fois et demie plus long que large; 3^{me} encore plus étroit, deux fois et demie plus long que large; 4^{me} une fois et demie plus long que large; 5^{me} un peu plus court que 4^{me}; 6^{me}, 7^{me} et 8^{me} progressivement plus transversaux; 8^{me} plus large que 7^{me}; 9^{me} à 11^{me} formant une massue compacte, un peu moins de deux fois plus longue que large, dont le dernier article est plus long et plus étroit que le précédent.

Tête environ une fois et demie plus large au niveau des yeux que longue avec les mandibules, densément ponctuée, biimpres-

sionnée entre les bases des antennes, rétrécie transversalement en avant des yeux, jusqu'à l'insertion des antennes, puis obliquement rétrécie et saillante en avant pour former l'épistome, celui-ci tronqué; labre grand, profondément échancré; yeux saillants. Prothorax à peine plus large en avant que la largeur de la tête, beaucoup plus large à la base, arrondi sur les côtés, parallèle à la base, plus de deux fois plus large à la base que long, plus éparsément et plus fortement ponctué sur le disque que la tête, bord antérieur largement échancré, finement rebordé aux extrémités; angles antérieurs arrondis, rebordés; côtés arqués, rebordés; angle postérieurs aigus, saillants en arrière; base tronquée au milieu, brièvement sinuée de chaque côté de l'écusson, puis subtronquée et réfléchiée en arrière, avant l'extrémité, rebordée de chaque côté de l'écusson. Écusson occupant environ le quart de la base du prothorax, subtriangulaire, éparsément pointillée. Elytres ovales, de la largeur du prothorax à la base, arrondis sur les côtés, à peine élargis, presque subtronqués ensemble au sommet, nettement moins longs que larges ensemble dans la plus grande largeur, plus fortement ponctués que le prothorax, mais moins densément ponctué que lui sur les côtés; bords latéraux finement rebordés; angles huméraux arrondis. Pygidium bien découvert, triangulaire, densément pointillé. Dessous de la tête et du prothorax presque lisse; métasternum et abdomen densément ponctués. Sillons antennaires courts, convergents. Palpes maxillaires allongés, filiformes. Saillie prothoracique, subspatulée, dépassant le niveau des hanches. Mésosternum obliquement enfoncé.

6 exemplaires. Dibrugarh, N. E. Assam.
Dans les fruits du *Pandarus odoratissimus*.

COLYDIIDAE.

Xuthia parallela, Sharp.

Xuthia parallela, Sharp, 1885, Journ. Linn. Soc. Lond., xix, p. 70.

1 exemplaire. Rotung, 400 pieds.

Tarphiosoma kempí, n. sp.

Breviter ovatum, convexum, nitidum, atrum, antennis pedibusque rufo-piceum; corpore subtus setis erectis subinfuscatis, in elytris paulo longioribus et pilis plus minusve squamiformibus, sordido-ochraceis, ex parte in maculis densatis, vestito. Antennae subtenuae; 9° articulo quam praecedente paulo latiore. Caput transversum, utrinque late impressum, sat dense sed inaequaliter granosum. Prothorax transversissimus, antice quam postice paulo angustior, lateribus valide arcuatus ad angulos anticos breviter, posticos vix perspicue sinuatus, granosus; disco convexo, in longi-

itudinem subsulcato ; lateralibus marginibus late explanatis ; apice late profundeque emarginato, valde pulvinate-marginato ; angulis anticis acutis, lateribus praecipue ad basin obtuse denticulatis ; angulis posticis subrectis ; basi medio subtruncata, ad extremitates oblique retrorsum producta. Elytra ad basin prothoracis quam maxima longitudine latiora, apice conjunctim acuminata, paulo breviora quam simul latiora, valde lineato-punctata ; humeris haud rotundatis.

Long. 5 mill.

En ovale court, convexe, brillant lorsqu'il est dégagé de l'enduit terreux que le couvre en général, noir, garni sur tout le dessus du corps de soies foncées ou jaune sale, dressées un peu plus longues sur les elytres que sur le prothorax et de poils plus ou moins squamiformes, plus nombreux sur le disque du prothorax et sur ses marges latérales et plus ou moins condensés sur les elytres, principalement sur deux bandes transversales ondulées, la première près de la base, la deuxième avant la declivité apicale. Antennes testacées-enfumées, presque grêles ; 6^{me} article à peine plus étroit que le 5^{me} ; 6^{me} à 8^{me} s'épaississant très légèrement ; 9^{me} nettement plus large que 8^{me} ; 9^{me} et 11^{me} formant une massue environ une fois et demie plus longue que large, dont le dernier article est un peu plus court et nettement plus étroit que le précédent. Tête près de deux fois plus large que longue, subdéprimée, largement impressionnée de chaque côté, couverte de granulations fortes vers la base, faibles sur l'épistome ; bord antérieur très largement arrondi, yeux non saillants ; labre grand, roux. Prothorax un peu plus rétréci en avant qu'à la base, fortement arrondi sur les côtés, légèrement sinué vers les angles antérieurs, à peine vers les angles postérieurs, présentant sa plus grande largeur vers le 1^{er} tiers de la longueur à partir de la base, presque deux fois et demie plus large, dans sa plus grande largeur, que long dans sa plus grande longueur, couvert de granulations assez fortes, allongées sur les marges latérales, ponctué et longitudinalement sillonné sur le disque ; bord antérieur largement et profondément échancré, bordé par un fort bourrelet coupé par le sillon longitudinal du disque, angles antérieurs aigus, saillants en avant ; côtes obtusement denticulés dans la moitié basilaire, marges latérales très largement enplanées-concaves ; angles postérieurs droits, non émoussés ; base subtronquée au milieu, obliquement réfléchiée en arrière aux extrémités, convexité longitudinale forte, plus accentuée en avant, séparée du bourrelet antérieur par une forte dépression ponctué ; convexité transversale forte, presque séparée des marges latérales tuberculeuses par un sillon. Écusson petit, suborbiculaire. Elytres un peu plus larges à la base que le prothorax dans sa plus grande largeur, anguleux aux épaules, à peine élargis, acuminés ensemble au sommet, un peu moins longs que larges ensemble, ponctués en lignes de gros points enfoncés, à contour mal défini, déterminant des intervalles fortement

ondulés, marges latérales étroites, à peine marquées, tuberculeuses, renflées vers les épaules ; bords latéraux obtusement denticulés.

1 exemplaire. Kalek, 3800 pieds.

Hyberis similis, n. sp.

Oblongo-ovatus, convexus, nitidulus tuberculato-setosus, ater ; antennis rufo-fuscis ; tarsi rufis. Antennae subgraciles ; 3° articulo quam simul 1° et 2° brevior. Caput subtransversum, depressum, antice subtruncatum, occipite vix granosum. Prothorax transversus, subcordiformis, marginibus lateralibus sat late explanatus, granosus, antice in longitudinem sulco laevi impressus, ante médium, utrinque sulci duobus contiguus gibbis, valde tuberosus ; margine antico medio rotundato, sulco late marginato, utrinque valde sinuato ; angulis anticis acutis ; lateribus ante médium, valde rotundato-productis, dentatis ; basi sulcato-marginata. Elytra oblonga, apice conjunctim breviter rotundata, magis sesquolongiora quam simul latiora, in disco subconfuse et haud profunde lineato-punctata, in intervallis inaequaliter tuberosa ; punctorum intervallis subelevatis, ocellatis ; tuberis in disco interdum geminis ad latera et apicem versus magis ordinatis.

Long. 4.2 mill.

Suboblong, environ trois fois plus long que large dans la plus grande largeur, fortement convexe, un peu brillant, couvert de tubercules plus ou moins développés, portant chacun une soie dressée, plus longue sur les elytres que sur la tête et le prothorax, noir avec les antennes roux enfumé et les tarsi rougeâtres. Antennes assez grêles ; 3^{me} article environ deux fois plus long que large, plus court que les deux premiers réunis ; 4^{me} plus court que 3^{me} ; 4^{me} à 7^{me} progressivement plus courts ; 8^{me} et 9^{me} subégaux, suballongés, un peu plus longs que 7^{me} ; 10^{me} en forme de massue piriforme, pubescent sur la partie apicale. Tête subtransversale, déprimée, un peu moins longue que large avec les yeux, chargée de tubercules faibles et espacés sur l'occiput, plus forts et plus serrés entre les naissances des antennes, faibles et serrés sur l'épistome ; yeux échancrant le front, à peine saillants, sans soies dressées. Prothorax à peu près aussi large à la base qu'au sommet, subcordiforme, fortement dilaté, arrondi sur les côtes, environ deux fois et demie plus large dans sa plus grande largeur que long, assez largement explané-concave sur les côtes, chargé de tubercules serrés, laissant libre, en avant, un court sillon longitudinal et formant de chaque côté du disque, sur une ligne transversale, une double gibbosité un peu allongée ; bord antérieur arrondi dans le milieu et bordé par un large bourlet subdéprimé, coupé par le sillon longitudinal du disque ; angles antérieurs aigus, saillants en avant, n'atteignant pas le niveau du milieu du bord antérieur ; côtés fortement dentés ; angles postérieurs subaigus ; base tronquée devant l'écusson, largement sinuée de chaque côte, bordée par une forte strie

enfoncée. Écusson petit, suborbiculaire. Elytres largement arrondis aux épaules, alors un peu plus larges que le prothorax dans sa plus grande largeur, arrondis faiblement dilatés sur les côtés, brièvement arrondis ensemble au sommet, plus d'une fois et demie plus longs que larges ensemble dans leur plus grande largeur, superficiellement et peu régulièrement ponctués sur le disque, chargés sur les intervalles de tubercules sétifères, plus ou moins forts, irrégulièrement distribués, parfois geminés; intervalles des points très légèrement relevés, ocellés; tubercules disposés en lignes plus régulières, vers l'extrémité et sur les marges latérales. Stries marginales des elytres bien marquées.

2 exemplaires. Kalek, 3800 pieds. Dessous les écorces.

Trachypholis hispida, Weber.

Trachypholis hispida, Weber (*Opatrum*), 1801, *Observ. Ent.*, i, p. 38.

1 exemplaire. Kobo, 400 pieds.

Trachypholis decorata, Grouv.

Trachypholis decorata, Grouvelle, 1911, *Notes Leyden Mus.*, xxxiii, p. 126.

2 exemplaires. Rotung, 1400 pieds.

Trachypholis signata, Grouv.

Trachypholis signata, Grouvelle, 1911, *Notes Leyden Mus.*, xxxiii, p. 128.

3 exemplaires. Rotung, 1400 pieds.

CUCUJIDAE.

Cucujus kempí, n. sp.

Planus, capite prothorace, antennis, pedibus et corpore subtus niger, clytris ruber. Caput asperum, dense punctatum; punctis ex parte confluentibus; lobis posticis valde prominulis. Prothorax in maxima latudine minus duplo latior quam longior, valde asper, plus minusve crebre punctatus; punctis irregularibus saepius confluentibus, intervallis plus minusve valde elevatis; margine antico valde lateque pulvinate-marginato, pulvino postice medio et utrinque profunde excavato; lateribus arcuatis, denticulatis. Elytra in disco subregulariter lineato-punctata.

Long. 22 mill.

Forme et aspect normal des *Cucujus*. Tête, prothorax, antennes, pattes et dessous du corps noirs; elytres rouges, de nuance un peu sanguine. Antennes s'épaississant assez sensiblement vers l'extrémité. Surface de la tête très inégale, irrégulièrement

ponctuée; points souvent confluent, leurs intervalles parfois élevés presque en carènes; lobes des angles postérieurs fortement saillants. Prothorax rétréci à la base, moins de deux fois plus large, dans sa plus grande largeur, que long dans sa plus grande longueur, denté sur les côtés; disque inégal comme celui de la tête; bord antérieur relevé, au milieu, en un large bourrelet se prolongeant sur le disque, en deux carènes courtes, largement émoussées, bordant en dedans une forte impression et limitant chacune en dehors le bord interne d'une impression également bien marquée; devant le milieu de la base deux impressions profondes, obliques divergentes. Elytres ponctués sur le disque en lignes presque régulières, points mieux marqués vers la base, atténués vers le sommet, plus ou moins confus sur la région scutellaire.

1 exemplaire. Geku, 10,000 pieds.

? *Uleiota atratula*, Reitt.

Uleiota atratula, Reitter, 1877, Mittheil. Munch. Ent. Ver., p. 24.

1 exemplaire. Rotung, 1400 pieds.

Laemophloeus semilaetaneus, n. sp.

Oblongus, modice elongatus, depressus, nitidus, glaber, niger; elytris plus minusve nigro-piceis; singulo lata plaga laterali, lacteola notato; mandibulis, antennarum primo articulo, tarsisque rufis. Antennae elongatae; 1° articulo 2 et 1/2 longiore quam latiore; 2°—8° subelongatis, tribus ultimis parum incrassatis. Caput transversissimum, depressum, subdense irregulariterque punctatum, in disco in longitudinem bistriolatum, antice quinque sinuatum. Prothorax transversissimus, basin versus parum angustus, parce tenuissimeque punctulatus, utrinque unistriatus; lateribus arcuatis, angulis omnibus plus minusve rotundatis; basi inter strias dorsales tenuiter marginata. Scutellum subpentagonale, parce punctulatum. Elytra oblonga, vix sesquolongiora quam simul latiora, apice separatim late rotundata, vix perspicue punctulata, abdominis ultimum segmentum haud tegentia.

Long. 2.5 mill.

Oblong, modérément allongé, déprimé, brillant, glabre, noir; elytres plus ou moins noir de poix, marqués chacun d'une grande tache lactescente, latérale, n'atteignant pas l'épaule, le sommet et la suture; mandibules, 1^{er} article des antennes et tarse rougeâtres. Antennes atteignant presque le milieu de la longueur des elytres; 1^{er} article environ deux fois plus long que large; 2^{me} à 8^{me} submoniliformes; 2^{me} et 3^{me} subégaux, un peu plus longs que larges; 4^{me} à 8^{me} un peu plus longs que les précédents; 9^{me} à 11^{me} formant une massue lâche, peu accentuée, dont les deux premiers articles sont environ aussi longs que larges et dont le dernier est un peu

plus long que les précédents. Tête environ deux fois et demie plus large que longue y compris les mandibules, déprimée, plus ou moins densément ponctuée, marquée sur le disque de deux courtes stries légèrement divergentes; bord antérieur cinq fois sinuée entre les naissances des antennes, subrebordé dans la partie des trois sinuosités internes; bords latéraux convergents en avant, dans la partie qui précède les yeux, rebordés; yeux modérément saillants; mandibules assez rapprochées à la base, saillantes. Prothorax rétréci vers la base, un peu plus étroit que la tête avec les yeux, environ deux fois et demie plus large dans sa plus grande largeur que long, éparsément et à peine visiblement pointillé, strié de chaque côté; stries convergentes vers l'arrière, réunies à l'extrémité par une strie qui borde la base; tous les angles plus ou moins arrondis; côtés arqués-rebordés. Ecusson subpentagonal, plus large que long, très éparsément ponctué. Elytres à la base de la largeur du prothorax un peu en avant des angles postérieures, arqués sur les côtés, peu élargis, en angles obtus émoussés aux angles postérieurs externes, largement et séparément arrondis au sommet, environ une fois et demie plus longs que larges ensemble dans la plus grande largeur, à peine visiblement pointillés. Dernier segment de l'abdomen largement visible, presque éparsément pointillé.

1 exemplaire mâle. Rotung, 1400 pieds.

Laemophloeus subturcicus, n. sp.

Elongatus, subparallelus, subdepressus, nitidulus, pube flava brevi tenuique vestitus, ferrugineus, antennis pedibus elytrisque paulo dilutus. Antennae elongatae, apud marem haud clavatae, apud feminam subclavatae; 2° articulo quam 3° longiore. Caput transversum, subtriangulare, antice sinuatum, subdense punctulatum; lateribus convergentibus, tenuiter marginatis, juxta antennarum basin subelevatis; stria interantennali arcuata, praecipue ad extremitates manifesta; oculis modice prominulis. Prothorax transversus, antice vix, postice sat valde angustus, dense punctatus, utrinque unistriatus, margine antico vix arcuato; angulis anticis subobtusis; lateribus arcuatis, ad basin sinuatis et tenuiter marginatis; angulis posticis rectis, haud hebetatis; basi truncata, utrinque sinuata, margine basilari medio pulvinate-elevato. Scutellum subtriangulare, transversum. Elytra prothorace vix latiora, subparallela, ad apicem modice attenuata et apice separatim late rotundata, 2 et 1/3 tam elongata quam simul lata, in disco sex striata; striis 1^a (suturali) 3^a et 5^a impressioribus, 2^a ad basin attenuata; intervallo suturali bilineato-punctulato, aliis plus minusve regulariter unilineato-punctulatis; margine laterali, juxta sextam striam carinato-plicato.

Long. 1.6—1.8 mill.

Subparallèle, environ trois fois et demie plus long que large, subdéprimé, un peu brillant, couvert d'une pubescence flave, fine,

très courte, brun ferrugineux avec les elytres, les antennes et les pattes un peu plus clairs. Antennes allongées, atteignant chez le mâle le deuxième tiers de la longueur des elytres; 2^{me} article très nettement plus long que large; 3^{me} également plus long que large, mais plus court que le 2^{me}; 4^{me} deux fois plus long que large; 5^{me} plus long que 4^{me} et 6^{me}; 6^{me} à 11^{me} tous allongés, plus de deux fois et demie plus longs que larges, également épais; chez la femelle l'antenne atteint environ le milieu de la longueur de l'elytre, les articles sont relativement moins longs et les trois derniers forment une massue lache, très peu accentuée. Tête un peu moins de deux fois plus large que longue en tenant compte des mandibules et des yeux, subtriangulaire, longitudinalement un peu convexe, assez densément pointillée; bord antérieur largement sinué; côtés convergents, très finement rebordés, relevés vers la naissance des antennes; strie interantennaire arquée, mieux marquée aux extrémités; tempes parallèles; yeux médiocrement saillants; labre largement et faiblement arrondi au sommet, moins de trois fois plus large que long. Prothorax à peine rétréci en avant, assez fortement à la base, environ une fois et un tiers plus large en avant que long, couvert d'une ponctuation presque serrée, un peu plus forte que celle de la tête, longitudinalement uni-strié de chaque côté, longitudinalement déprimé sur le disque, relevé en bourrelet sur la partie médiane de la base; bord antérieur à peine arqué; angles antérieurs subobtus; côtés très finement rebordés, arqués, sinués vers les angles postérieurs; ceux-ci droits, non émoussés; base tronquée, sinuée de chaque côté. Écusson subtriangulaire, très transversal. Elytres sinués à la base, arrondis aux épaules, alors à peine plus larges que le prothorax, subparallèles, atténués dans la partie apicale, largement et séparément arrondis au sommet, environ deux fois et un tiers plus longs que larges ensemble dans la plus grande largeur, chacun avec six stries ponctuées sur le disque, 1^{re} strie (suturale), 3^{me} et 5^{me} un peu plus marquées, 2^{me} atténuée à la base; intervalle sutural avec deux lignes de très petits points, les autres avec une ligne ponctuée irrégulière; intervalles alternes subélevés vers le sommet; marges latérales limitées par une carène contre la 6^{me} strie, à peine rebordées-explanées. Pas de stries fémorales sur le 1^{er} segment de l'abdomen. Mesosternum se développant dans un plan à peine oblique par rapport au plan du métasternum. Hanches antérieures très écartées, leurs cavités ouvertes.

Inde (dans le corps d'un Bupreste); Yunnan (avec un lot de Cetoines moisies). Plusieurs exemplaires; Collection A. Grouvelle.

1 exemplaire. Sadiya, N. E. Assam.

Laemophloeus proximus, Grouv.

Laemophloeus proximus, Grouvelle, 1908, Ann. Soc. Ent. Fr., p. 466.

1 exemplaire. Dosing, 1400 pieds.

Silvanus lateritius, Reitt.

Silvanus lateritius, Reitter, 1878, Verhandl. zool. bot. Gesells. Wien, p. 194.

Nombreux exemplaires. Rotung, Sadiya, Pang-i.

*PASSANDRIDAE.***Hectarthrum trigeminum**, Newm.

Hectarthrum trigeminum, Newman, 1839, Ann. Nat. Hist., ii, p. 393.

5 exemplaires. Kobo, 400 pieds.

*DISCOLOMIDAE.***Holophygus rugosus**, n. sp.

Suborbicularis, latior quam longior, convexus, nitidus, setis tenuibus, erectis, subinfuscatis, subdense vertitus, nigro piceus; antennis, corpore subtus, pedibus et saepius prothoracis elytrorum que marginibus explanatis dilutioribus. Antennae subgraciles; 1° et 3° articulis elongatissimis. Caput fronte depressum, late rugosum. Prothorax transversissimus, lateribus subanguloso-productus, ante anguli apicem sinuatus, subdense valdeque punctatus, in longitudinem sulcatus; marginibus lateralibus latissime explanatis; basi medio breviter truncata, utrinque late sinuata, marginata. Elytra basi quam prothorax latiora, fere semicircumducta, circiter simul 1 et 1/2 latiora quam longiora, crebre punctata; angulis humeralibus antrorsum rotundato-productis; marginibus lateralibus late explanatis, sublaevibus, undulatis. Femora apicem versus intus dentata.

Long. 1.8—2 mill.

Suborbiculaire, plus large que long, convexe, explané sur les côtés, brillant, couvert de soies dressées, fines plus ou moins enfumées, brun de poix, nettement plus clair sur les antennes, les pattes, le dessous du corps et parfois les marges explanées. Antennes assez grêles; 1^{er} article épais, arqué, plus de trois fois plus long que large; 2^{me} encore un peu épais, subcarré; 3^{me} environ quatre fois plus long que large; 4^{me} environ deux fois et demie; 5^{me} presque deux fois; 6^{me} environ une fois et demie; 7^{me} un peu plus court que 6^{me}; 8^{me} en forme de massue piriforme, composée de trois articles soudés. Tête déprimée, sur le disque, réserrée en avant des antennes, puis dilatée, infléchie, couverte de rugosités peu serrées; bord antérieur tronqué; labre petit. Prothorax beaucoup plus large que la tête, dilaté en angle émoussé sur les côtés, sinué, subcrénelé en arrière de ces angles, presque quatre fois plus large, dans sa plus grande largeur, que long dans sa plus grande longueur, plus ou moins éparsément ponctué sur le

disque, longitudinalement sillonné; bord antérieur largement échancré; angles antérieurs obtus, médiocrement saillants en avant; marges latérales très largement explanées, presque lisses, bordées par un fin bourrelet peu marqué; angles postérieurs obtus, parfois subdentés, base tronquée devant l'écusson, largement sinuée de chaque côté, rebordée. Écusson petit, subtriangulaire. Élytres contigus à la base du prothorax, plus larges, réfléchis obliquement en avant, pour former des angles huméraux saillants en avant, fortement émoussés, arrondis, à peine élargis sur les cotés, arrondis ensemble au sommet, environ une fois et demie plus larges que longs, couverts d'une ponctuation forte, très serrée, donnant un aspect rugueux; marges latérales explanées, moins larges que celles du prothorax, presque lisses; bords largement subondulés. Fémurs postérieurs dentés au côté interne, avant l'extrémité.

9 exemplaires. Kobo, 400 pieds. Dessous les écorces.

CRYPTOPHAGIDAE.

Diphyllus odiosus, n. sp.

Ovatus, sat latus, convexus, nitidus, pube cinerea, brevi vestitus, testaceo-castaneus; antennis pedibusque paulo dilutioribus. Antennae subincrassatae; 3° articulo elongato, clava magis duplo longiore quam latiore, ultimo articulo oblongo. Caput transversum, convexiusculum, rugosulum et plus minusve dense punctatum, ante antennatum bases modice productum, antice subtruncatum. Prothorax antice valde angustus, basi 2 et 1/3 latior quam longior, utrinque in longitudinem bicarinatus; carina externa integra, interna postice abbreviata, minus elevata; disco plus minusve, marginibus lateralibus dense, punctatis; punctis, in disco duo elongata laevia spatia reliquantibus; margine antico arcuato, ad extremitates sinuato; angulis anticis obtusis; lateribus arcuatis, tenuiter marginatis; angulis posticis acutis, retrorsum modice productis; basi medio arcuata, utrinque sinuata, ad extremitates quam in medio strictius marginata. Scutellum transversum, apice rotundatum. Elytra basi quam prothorace haud latiora, lateribus arcuata, vix ampliata, apice conjunctim brevissime rotundata, circiter 1 et 2/3 longiora quam simul latiora, lineato punctata; punctis juxta basin et ad latera majoribus, ad apicem praecipue juxta suturam attenuatis; intervallis linearum latis, in disco planis, ad latera subconvexis. Lineae marginales intermediarum coxarum arcuata, episternum ante apicem attingentes; lineae femorales internae coxarum posticarum rectae, parallelae, integrae, externae rectae, integrae, obliquae.

Long. 2.2 mill.

Ovale, environ deux fois et un tiers plus long que large dans la plus grande largeur, convexe, brillant, testacé-marron avec les antennes et les pattes plus claires, couvert d'une pubescence cen-

drée, fine, inclinée, courte sur le disque, plus longue vers les côtés. Antennes un peu épaisses; 1^{er} article épais, carré, 2^{me} moins épais, suballongé; 3^{me} environ deux fois plus long que large; 4^{me} à 6^{me} subégaux, un peu allongés; 7^{me} à 9^{me} s'épaississant progressivement et faiblement; 7^{me} et 8^{me} subcarrés; 9^{me} subtransversal; 10^{me} et 11^{me} formant une massue donc le 1^{er} article, en forme de tronc de cône, est environ aussi long que large au sommet et dont le 2^{me} article est suboblong, plus étroit que le précédent. Tête plus de deux fois plus large que longue, transversalement un peu convexe, subtronquée en avant, modérément saillante en avant des bases des antennes, ruguleuse, plus ou moins densément ponctuée de points relativement gros; yeux gros, assez saillants, presque glabres, facettes moyennes. Prothorax fortement rétréci en avant, régulièrement arqué sur les côtés, parallèle contre la base, environ deux fois et un tiers plus large à la base que long, très faiblement convexe dans la longueur sauf en avant, longitudinalement bicaréné de chaque côté; carènes externes subrectilignes, partant de l'angle postérieur, rejoignant le bord antérieur assez près de ses extrémités, carènes internes antérieures courtes, moins élevées, modérément éloignées des externes; ponctuation plus ou moins serrée sur le disque, laissant libres deux étroites bandes longitudinales, rapprochées, plus forte et plus serrée vers les côtés; bord antérieur arrondi au milieu, sinué de chaque côté; rebordé entre les carènes; angles antérieurs obtus, peu émoussés; bords latéraux finement rebordés, brièvement ciliés, angles postérieurs aigus, un peu saillants en arrière, base largement sinuée de chaque côté, bordée par une strie plus rapprochée du bord aux extrémités qu'au milieu. Écusson environ deux fois plus large que long, arrondi au sommet. Elytres aussi larges à la base que le prothorax, en angles obtus aux épaules, formant avec les côtés du prothorax un angle à peine marqué, arrondis sur les côtés, à peine élargis, présentant leur plus grande largeur vers le premier sixième de la longueur à partir de la base, presque acuminés ensemble au sommet, environ une fois et deux tiers plus longs que larges ensemble dans la plus grande largeur, ponctués en lignes; points plus accentués à la base et sur les marges latérales, atténués vers le sommet, presque effacés contre la suture, sauf à la base; base des elytres à peine rebordée en bourrelet de chaque côté de l'écusson; lignes suturales dédoublées à la base, presque effacées en dehors de la partie géminée; intervalles des lignes ponctuées plans sur le disque, subconvexes vers les côtés, à peine visiblement pointillés; calus huméraux faiblement marqués. Méta sternum longitudinalement substrié. Lignes fémorales internes des hanches intermédiaires effacées, lignes externes arquées, rejoignant l'épisternum un peu avant l'extrémité; lignes fémorales des hanches postérieures droites, entières; les internes parallèles, les externes obliques, atteignant le sommet du premier segment de l'abdomen près de ses extrémités.

1 exemplaire. Kobo, 400 pieds.

Diphyllus molestus, n. sp.

Oblongus, convexus, nitidus, pube flava vestitus, ater; singulo elytro rufo-fulvo bimaculato; 1^a macula humerali, 2^a apicali, ambabus linea stricta parum manifesta conjunctis. Antennae graciles; articulis 3^o—5^o elongatis, subaequalibus; clava paulo duplo longiore quam latiore, articulis subaequalibus, ultimo quam praecedente vix angustiore, apice subacuminato. Caput transversum, transversim convexus, dense punctatum, ante antennarum bases modice productum, antice subtruncatum. Prothorax antice valde angustus, basi magis duplo latior quam longior, utrinque bicarinatus; carina externa cum latere subparallela, interna postice abbreviata, minus elevata; disco inter externas carinas subdense punctato, punctis ad latera paulatim validioribus et densioribus; margine antico utrinque modice sinuato; angulis anticis obtusis, hebetatis; lateribus arcuatis, tenuiter marginatis, praecipue ad basin ciliatis, angulis posticis acutis, retrorsum modice productis; basi medio truncata utrinque sinuata, ad extremitates quam in medio evidenter strictius marginata. Scutellum transversissimum, apice truncatum. Elytra basi quam prothorax haud latiora, lateribus arcuata, vix latiora, apice conjunctim subacuminata, 2 et 1/3 longiora quam simul latiora, lineato-punctata, punctis juxta basin et ad latera majoribus, apicem versus attenuatis, intervallis linearum latis, depressis, punctulatis. Lineae internae metasterni apice abbreviatae, externae episternum ante apicem attingente; lineae internae abdominis primi segmenti apice abbreviatae, subrectae, divergentes, externae integrae, subrectae.

Long. 2.2 mill.

Oblong, environ trois fois plus long que large dans la plus grande largeur, convexe, brillant, couvert d'une pubescence flave assez serrée, plutôt courte, noir avec deux taches subferrugineuses sur chaque elytre; la première humérale, oblique, la deuxième apicale, toutes deux réunies par une bande longitudinale, de même couleur, mal définie comme nuance et comme contour. Antennes grêles; 1^{er} article épais, un peu plus long que large; 2^{me} moins épais, également un peu plus long que large; 3^{me} et 4^{me} subégaux, environ deux fois plus longs que larges; 5^{me} un peu allongé; 6^{me} à 9^{me} subcarrés; 10^{me} et 11^{me} formant une massue dont le 1^{er} article, presque en forme de tronc de cône, est presque aussi long que large au sommet et dont le second, à peine plus étroit que le premier, mais un peu plus long, est suboblong, subacuminé à l'extrémité. Tête plus de deux fois plus large que longue, transversalement un peu convexe sur le front, subpliée en arc entre les antennes et infléchie, subtronquée au bord antérieur, modérément saillante en avant des bases des antennes, couverte de gros points plus ou moins serrés; yeux gros, assez saillants, presque glabres, facettes assez fortes. Prothorax fortement rétréci en avant, régulièrement arqué sur les côtes, ceux ci convergents dès la base, environ deux fois et demie plus large à la base que long, très faiblement convexe dans la longueur sauf en avant, longitudinale-

ment bicarène de chaque côté; carènes externes arquées, prenant naissance près des angles postérieurs, rejoignant le bord antérieur en s'écartant progressivement, mais très lentement du bord latéral; carènes internes, antérieures, courtes, moins élevées, modérément éloignées des externes; ponctuation écartée, moins forte sur le disque, devenant plus forte et plus serrée vers les carènes externes, presque disposée en lignes entre les carènes internes et externes, moins forte en dehors des carènes externes qu'en dedans; bord antérieur arrondi au milieu, sinué sur les côtes, rebordé entre les carènes internes et externes; angles antérieurs obtus, émoussés, bords latéraux finement rebordés, ciliés; angles postérieurs aigus, un peu saillants en arrière, base tronquée au milieu, largement sinuée de chaque côté, bordée par une strie plus enfoncée et plus rapprochée du bord au milieu qu'aux extrémités. Écusson environ quatre fois plus large que long, tronqué au sommet. Elytres aussi larges à la base que le prothorax, en angle obtus aux épaules, formant avec les côtés du prothorax un angle à peine marqué, arrondis sur les côtés, à peine élargis, présentant leur plus grande largeur vers le premier quart de la longueur à partir de la base, subacuminés ensemble au sommet, environ une fois et un tiers plus longs que larges ensemble dans la plus grande largeur, ponctués en lignes; points plus accentués à la base et sur les marges latérales, atténués vers le sommet; lignes suturales dédoublées à la base, presque effacées en dehors de la partie geminée; intervalles des lignes ponctuées larges et plans, pointillés; calus huméraux marqués. Métasternum finement strié dans la longueur, densément pointillé. Lignes femorales internes des hanches intermédiaires n'atteignant pas le sommet du segment, arquées, subparallèles à l'extrémité; externes arquées, rejoignant l'épisternite avant l'extrémité; lignes femorales internes des hanches postérieures n'atteignant pas le sommet du segment de l'abdomen, subrectilignes, divergentes; externes entières, rectilignes, atteignant le sommet du premier segment près de ses extrémités.

1 exemplaire. Sadiya, N. E. Assam. Dessous les écorces.

MYCETOPHAGIDAE.

Litargus, sp. ?

Rotung, 1400 pieds.

DRYOPIDAE.

Dryops monticola, n. sp.

Oblongo-elongatus, *convexus*, *fusco-olivaceus*, *flavo-cinereo-pruinosis*, *sat longe denseque subfusco-flavo-pubescentis*; *antennis pedibusque rufo-fuscis*. *Prothorax, transversus antice angustus, in longitudinem vix perspicue carinatus, subdense punctatus, lateribus marginatus*; *lateralibus carinis subrectis*; *pilis pruinosis ad medium disci convergentibus*. *Scutellum lateribus arcuatum, apice acumina-*

tum. Elytra paulo duplo longiora quam simul lata, apice subacuminata, lineato-punctata; intervallis vix perspicue convexis, tenuiter parce punctulatis.

Long. 3.2 mill.

Oblong, presque trois fois plus long que large, convexe, noir olivâtre, revêtu d'une pruinosité flave-cendrée, plus accentuée vers la nuance flave sur le prothorax, entremêlée de poils plus sombres, peu allongés, plus serrés et plus redressés sur la tête et le prothorax que sur les élytres, mais ne masquant pas la couleur du tégument; antennes et pattes d'un roux sombre. Antennes un peu plus rapprochées entre elles, à la base, que de la direction longitudinale du bord interne des yeux. Tête subéparsement pointillée sur le disque, plus densément contre les yeux. Prothorax rétréci en avant, un peu moins de deux fois plus large à la base que long dans sa plus grande longueur, à peine visiblement subcaréné dans la longueur, un peu moins densément mais plus fortement ponctué que la tête; angles antérieurs aigus, saillants; côtés arqués, rebordés, carènes latérales presque droites lorsque'elles sont vues de face, bien marquées sur toute la longueur, subimpressionnées contre leur bord interne, vers le premier tiers de la longueur à partir de la base; convexité longitudinale plus marquée en avant, transversale brusquement très atténuée de chaque côté sur les marges externes des carènes latérales; pruinosité formant sur le milieu du disque un centre de convergence. Écusson en triangle fortement curviligne; subéquilatéral. Elytres un peu plus larges après les épaules que le prothorax à la base; subparallèles, subacuminés ensemble au sommet, un peu plus de deux fois plus longs que larges ensemble, ponctués en lignes bien marquées surtout à la base, effacés au sommet; intervalles très légèrement convexes, éparsement et très finement pointillés. Tarses intermédiaires presque aussi longs que les tibias.

2 exemplaires. Yembung, 1100 pieds.

Dryopidius montanus, n. sp.


Ovatus, elongatus, convexus, nitidus vix perspicue pubescens, niger; pedibus nigro-piceis, tarsis plus minusve rufo-piceis. Caput tenuissime alutaceum, subparce punctulatum, ante antennarum bases arcuatim inflexum, antice subtruncatum. Prothorax transversus, antice angustus, in disco tenue, ad latera validius parce punctulatus; margine antico late emarginato; angulis anticis acutis, productis; lateribus tenue marginatis, antice modice arcuatis, postice subrectis, convergentibus; angulis posticis acutis, retrorsum productis; basi pro scutello emarginata, utrinque late sinuata. Scutellum subpentagonale. Elytra subaspera, subdense punctulata.

Long. 3 mill.

Ovale, plus de deux fois et demie plus long que large dans sa plus grande largeur, convexe, brillant, à peine visiblement pubes-

cent, noir; pattes noir de poix, tarsi plus ou moins rougeâtres. Tête très finement alutacée, presque éparsement ponctuée, légèrement infléchie en avant des naissances des antennes, subtronquée au bord antérieur. Prothorax rétréci en avant, environ deux fois plus large à la base que long, couvert d'une ponctuation plus éparse que celle de la tête, très fine sur le disque surtout devant l'écusson, plus forte vers les côtés; bord antérieur largement et profondément échancré; angles antérieurs aigus, saillants en avant, très finement rebordés de chaque côté; bords latéraux également très finement rebordés, arqués en avant, subrectilignes, convergents dans la partie basilaire; angles postérieurs aigus, saillants en arrière; base échancrée devant l'écusson, largement sinuée de chaque côté, bordée aux extrémités par une ligne de très petits points. Écusson subpentagonal, un peu plus long que large. Elytres arqués sur les côtés, formant un angle très obtus avec les côtés du prothorax, acuminés ensemble au sommet, environ deux fois plus longs que larges ensemble dans leur plus grande largeur, presque subrapeux, couvert d'une ponctuation subéparse, irrégulièrement serrée, plus forte que celle des côtés du prothorax; base rebordée par un bourrelet à peine marqué. Tarsi allongés, presque aussi long que le tibia.

2 exemplaires. Yembung, 1100 pieds.

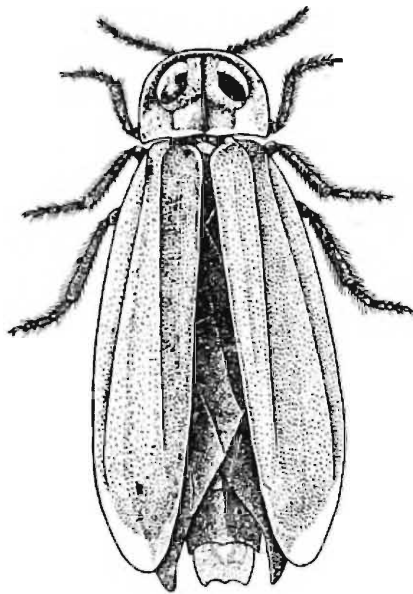


VIII COLEOPTERA, II: MALACODERMIDAE.

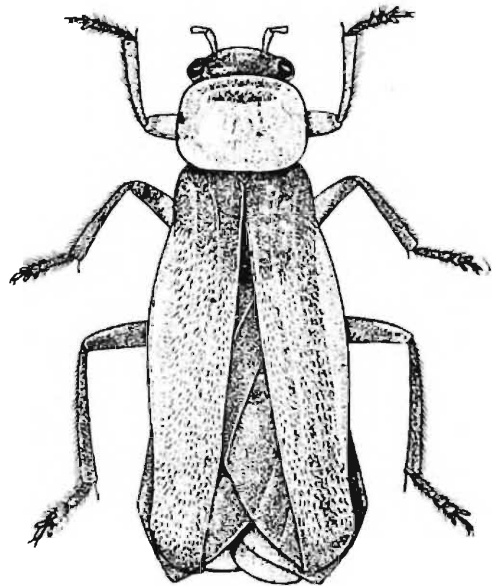
By ERNEST OLIVIER, *Correspondant of the Museum d'Histoire naturelle de Paris.*

Diaphanes simulator, nov. sp.

Oblongo-elongatus, ater; antennis gracilibus, setosis, prothorace haud longioribus; oculis magnis, globosis, subtus conjunctis; prothorace breve, convexo, antice rotundato, margine laterali plano et antice leviter erecto, longitudinaliter carinato, variolose punctato, griseo-albido, macula quadrata basali laevi flavescente et duabus plagis anticis diaphanis; scutello triangulari flavescente; elytris prothorace haud latioribus, dein ampliatis et apicem versus attenuatis, pubescentibus, rugosis, unicastis, sordide albidis, macula parva juxta scutel-



I.



2.

Fig. 1.—*Diaphanes simulator*, n. sp., $\times 4$. Fig. 2.—*Themus aborensis*, n. sp., $\times 6$.

lari palide flavescente et tenuissime flavo marginatis; prosterno flavo pectore et abdomine nigris; pygidio flavo, trilobato; 5° et 6° ventris, segmentis plaga magna rosea ornatis, ultimo flavo; coxis flavis, pedibus nigris. ♀ ignota.

Long. 12—13 millim.

This species has a good deal of resemblance to *Pyrocoelia lampyroides*, Ern. Oliv.: the colour of the prothorax and elytra is almost the same, but it is, however, perfectly distinct and will

easily be recognized by its shorter antennae, which are slender and not pectinate, by the longitudinal carina of the prothorax distinct throughout its whole length; by its rough and indistinctly punctured elytra, which have only one raised line, and with the base near the scutellum narrowly pale yellowish. The luminous parts are one large transverse eburated spot on the middle of the fifth and sixth ventral plates; the last and the pygidium are yellow.

The very fine yellowish margins of the elytra are sometimes scarcely marked.

A large series of specimens of this species, all males, was collected flying at dusk, at Kobo (400 feet).

***Themus aborensis*, nov. sp.**

Oblongus, fuscus; capitis dimidio antico, antennarum duobus primis articulis, prothorace, prosterno, coxis, femorum anticorum et mediorum basi, tarsorumque unguiculis, aurantiacis; prothorace laevi, nitido, transverso, subquadrato, angulis rotundatis, marginibus erectis; scutello parvo, nigro; elytris oblongo-elongatis, pubescentibus, rugosis, flavis, basi sat late et apice tenuissime fuscis; abdomine elytris operto, fusco, ultimo ventrali segmento longitudinaliter carinato; tibiis anticis piceis; tarsorum unguiculis simplicibus.

Long. 9 millim.

A single specimen of this pretty species which I think to be a male was taken at Kobo (400 feet).

VIII COLEOPTERA, III: HISTERIDAE.

By H. BICKHARDT, Cassel (Germany).

Hololepta indica, Er.

Er., in Klug, Jahrb. Ins., 1834, p. 90.—Mars., Mon., 1853, p. 152, t. 4, f. 10.—(*aequata*), Lew., Ann. Mag. Nat. Hist., (5), xvi, 1885, p. 204.—(*batchiana*), Mars., Mon., 1860, p. 588, t. 11, f. 2.—Lew., Ann. Mus. Genova (2), xii, 1891, p. 631.

Sadiya (N.-E. Assam) and Rotung, 1400 ft., under bark.
Occurs in India, Sumatra, Java, Celebes, Borneo, New Guinea and Formosa.

Hololepta laevigata, Guér.

Guér., Voy. Bélanger, Zool., 1833, p. 482, t. 2, f. 4.—Lew., Ann. Mag. Nat. Hist., (7), iv, 1899, p. 5.—(*procera*), Er., in Klug, Jahrb. Ins., 1834, p. 91.—Mars., Mon., 1853, p. 189, t. 4, f. 30.

Kobo, 400 ft., in rotten wood. Several examples.
Occurs in India, Java, Sumatra, Engano, Nias and Mentawai.

Hololepta elongata, Er.

Er., in Klug, Jahrb. Ins., 1834, p. 32.—Mars., Mon., 1853, p. 190, t. 4, f. 31.

Kobo, 400 ft., and Sadiya (N.-E. Assam), in rotten wood and under bark. Many examples.

The examples from Sadiya have a very little tubercle on the front. In many specimens the tubercle is completely evanescent.
Occurs in India and the Malayan Archipelago.

Trypeticus nemorivagus, Lew.

Lew., Arn. Mag. Nat. Hist. (6), ix, 1892, p. 351.

Rotung, 1400 ft., under bark.

The single example (♂) does not exactly agree with Lewis's description. The marginal stria of the pronotum becomes obsolete towards the edge. The prosternum is not so roughly punctate. Without the female it is not possible to say certainly whether it is *nemorivagus* or a new species.

The type of *nemorivagus* was found near the Ruby Mines in Burma.

Apobletes tener, Mars.

Mars., Mon., 1860, p. 859, t. 15, f. 5.

Sadiya (N.-E. Assam), under bark. Only one damaged example.

Occurs in India, the Malayan Archipelago and the Philippine Islands.

Apobletes planidorsum, Bickh.

Bickh., Tijdschrift v. Entomol., lv, 1912, p. 219.

Sadiya (N.-E. Assam), under bark. One example.

This species differs from *A. macilentus*, Lew., in the lateral stria of the pronotum. In *A. macilentus* this stria leaves the margin at the anterior angle, cutting off a triangular space; in *A. planidorsum* the lateral stria is continued along the margin anteriorly and reaches the anterior edge rectangularly.

A. planidorsum was hitherto only known from Borneo.

Liopygus famelicus, Lew.

Lew., Ann. Mus. Genova (2), xii, 1891, p. 21.

Sukli, E. side of Dawna Hills, L. Burma, 2100 ft. One example.

Also reported by Lewis from Burma.

Platysoma (Platylister) cambodjensis, Mars.

Mars., Abeille, i, 1864, p. 300.

Kobo, 400 ft., Rotung, 1400 ft., Sadiya (N.-E. Assam), Thingannyinaung to Sukli, Dawna Hills, 900-2100 ft.

Many examples collected by the Abor Expedition do not agree exactly with Marseul's description. The lateral stria of the pronotum is distinctly interrupted in many specimens, whilst Marseul's type and the examples in my collection from Formosa, Burma and India, have a well defined complete lateral stria. But there is no other difference between the specimens collected by the Abor Expedition and the others. I therefore prefer to estimate this form as a variation without giving a new name to it.

Occurs in India, Burma, Andaman Islands and Formosa.

Platysoma (Platylister) odiosum, Mars.

Mars., Mon., 1861, p. 145, t. 3, f. 5.—Mars., Ann. Soc. Ent. Belg., xiii, 1870, p. 70.—(*marseuli*), Cand., Mém. Liège, xvi, 1861, p. 336, t. 1, f. 5.—(*dissimile*), Motsch., Bull. Mosc., xxxvi, 1863, ii, p. 451).

Rotung, 1400 ft., Sadiya (N.-E. Assam), in rotten wood.

Occurs in India, Burma and Ceylon.

Platysoma (Platylister) kempii, n. sp.

Oblongo-ovatum, subconvexum, nigrum, nitidum. Fronte cum clypeo impressa, stria antice recta. Pronoto laevi, stria laterali integra. Elytris striis 1—6 fere integris, suturali postice abbreviata, 4, 5 suturalique antice punctiformibus. Propygidio pygidioque utrinque impressis, grosse denseque ocellato-punctatis, hoc tenuiter marginato. Prosterno lobo rotundato, punctulato, stria marginali antice interrupta; mesosterno antice paulo emarginato, stria integra. Tibiis anticis 4-dentatis.

Long. $5\frac{1}{2}$ mm.

The lateral stria of the pronotum is convergent with the margin towards the anterior angle. The inner elytral striae are anteriorly represented by ranges of punctures, only the sutural stria is abbreviated (behind). The marginal stria of the prosternal lobe is distinctly interrupted anteriorly.

This species is not similar to any known species of *Platylister*.

Rotung 1400 ft., under bark (Dec. 23, 1911, Kemp). Only one example.

Platysoma (s. str.) confucii, Mars.

Mars., Mon., 1857, p. 404, t. 11, f. 9.—Schm., Notes Leyden Mus., xii, 1890, p. 10.

Kobo, 400 ft., Rotung, 1400 ft., Sadiya (N.-E. Assam), in rotten wood and under bark.

Occurs in India, Burma, China, Andaman Islands, Sumatra, Engano and Mentawai.

Platysoma (s. str.) crassum, n. sp.

Ovatum, convexum, nigro-piceum, nitidum; antennis pedibusque piceis. Fronte fere plana, stria antice recta, clypeo subconvexo, mandibulis canaliculatis. Thorace stria laterali integra, margini laterali parallela, foveola ante scutellum. Elytris striis dorsalibus 1—3 integris, 4 et 5 aequalibus ultra medium abbreviatis. Propygidio fortiter sat dense ocellato-punctato, pygidio paulo minus punctato, lateribus impressis, margine elevato, apice laevi. Prosterno inter coxas angusto, lobo punctulato. Mesosterno emarginato, stria integra. Tibiis anticis 4-dentatis.

Long. $3\frac{1}{2}$ mm.

Similar to *Platysoma silvestre*, Schm., but more convex; the fourth and fifth dorsal striae are much longer ($\frac{3}{4}$ of the length of the elytra); the front is plain, the clypeus very feebly impressed. The posterior tooth of the anterior tibiae is very small.

Kobo, 400 ft., in rotten wood. Only one example.

Hister (Atholus) philippinensis, Mars.

Mars., Mon. 1854, p. 547, t. 9, f. 118.

Sadiya (N.-E. Assam), in rotten wood. One example.

Occurs in the Philippine Islands and Burma.

Epierus nemoralis, Lew.

Lew., Ann. Mag. Nat. Hist. (6), ix, 1892, p. 347.

Kobo, 400 ft., Rotung, 1400 ft., in rotten wood and under bark. Several examples.

Reported only from Assam.

Parepierus, nov. gen.

Corpus ovatum, parvum. Caput planum. Fronte haud striata. Antennis sub frontis margine insertis. Foveola sub angulo prothoracis lamina pectoris oblecta. Pronotum transversum, postice in medio basali angulatum, extus marginatum. Elytra apice truncata, striata. Striis dorsalibus postice obliterated. Epipleuris striatis. Propygidium transversum, pygidium triangulare, declivia. Prosternum latum, bistriatum, basi truncatum vel leviter incisum. Mesosternum antice in medio subrotundatum vel productum vel rectum; sutura meso-metasternali forti saepe curvata. Tibiae anticae parum dilatatae, extus brevissime multispinosae; foveola tarsali indistincta.

Different from *Epierus*, Er., in the large prosternum, the mesosternum which is obtuse or produced in front, the dorsal striae which are obliterated near the apex of the elytra. Frequently the anterior marginal stria of the mesosternum is wanting. There is no peculiar transverse mesosternal stria except the very distinct separation-line between the meso- and metasternum. This stria is frequently arched in front. All the species of this genus are very small.

This genus is proposed to receive *Epierus amandus*, Schm. (type), and its allies *monticola*, Schm., and *corticicola*, n. sp., also the New Zealand species *rusticus*, Broun, *simplex*, Broun, *sylvanus*, Lew., *rufescens*, Reitt., *abrogatus*, Broun, *planiceps*, Broun, *purus*, Broun, *crenulatus*, Broun, *punctulipennis*, Broun, belong to this genus. *Epierus foederatus*, Lew., seems also to be congeneric with the species mentioned.

Parepierus corticicola, n. sp.

Oblongo-ovalis, convexus, piceus, nitidus. Fronte plana, haud striata. Thorace punctulato, regione antescutellari impresso, stria marginali integra. Elytris striis subhumeralibus nullis, dorsalibus 1-4 distinctis postice plus minusve obliterated, 5 obsoleta utrinque abbreviata, suturali punctiformi, geminata, antice subabbreviata. Pygidio vix perspicue punctulato. Prosterno lato, striis subparallelis utrinque vix divergentibus. Mesosterno antice rotundato, haud marginato; sutura meso-metasternali curvata, valde crenata. Tibiis anticis multispinosis.

Long. $1\frac{1}{2}$ — $1\frac{4}{5}$ mm.

Similar to *Parepierus amandus*, Schm., but more oblong in outline and much more convex. Also the double sutural stria is quite different in the new species. *E. monticola*, Schm., also is

very rotunde and has no fifth dorsal stria and only one single sutural stria. The prosternum of *monticola* is a little more narrow than that of *corticicola*.

Kobo, 400 ft., in rotten wood. Several examples.

***Parepierus amandus*, Schm.**

Schm., Ent. Nachr., xviii, 1892, p. 25.—(*Tribalus pluristriatus*), Lew., Ent. Monthly Mag., vi, 1895, p. 186.

Kobo, 400 ft., in rotten wood. One example.

Occurs in Java where the type was found.

***Paromalus vermiculatus*, Lew.**

Lew., Ann. Mus. Genova (2), xii, 1891, p. 18.

Sadiya (N.-E. Assam), Kobo, 400 ft., Rotung, 1400 ft., in rotten wood and under bark. Many examples.

Occurs in Burma.

***Paromalus pradali*, Mars.**

Mars., Abeille, i, 1864, p. 331.

Kobo, 400 ft., in rotten wood. One example.

Occurs in the Malayan Archipelago.

***Paromalus tcibodae*, Mars.**

Mars., Ann. Mus. Genova, xiv, 1879, p. 278.

Kobo, 400 ft., Sadiya (N.-E. Assam), Thingannyinaung to Sukli, Dawna Hills, 900-2100 ft., in rotten wood and under bark of fallen tree-trunk. Many examples.

Occurs in Java and Sumatra.

***Tribalus colombius*, Mars.**

Mars., Abeille, i, 1864, p. 335.

Rotung, 1400 ft., Sadiya (N.-E. Assam), in rotten wood. Several examples.

Occurs in Ceylon and Burma.

IX ARACHNIDA, I.

A. CHELIFERA.

By E. ELLIGSEN.

Chelifer javanus, Thorell.

2♂, 1♀ Kobo, 400 ft., xi—xii-1911, under logs. S. W Kemp, leg.

The species was originally described from Java, and was afterwards recorded from several other localities in the Oriental region, such as Burma, Kelantan (Malay Peninsula), Bismarck Archipelago, and the Marshall Islands.

Chelifer superbus, With.

1♀ Kobo, 400 ft., xi—xii-1911, under logs. S. W Kemp, leg.

Only known from the Celebes, from where Mr. With obtained the types.

B. PEDIPALPI.

By F. H. GRAVELY, M.Sc., Assistant Superintendent,
Indian Museum.

Uroproctus assamensis, Stoliczka.

J.A.S.B., xxxviii (2).

Kobo, 400 ft., 3—7-xii-11, under logs. Banks of Siyom River below Damda, 1300 ft., 1-ii-12. Beside stream below Balek, 26-iii-12. Rotung, 1300 ft., 21 and 25-xii-11 and 12-iii-12, under logs and under stones. Upper Rotung, ca. 2000 ft., 1—10-i-12.

This species is the only *Uroproctus* yet known, and appears to be abundant throughout the foot-hills of the E. Himalayas and in many parts of Assam. In Burma it is replaced by the genus *Hypoctonus*, of which genus one species was described not long ago from Sylhet in W. Assam, and another still more recently from the foot of the Himalayas in the Darjeeling district. The western end of Assam and the E. Himalayas at present appear therefore to have a greater affinity to the Burmese (but not Malaysian) Thelyphonid fauna than does the country east of them; but many

kinds of Thelyphonids are so difficult to obtain unless specially looked for during the rains (a season at which no zoological work was done in the Abor country), that it is by no means unlikely that species of *Hypoctonus* will yet be found to occur in all parts of Assam and the foot-hills of the E. Himalayas.

The Pedipalpi collected recently in the Dawna Hills all belong, as was to be expected, to the genus *Hypoctonus*. They are *Hypoctonus dawnae*, Gravely (*Rec. Ind. Mus.*, vii, pp. 101-3), and *Hypoctonus wood-masoni*, Oates (*J.A.S.B.*, lvii, 2). As they have no particular bearing on the zoogeography of the Abor country they need not be discussed further here.

Uroproctus assamensis, like other Oriental Thelyphonids, is rarely seen in dry weather, and Mr. Kemp informs me that specimens always died in a day or two when kept in a box without moist soil. One specimen which he placed in a wooden box was seen to eat a cricket, but died after twelve to fifteen hours captivity. Mr. Kemp also tells me that specimens when handled alive produced a strong and very disagreeable odour resembling that of fermented rice or beer that had gone bad.

C. SCORPIONES.

By J. R. HENDERSON, M.B., C.M., F.L.S., Superintendent,
Madras Government Museum.

The scorpions collected by Mr. Kemp in the Abor country, although fairly numerous in specimens, comprise but two species, both previously known. It seems probable that had the collection been made at a more favourable season of the year, others would have been discovered. The present report also deals with the scorpions obtained by Mr. F. H. Gravely in Tenasserim, between Moulmein and the Siamese frontier; they comprise five species, one of which is described as new.

The collection was worked out at the British Museum (Natural History Department) and my thanks are due in particular to Mr. S. Hirst, for the assistance which he kindly rendered during the progress of the work.

1. *Lychas mucronatus* (Fabr.).

Archisometrus mucronatus, Kraepelin, *Tierr. Scorp.*, p. 46 (1899). *L. mucronatus*, Pocock, *Fauna of India, Arachnida*, p. 36 (1900).

This species, which is common in Upper Burma, Lower Burma and Tenasserim, extends into Siam and China, and occurs in the Malay Archipelago as far east as Flores.

Habitat.—Thingannyinaung, east base of Dawna Hills, 900 ft., 24—27-xi-11 (*F. H. Gravely*). Eight specimens.

Thingannyinaung to Myawadi, *ca.* 900 ft., 24—26-xi-11 (*F. H. Gravely*). Three specimens of which one is very young.

Kawkareik to Third Camp, Amherst district, 21-xi—1-xii-11 (*F. H. Gravely*). Two specimens.

2. *Lychas scutilus* (C. Koch).

Archisometrus scutilus, Kraepelin, *Tierr. Scorp.*, p. 44 (1899).

L. scutilus, Pocock, *Fauna of India, Arachnida*, p. 37 (1900).

This species extends from Tenasserim through the Malay Peninsula to Sumatra and Java.

Habitat—Farm caves near Moulmein (*F. H. Gravely*).

An adult ♀

3. *Lychas gravelyi*, n. sp.

Habitat.—Moulmein, a single ♀ specimen (*F. H. Gravely*).

Colour in general black varied with yellow. Carapace and terga black, with ill-defined yellow mottlings; a yellow spot on either side of the frontal margin. Mandibles yellow, with a delicate black reticulation. Chelæ and legs yellow, with black mottlings; upper surface of humerus and brachium black, with a series of rounded yellow spots; hand yellow, fingers blackish. Tail black, with traces of yellow on the first three segments; vesicle black, with a yellowish tinge at the base of the aculeus and on the tooth. Legs yellow, with black mottlings on the anterior surface. Sterna with faint black mottlings on a yellow ground; first sternum with a median black line.

Carapace and *terga* evenly granular throughout; the latter with a single median keel.

Sterna membranous with the surface polished towards the centre. Last sternum granular throughout and with four granular ridges; fourth sternum also granular, but less so than the last, with four polished tubercles on the posterior margin; slight traces of granules occur on the first three sterna, chiefly towards the lateral margins and a few bristles occur on all the sterna.

Tail somewhat stout, about four and a half times as long as the carapace. First and second segments with the median lateral keel complete, the intercarinal spaces granular; the keels well-developed and granular, the superior subspiniform apically. First segment much wider than long, the fourth not twice as long as wide.

Vesicle with a median granular line below, which is continued on to the tooth; two faint granular lines on either side. Inner edge of the tooth dentate.

Chelæ with the hand narrower than the brachium, smooth but for minute granules on the humerus and to a lesser extent on the brachium. Movable digit more than twice as long as the underhand, with eight rows of teeth. Fingers about the same length as the carapace.

Tibial spurs short. *Tarsi* with two rows of bristles.

Pectinal teeth 12/13.

Measurements.—Total length 34 mm., carapace 4 mm., tail 18 mm., movable finger 4 mm.

It is with some hesitation that I have ventured to describe this single specimen as the type of a new species, but I may state, that in deciding to do so I am materially supported by the opinion of Mr. Hirst of the British Museum staff, whose extensive experience of the group entitles his views to great respect. It is closely related to *L. rugosus*, Pocock, with the type specimen of which, and so far the only known specimen, from Raipur, in the Central Provinces

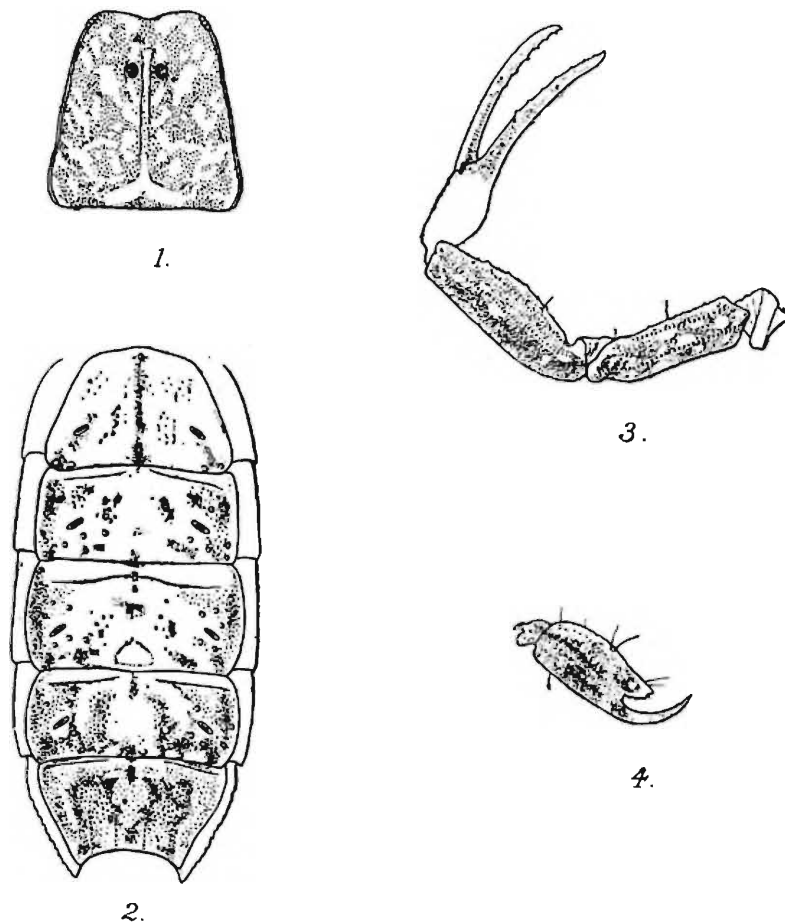


FIG. 1.—*Lychas gravelyi*, n. sp., 1. carapace; 2. sterna; 3. chela; 4. vesicle and aculeus; all $\times 5$.

of India, I have carefully compared it. This specimen, preserved in the British Museum collection, which measures only 22 mm. in total length, is probably immature, and I was unable to determine its sex. In *L. rugosus* the carapace and terga are much more coarsely granular, while on the other hand in *L. gravelyi* the sterna are more granular, granules being present on all, whereas they are confined to the last three sterna in *L. rugosus*. In the latter species all the sterna are coriaceous and present a mat surface, while in *L. gravelyi* they are membranous and polished centrally. In *L. gravelyi* the fingers are proportionately longer and the tail thicker, the general appearance being that of a small scorpion with very slender chelæ, but possessing a moderately stout

tail. The black mottling on the sterna of the new species is characteristic. Other differences, as for example in the characters of the vesicle, exist between the two species.

4. *Chærilus tricostatus*, Pocock.

C. tricostatus, Pocock, Journ. Bomb. N. H. Soc., vol. xii, p. 266 (1899); Fauna of India, Arachnida, p. 59 (1900).

Habitat.—Four specimens (all ♀) from the Abor country:—

(1) Rotung, 1300 ft., under stones, 21-xii-11 (*S. W. Kemp*).

(2) Rotung, 1300 ft., 24-xii-11 (*F. H. Stewart*).

(3) Rotung, 1300 ft., 29-xii-11 (*M. de Courcy*).

(4) Upper Rotung, 2000 ft., 22-i-12 (*S. W. Kemp*).

This species was described from two dried specimens (both ♂) in the collection of the British Museum, from Sadiya, Assam, a locality close to the border of the Abor country. A comparison of the two sets of specimens reveals no difference of any importance, except in the proportions of the joints of the chelæ and these are no doubt sexual characters. The Abor specimens have a more strongly granulated carapace than those from Sadiya and it may be

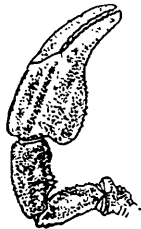


FIG. 2.—Hand of *Chærilus tricostatus*, Pocock, ♀, nat. size.

that they belong to a local race of *C. tricostatus*, but this question may be deferred till more material is forthcoming. As the female was formerly unknown I take this opportunity of describing it.

Colour.—Upper surface black; ventral surface also black, with the exception of the cephalothorax which is mottled with brown and yellow. Pectinal teeth yellow. Tarsi yellowish. Mandibles pale brown. Vesicle reddish brown.

Carapace somewhat uniformly granulated, the granules best developed on the more elevated parts. Carapace longer than the first and second caudal segments, about equal to the third and fourth, longer than the fifth segment.

Terga granular throughout, with a series of larger granules on the posterior border, two of which form well-marked black pearly tubercles. The latter are best developed on the third, fourth, fifth and sixth terga, and on the last three of these have one or two enlarged granules in front, arranged in short antero-posterior lines with the tubercles.

Sterna smooth, the last with four ill-defined crests formed by granules. An oval yellow patch occurs near the posterior margin of the third sternum.

Tail about three times as long as the carapace, the upper surface faintly granular in the middle. Width of the first segment about equal to the length of the fourth; second segment about as wide as long. All the keels normal and denticulated. Lateral and inferior surfaces more distinctly granulated than the upper surface.

Vesicle with a few minute granules on the under surface near the proximal end, with a slight lateral groove on either side of the dorsal surface and a faint median ventral ridge.

Chelæ with humerus, brachium and underhand all shorter than the carapace. Humerus with its width more than half its length, slightly granular above and with coarse granules along the keels; posterior surface with a median row of granules in front, lower surface finely granular. Brachium about the same length as the underhand; the keels granulated and a few subspiniform granules arranged in a row near the lower margin of the anterior surface. Hand wide, with the inner margin strongly convex, the greatest width being more than two-thirds of the length; upper surface finely granular, but with large granules on the ridges. Movable finger about the same length as the carapace, furnished with ten rows of teeth. Immobile finger with five setal pores.

Pectinal teeth 5.

Measurements.—Total length 53 mm., carapace 8 mm., tail 31 mm., brachium 7 mm., underhand 7 mm., movable finger 9 mm., width of hand 6.5 mm.

5. *Scorpiops longimanus*, Pocock.

S. longimanus, Pocock, Ann. Mag. Nat. Hist., (6) vol. xii, p. 326, pl. xiv, fig. 12 (1893); Fauna of India, Arachnida, p. 72 (1900); Kraepelin, Tierr. Scorp., p. 180 (1899).

This species, which has been recorded from several localities in Assam (Sylhet, Dhubri, North Cachar Hills, Sadiya, Nāga Hills), is apparently common in the Abor country. The following specimens were collected:—

Kobo, 400 ft., in rotten wood and in earth, 30-xi—8-xii-11. Seventeen specimens, several of which are very young.

Janakmukh, 600 ft., 17-xii-11. One specimen under bark.

Renging, 2150 ft., 19-xii-11. One adult found in rotten wood and a young specimen under bark.

Rotung, 1300 ft., 23—30-xii-11. Ten specimens, some of which are young, found under bark, in rotten wood and under stones.

Upper Rotung, alt. ca. 2000 ft., 31-xii-11 (*M. de Courcy*). One immature specimen.

Yembung, 1100 ft., 13—17-i-12 and 9-ii-12. Three specimens, one of which is young.

Near Parong, 3300 ft., 27-i-12. Three very young specimens found under stones.

Below Damda, 1300 ft., 30-i-12. Five specimens, one of which is young.

In young specimens of this species the brachial teeth are blunt and the ventral surface of the cephalothorax is paler than in adults. The setal pores on the brachium and underhand show the adult number and arrangement. One young specimen from Renging has nine pectinal teeth on each side, instead of the normal six to eight.

6. *Scorpiops binghamii*, Pocock.

S. binghamii, Pocock, Ann. Mag. Nat. Hist., (6) vol. xii, p. 327, pl. xiv, fig. 13 (1893); Fauna of India, Arachnida, p. 74 (1900); Kraepelin, Tierr. Scorp., p. 180 (1899).

This species has been previously recorded only from the Pegu Hills and Central Tenasserim.

Habitat.—Misty Hollow, west side of Dawna Hills, 2200 ft., 22-30-xi-11 (*F. H. Gravely*). Two adults and seven very young specimens.

Young examples are paler in colour, both dorsally and ventrally, than the corresponding stage of *S. longimanus*. The present specimens possess twelve to thirteen brachial pores, in place of fourteen to fifteen in those described by Pocock, while *S. longimanus* has nine to eleven. I doubt if *S. binghamii* is more than a variety of *S. longimanus*. Kraepelin regards the latter as doubtfully distinct from the Himalayan *S. montanus*, Karsch, and places *S. binghamii*, with some doubt, also as a synonym of *S. montanus*.

7. *Hormurus australasiæ* (Fabr.).

H. australasiæ, Kraepelin, Tierr. Scorp., p. 154 (1899); Pocock, Fauna of India, Arachnida, p. 79 (1900).

A widely distributed species, extending from Burma and China, through the Malay Peninsula and Archipelago to Northern Australia and the Pacific islands.

Habitat.—Third Camp, west base of Dawna Hills, 400 ft. (*F. H. Gravely*). An adult ♂ and four other specimens, three of which are very young.

Third Camp to Misty Hollow, Dawna Hills, 400-2400 ft. (*F. H. Gravely*). Two specimens, one of which is very young.

Misty Hollow to Sukli, Dawna Hills, 2100—2500 ft. (*F. H. Gravely*). One specimen.

Sukli, east side of Dawna Hills, 2100 ft. (*F. H. Gravely*). Eleven specimens, four of which are very young.

Thingannyinaung to Sukli, Dawna Hills, 900 ft. (*F. H. Gravely*). One specimen.

There is considerable variation in the colour of *H. australasiæ*. Some specimens are uniformly black above, while others are in varying shades of brown. Young specimens are pale brown, with the vesicle pale yellow and in some cases with the legs yellowish.

X. DERMAPTERA.

By MALCOLM BURR, *D.Sc., F.L.S., F.E.S., F.Z.S., etc.*

The collection of Dermaptera brought back by Mr. Stanley Kemp from the Abor Expedition contains, as was to be expected, matter of considerable interest. It consists of thirty-one recognizable species, of which five are new to science; one is the third known specimen, and first known female, of a species already recorded from Burma and Assam; another species is added to the Indian list, being hitherto known only from a pair from Tonkin. The remaining species are well-known Himalayan, Burmese and generally Oriental forms.

Superfamily **PROTODERMAPTERA.**

Family **PYGIDICRANIDAE.**

Subfamily *DIPLATYINAE.*

Genus **Diplatys**, Serv.

The collection contains seven specimens, all, unfortunately, immature, and not therefore specifically determinable. They all present the long segmented caudal setae characteristic of the larvae and nymphs of this genus. The specimens were all taken between December 24th, 1911, and February 9th, 1912, under stones, on the banks of small streams. The exact localities are as follows:—

Dibrugarh, 17—19-xi-1911. No. $\frac{2437}{19}$.

Rotung, 1400 ft., 24-xii-11, under stones on bank of small stream. No. $\frac{2174-5}{19}$

Yembung, 1100 ft., 15-i—9-ii-1912, on bank of stream. Nos. $\frac{2417}{19}$, $\frac{2427}{19}$, $\frac{2425}{19}$.

Pang-i, Rebang Stream, 16-i-12, under stones. No. $\frac{2414}{19}$.

Subfamily *PYGIDICRANINAE.*

Genus **Kalocrania**, Zacher.

1. **Kalocrania siamensis**, Dohrn.

There are a number of immature specimens and one female, from various localities, which I am unable to determine satis-

factorily. I think probably they are referable to this species, but some may belong to the following.

Rotung, 1400 ft., 29—31-i-1912, under stones. Nymphs.

Nos. $\frac{2149}{19}$ and $\frac{2176}{19}$.

Upper Rotung, 9-i-1912, "found in water supply." ♂

No. $\frac{2448}{19}$: 4-ii-12, "rotten wood." Nymph. No. $\frac{2401}{19}$.

Kobo, 400 ft., 11-xii-1912, under bark. Nymphs. Nos. $\frac{2248}{19}$,

$\frac{2348}{19}$, $\frac{2349}{19}$.

Janakmukh, bank of Dihang River, 600 ft., under stones.

Nymph. No. $\frac{2314}{19}$.

Near Dosing, 1500 ft., 29-i-12. Nymph. No. $\frac{2273}{19}$.

Above Pang-i, 4000 ft., 16-i-12, under bark. Nymphs.

Nos. $\frac{2332-3}{19}$ and $\frac{2415}{19}$.

2. *Kalocrania picta*, Guer.

A pair decidedly smaller than typical Bengal specimens, but I see no reason to describe them as distinct.

Kobo, 400 ft., 30-xi and 11-xii-1911, "in camp" and "in packing case." ♂ and ♀ Nos. $\frac{2346-7}{19}$.

Subfamily *ECHINOSOMATINAE*.

Genus *Echinosoma*, Serv.

1. *Echinosoma sumatranum*, Haan.

This common and widely-spread Oriental species was found in several localities.

Near Dosing, 1400 ft., 25-i-12. ♀ No. $\frac{2412}{19}$.

Above Pang-i, 4000 ft., 16-i-12, under bark. ♀ ♀ and nymphs.

Nos. $\frac{2316}{19}$, $\frac{2317}{19}$ and $\frac{2318}{19}$.

Sadiya, N. E. Assam, 23-xii-11, larvae, under stones and

under bark. Nos. $\frac{2293}{19}$, $\frac{2296}{19}$, $\frac{2298}{19}$ and $\frac{2302}{19}$.

Kobo, 400 ft., 30-xi—1-xii-11, larva, 1 ♀ and 1 ♂, in rotten

wood. Nos. $\frac{2253}{19}$, $\frac{2256}{19}$ and $\frac{2336}{19}$.

Rotung, 1400 ft., 8—28-xii-11. 1 ♀ and nymphs, under bark.

Nos. $\frac{2142-3}{19}$, $\frac{2154}{19}$ and $\frac{2207}{19}$.

Family LABIDURIDAE.

Subfamily PSALINAE.

Genus *Euborellia*, Burr.1. *Euborellia aborensis*, sp. n.

	♂	♀
Long. corporis	14 mm	12—15.5 mm.
„ forcipis	2 2.5	2—2.5

General colour reddish chestnut, passing to yellowish anteriorly and blackish posteriorly: antennae tawny: head depressed, clear red: eyes black: pronotum orange, bordered with blackish at the sides, rectangular, slightly longer than broad: elytra rudimentary, present as darker, narrow lateral flaps, very narrow at the base: meso- and metanota of the same colour: legs fulvous, femora sometimes feebly shaded with fuscous: sternum of typical structure, orange yellow: abdomen deep reddish-chestnut, very gently dilated in ♂, more so in ♀, darker towards the apex: ventral surface of same colour: sides of segments 7-9 in ♂ carinate, convex and rugulose: last dorsal segment smooth, deep red; in ♂ rectangular, simple, with a longitudinal fold down the side in both sexes: whole abdomen punctulate and clothed with long reddish hairs, penultimate ventral segments rounded in the ♂, narrower apically in the ♀: forceps with branches subcontiguous, asymmetrical, especially in the ♂, and unarmed in both sexes.

Rotung, 1400 ft., 24—25-xii-11 2 ♂, 5 ♀. Under leaf-stem of plantain. Nos. $\frac{2156-58}{19}$ and $\frac{2392-6}{19}$

Janakmukh, 600 ft., 17—19-xi-11. ♀ and nymph. Nos. $\frac{2313}{19}$ and $\frac{2308}{19}$.

Dibrugarh, 17—19-vi-11. ♂ No. $\frac{2432}{19}$

The nomotype is No. $\frac{2156}{19}$

This species is different in colouration and appearance from all known species of *Euborellia*.

Genus *Anisolabis*, Fieb.1. *Anisolabis pervicina*, sp. n.

	♂	♀
Long. corporis	14—15 mm.	12 mm.
„ forcipis	2	1.5—2.

Shining black: antennae dull brown: pronotum nearly square, not longer than broad, sides paler, very slightly wider posteriorly than anteriorly: legs tawny, the femora and tibiae banded with black: abdomen very minutely punctulate, sides of 6-9th segments in ♂ convex and striolate: last dorsal segment of ♂ smooth,

gently narrowing, with median depression: forceps with branches subcontiguous, tapering and gently asymmetrical.

Rotung, 1400 ft., 26—29-xii-II, under bark and in rotten wood. 2♂, 5♀. Nos. $\frac{2155}{19}$, $\frac{2198}{19}$, $\frac{2148}{19}$, $\frac{2187}{19}$, $\frac{2188}{19}$, $\frac{2190}{19}$, $\frac{2210}{19}$.

Kobo, 7-xii-II, under logs. ♂, 2 nymphs. Nos. $\frac{2339}{19}$, $\frac{2340}{19}$, $\frac{2342}{19}$.

Puging, 3000 ft., xi-II, ♂ nymph. No. $\frac{2289}{19}$.

Dibrugarh, 17—19-xi-II. Nos. $\frac{2434-5}{19}$, nymphs.

Bank of Dihang R. below Pasighat, 16-xii-II, ♀. No. $\frac{2315}{19}$.

Sadiya, 26-xi-II. ♀. Under bark. No. $\frac{2297}{19}$.

Also Bhutan: Maria Basti, 1♀ (Mus. Paris).

Assam-Bhutan Frontier. Mangaldai District, N.E., 31-xii-10, in Deshnoi river-bed. ♂ and ♀. (Indian Museum, Nos. $\frac{8598-9}{16}$. S. W. Kemp).

No. $\frac{2198}{19}$ is the nomotype.

I have long been familiar with this species, always considering that it could scarcely be *A. annulipes*: it has the appearance of a very finely developed race of that species, but my reasons for considering it distinct are its restriction, so far as we know, to the mountains of Assam, Bhutan, and further to the north-east, its larger size and finer development, the uniform brown antennae, more remote forceps and rather shorter pronotum.

2. *Anisolabis gaudens*, Burr. ?

I refer here, with some doubt, a female from Rotung, 1400 ft., 25th December, 1911, found under bark. This specimen has a black head, while the type has the head red. Unfortunately I described the species from a single female, an unpardonable fault. The type, from Bhutan, is in the Paris Museum.

Genus *Psalis*, Serville.

1. *Psalis femoralis*, Dohrn.

Rotung, 1400 ft., 23-xii-II, in rotten wood. No. $\frac{2216}{19}$.

2. *Psalis dohrni*, Kirby.

Sadiya, 27-xi-II. ♂. No. $\frac{2305}{19}$.

Kobo, 400 ft., 7-xii-II, under logs, nymphs. Nos. $\frac{2343}{19}$ and $\frac{2338}{19}$.

A macropterous specimen.

This species has been recorded hitherto only from Ceylon, Travancore, and the Nilgiris. The record from Northern Australia probably refers to a distinct species.

Subfamily *LABIDURINAE*.

Genus *Forcipula*, Bol.

1. *Forcipula pugnax*, Kirby.

Of this well-known North Indian form, several specimens were brought back. It is noteworthy that all the specimens, except the female from Sadiya, N. E. Assam, are brachypterous.

Dosing, Shimang River, 1400 ft., 29-i-12, under stones, 2 ♂
Nos. $\frac{2271-2}{19}$.

Janakmukh, 600 ft., 17-xii-11, under stones. ♀ No. $\frac{2449}{19}$.

Yembung Stream, 1100 ft., 13-17-i-12, under stones, 3 ♂, 4 ♀
and 3 nymphs. Nos. $\frac{2471-4}{19}$, $\frac{2419-20}{19}$, $\frac{2421}{19}$ and $\frac{2423-4}{19}$.

Yembung, Bank of Dihang, 23-i-12. Nymph. No. $\frac{2418}{19}$.

Pang-i, Rebang Stream. ♂, under stones. No. $\frac{2413}{19}$.

Rotung, bank of Sireng Stream, 1400 ft., ♀, under stones.
No. $\frac{2406}{19}$.

Sadiya, 26-xii-11, under bark, ♀ No. $\frac{2299}{19}$.

Genus *Nala*, Zacher.

1. *Nala nepalensis*, Burr.

This species has not previously been recorded outside Nepal.

Yembung, 1100 ft., 13-i-9-ii-1912, under stones, 3 ♂.
Nos. $\frac{2422}{19}$, $\frac{2426}{19}$, $\frac{2431}{19}$.

Below Damda, bank of Siyom, 1-ii-12, ♀, under stones
No. $\frac{2284}{19}$.

Rotung, 1400 ft., 28-xii-11. Bank of stream. ♀ No. $\frac{2287}{19}$
and bank of Dihang River, 23-xii-11. ♀ No. $\frac{2407}{19}$.

Subfamily *BRACHYLABINAE*.

Genus *Metisolabis*, Burr.

1. *Metisolabis caudelli*, Burr.

Of this Burmese species there is a single specimen.

West bank of the Dihang River, 22-xii-11, ♂, under stones.

No. $\frac{2416}{19}$.

Family APACHYIDAE.

Genus *Apachyus*, Serv.1. *Apachyus feae*, Borm.

This species, known from Tonkin, Burma and Assam is represented by a number of nymphs and larvae, but there are no adult specimens; all were found under bark and in rotten wood.

Rotung, 1400 ft., 23-xii-11—2-i-12 and 6-ii-12. Nos. $\frac{2451-65}{19}$
and $\frac{2206}{19}$

Yembung, 1100 ft., 14-i-12. No. $\frac{2475-6}{19}$.

Above Pang-i, 4000 ft., 16-i-12. No. $\frac{2450}{19}$.

Dibrugarh, 17—19-xi-11. Nos. $\frac{2446-7}{19}$

Superfamily EUDERMAPTERA.

Family LABIIDAE.

Subfamily SPONGOPHORINAE.

Genus *Spongovostox*, Burr.1. *Spongovostox luteus*, Borm.

Upper Renging, 2150 ft., 4-ii-12. ♂ and ♀, brachypterous.
Nos. $\frac{2409-10}{19}$.

Kobo, 400 ft., 3—8-xii-11, 3 ♂, 5 ♀, brachypterous. Under
bark and in rotten wood. Nos. $\frac{2352}{19}$, $\frac{2375-6}{19}$, $\frac{2357}{19}$, $\frac{2264}{19}$,
 $\frac{2254-55}{19}$ and $\frac{2380}{19}$.

Sadiya, 26-xi-11. ♀, brachypterous. No. $\frac{2291}{19}$.

Rotung, 1400 ft., 23—24-xii-11, 1 ♂, 2 ♀ Nos. $\frac{2100}{19}$, $\frac{2209}{19}$ and
 $\frac{2218}{19}$.

2. *Spongovostox aborum*, sp. n

	♂	♀
Long. corporis	6.5—7.5 mm.	4.5—6 mm.
„ forcipis	2.5—3	1.5

Small, shining, deep red and black: antennae greyish brown, paler at the apex, with about 14 slender segments: head broad, blackish red, smooth and shining: pronotum subquadrate, slightly broader than long, black, lighter at the sides: elytra smooth, with long stiff hairs, deep red-brown or black: wings, when developed, of same colour, but the scale basally banded with yellow: legs yellowish, femora sometimes shaded with blackish: abdomen deep red, darker to black at the sides, brighter towards the apex: last

dorsal segment in ♂ smooth, transverse, gently raised just before the posterior margin into a transverse, smooth, simple crest, which slopes abruptly in the apical side down to the margin itself: in the ♀ simple: penultimate ventral segment ♂ ample, nearly square: pygidium ♂ tumid, gently narrowed, with a minute spinule at each angle, the apex gently concave: forceps with the branches ♂ remote, rather stout, elongate and arcuate: in the basal third, on inner margin, underneath, there is a prominent, laminated, acute tooth, and in the middle third, the inner margin is feebly laminated: in the ♀ the branches are simple and contiguous.

Rotung, 1400 ft., 23-xii-11—2-i-12, 11 ♂ ♂ and 8 ♀ ♀, brachypterous. Nos. $\frac{2127}{19}$, $\frac{2138}{19}$, $\frac{2145}{19}$, $\frac{2151}{19}$, $\frac{2152}{19}$, $\frac{2222}{19}$, $\frac{2223}{19}$, $\frac{2230}{19}$, $\frac{2134}{19}$, $\frac{2132}{19}$, $\frac{2137}{19}$, $\frac{2139}{19}$, $\frac{2140}{19}$, $\frac{2226}{19}$, $\frac{2215}{19}$, $\frac{2219}{19}$, $\frac{2224}{19}$, $\frac{2228}{19}$, $\frac{2252}{19}$: also 6 ♀ ♀, macropterous. Nos. $\frac{2124-6}{19}$, $\frac{2128}{19}$, $\frac{2135}{19}$, $\frac{2397}{19}$. Under bark and in rotten wood. Also No. $\frac{2130}{19}$ with no locality label.

Kobo, 400 ft., 2—8 xii-11, macropterous, 7 ♀ ♀. Nos. $\frac{2266}{19}$, $\frac{2351}{19}$, $\frac{2354}{19}$, $\frac{2356}{19}$, $\frac{2358}{19}$, $\frac{2363}{19}$, $\frac{2365}{19}$: brachypterous, 5 ♂ ♂, and 7 ♀ ♀, under bark and in rotten wood. Nos. $\frac{2249}{19}$, $\frac{2254}{19}$, $\frac{2257}{19}$, $\frac{2265}{19}$, $\frac{2267-8}{19}$, $\frac{2334}{19}$, $\frac{2353}{19}$, $\frac{2367}{19}$, $\frac{2373}{19}$, $\frac{2377}{19}$, $\frac{2378-9}{19}$.

Sadiya, 26-xi-11, 1 brachypterous ♂, under bark. No. $\frac{2292}{19}$.

Brachypterous specimens seem to be present in a majority; it will be observed that there are no macropterous males, and 13 macropterous females, but of the brachypterous form there are 16 males and 15 females. All are recorded as occurring under bark or in rotten wood.

It somewhat recalls the Ethiopian *S. kristenseni*; of the Oriental species it is perhaps nearest to *S. luteus*, but the form of the forceps is very distinctive.

No. $\frac{2151}{19}$, a brachypterous male (for want of a macropterous male) is the nomotype.

Genus *Irdex*, Burr.

1. *Irdex nitidipennis*, Borm.

Rotung, 1400 ft., 24-xii-11. 2 ♀, under bark. Nos. $\frac{2099}{19}$ and $\frac{2141}{19}$

Subfamily *LABIINAE*.Genus *Labia*, Leach.1. *Labia mucronata*, Stål.

Sadiya, 23-xi-II. 2 ♂, under stones. Nos. $\frac{2303}{19}$ and $\frac{2444}{19}$.

2. *Labia curvicauda*, Motsch.

Rotung, 1400 ft., 23-xii-II. 2 ♂, 5 ♀, in rotten wood and under bark. Nos. $\frac{2122-3}{19}$, $\frac{2129}{19}$, $\frac{2131}{19}$, $\frac{2217}{19}$, $\frac{2225}{19}$ and $\frac{2229}{19}$.

Upper Rotung, 9-i-12. ♀, under bark. No. $\frac{2404}{19}$.

Below Dosing, 1400 ft., 29-i-12. 2 ♀, under bark. No. $\frac{2274-5}{19}$.

Kobo, 400 ft., 1-2-xii-II. 8 ♂♂ and 5 ♀♀, under bark.

Nos. $\frac{2258-9}{19}$, $\frac{2262}{19}$, $\frac{2355}{19}$, $\frac{2359}{19}$, $\frac{2360}{19}$, $\frac{2362}{19}$, $\frac{2364}{19}$, $\frac{2369}{10}$, $\frac{2368}{19}$,
 $\frac{2370}{19}$, $\frac{2374}{19}$

Sadiya, 13-xi-II. 1 ♂, 3 ♀, under bark. No. $\frac{2445}{19}$.

Genus *Chaetospania*, Karsch.1. *Chaetospania feae*, Borm.

Rotung, 23-xii-II. 2 ♂, 4 ♀, in rotten wood and under bark.

Nos. $\frac{2220-1}{19}$, $\frac{2211}{19}$, $\frac{2213-4}{19}$, $\frac{2136}{19}$.

Renging to Rotung, 2600 ft., 20-xii-II. ♀, under bark.

No. $\frac{2411}{19}$.

No. $\frac{2213}{19}$ is a specially fine and well-developed specimen, with the pygidium somewhat dilated at the sides and the forceps toothed.

2. *Chaetospania*? sp.

Upper Renging, 2150 ft., 3-ii-12. ♀ No. $\frac{2286}{19}$.

Kobo, 400 ft., 1-xii-II. 1 ♀ and 1 larva, in rotten wood.

Nos. $\frac{2337}{19}$ and $\frac{2371}{19}$.

Sadiya, 26-xii-II. ♀, in rotten wood. No. $\frac{2295}{19}$.

This species may be new, but without the male it is impossible to determine it with accuracy.

Family CHELISOCHIDAE.

Genus *Chelisoches*, Scudder.1. *Chelisoches morio*, Fabr.

Rotung, 1400 ft., 24-xii-11. 5 ♂, 8 ♀, under leaf-stem of decomposing plantain. Nos. $\frac{2381-91}{19}$ and $\frac{2469}{19}$.

Dibrugarh, 17-19-xi-11, ♀ No. $\frac{2433}{19}$.

It is interesting to find this species in this district: in India it is almost unknown: it occurs in Ceylon, probably as a straggler from the Malayan islands, as also in Burma; probably indigenous to Assam from the North East

2. *Chelisoches tigris*, sp. n.

Antennae yellow, the basal segment and one ante-apical segment black: head black, depressed, posterior margin tumid: pronotum gently dilated and rounded posteriorly; prozona black, shading to tawny in the metazona: femora and tibiae black, tarsi fulvous: elytra smooth, fulvous, shading to black on the costal margin: wings fulvous, shaded with black: abdomen brick-red, shading to blackish at the sides: last dorsal segment with a row of minute black tubercles along posterior margin, which are rather bigger near the middle line, which is smooth and somewhat depressed: pygidium short, thick, broad, with 2 minute spinules: forceps with branches stout, arcuate, with a short, blunt, double tooth in the middle.

Rotung, 1400 ft., 1-i-12. ♂, under leaf of screw pine.

No. $\frac{2398}{19}$.

The colouration of this species is very distinctive. I cannot think that it is a mere colour-variation of *Ch. morio*. Unfortunately the specimen has been damaged in transit.

Genus *Lamprophorus*, Burr.1. *Lamprophorus kervillei*, Burr.

Rotung, 1400 ft., 28-xii-11. 2 ♀, under bark. Nos. $\frac{2201}{19}$ and $\frac{2204}{19}$.

Below Dosing, 1400 ft., 26-i-12. ♀ No. $\frac{2280}{19}$.

Dibrugarh, 22-xi-11. 3 ♂ and 3 ♀, under leaf-sheath of bamboo. Nos. $\frac{2438-43}{19}$.

It is interesting to find this species in Northern India: it has hitherto only been known from a single pair from Tonkin: these

specimens are much darker and deeper in colour than the types, but do not differ in any important structural particulars.

Genus *Adiathetus*, Burr.

1. *Adiathetus glaucopterus*, Borm.

Rotung, 1400 ft., 23-xi-II—24-i-12. 4 ♂♂, 7 ♀♀ and 2 larvae, under bark. Nos. $\frac{2161}{19}$, $\frac{2177-85}{19}$, $\frac{2199}{19}$, $\frac{2200}{19}$, $\frac{2466-8}{19}$.

Below Dosing, 1400 ft., 29-i-12. 2 ♂, under bark. Nos. $\frac{2276-7}{19}$

Dosing, 1400 ft., 29-i-12. 2 ♂, under bark. Nos. $\frac{2269-70}{19}$

Kobo, 400 ft., 1-xii-II. 1 larva in rotten wood. No. $\frac{2260}{19}$.

Sadiya, 23-xi-II. ♂ and 2 ♀, under bark. Nos. $\frac{2300-01}{19}$, and one without number.

These specimens are slightly different from typical Burmese ones in having the pygidium of the female truncate apically, but one with no number, from Sadiya, presents the intermediate form, the sight of which confirmed me in my original idea of not differentiating it, but in other respects it agrees.

Genus *Hamaxas*, Burr.

1. *Hamaxas kempí*, sp. n.

	♂	♀
Long. corporis	11.5—13 mm.	11—12.5 mm.
„ forcipis	5—6.5 „	4—5.5 „

General colour reddish black: antennae slender, black, 3 or 4 ante-apical segments white. Head reddish black or quite black, depressed, sutures indistinct. Pronotum longer than broad, parallel-sided, narrowed and convex anteriorly, rounded posteriorly, deep reddish black or black. Elytra and wings perfect, dull reddish dark brown or black, very finely punctulate: legs dull brown, shading to blackish or yellowish, strongly pubescent, rather short, femora rather thick: sternal plates black. Abdomen parallel-sided, deep red-brown or black, lateral folds distinct, the whole surface exceedingly finely and densely punctulate, almost smooth, the edges of the segments milled. Last dorsal segment lighter in colour; nearly square in the ♂, transverse in the ♀: in the ♂ no suture visible, posterior margin truncate, black and feebly tumid over the insertion of the forceps, with a slight, black, crested tubercle on each side of the middle line, and a similar but smaller pair nearer together just before them: pygidium of the ♂ short, transverse, rectangular, truncate: in the ♀

narrower, rounded, with a short square rectangular lobe. Forceps with the branches in the ♂ remote, slender, elongate and gently arcuate, with fine nearly obsolete denticulation on the inner margin: in the ♀ similar, but shorter and unarmed.

Rotung, 1400 ft., 20—27-xii-11. 6 ♂ 2 ♀ Nos. $\frac{2105-08}{19}$,
 $\frac{2159}{19}$, $\frac{2203}{19}$, $\frac{2408}{19}$ and $\frac{2470}{19}$

Upper Rotung, 4—5-i-12. 1 ♂, 2 ♀ Nos. $\frac{2399}{19}$ and $\frac{2402-3}{19}$.

Janakmukh, 600 ft., 18-xii-11. 2 ♂ No. $\frac{2311-12}{19}$.

Below Damda, bank of Siyom R., 1300 ft., 30-i-12. 1 ♂ and
 1 ♀, under leaf-stem of plantain and one under bark.
 No. $\frac{2282-3}{19}$

No. 2470 is the nomotype.

This species closely resembles *H. nigroruja*, Burr, from New Guinea, but differs in the sculpture of the last dorsal segment; in that species the pairs of minute black tubercles along its posterior margin are wanting, the margin itself is incrassate and depressed in the middle: the pygidium also in that species has a minute spine at each angle: *H. feae* is smaller, quite differently coloured, and the structure of the last dorsal segment is also different. *H. dohertyi*, Burr, and *H. semiluteus*, Burr, are probably only colour varieties of *H. feae*, or *H. nigroruja*.

All but one of the males are macrolabious; one (No. 2311, Janakmukh) is cyclolabious; the branches are robust, shorter and arcuate, with a pair of sharp teeth.

Genus *Solenosoma*, Burr.

1. *Solenosoma birmanum*, Borm.

Janakmukh, 600 ft., 17-xii-11. ♀, under bark. No. $\frac{2310}{19}$

This is the third known specimen of this curious and rare species. The other two are the type from Bhamo in Burma, and a male from Assam, recorded by me, in the Indian Museum.

The forceps are contiguous, straight, slender, elongate, and unarmed. Their length is 3.5 mm.

Family FORFICULIDAE.

Subfamily ANECHURINAE.

Genus *Allodahlia*, Verh.

1. *Allodahlia scabriuscula*, Serv.

Kobo, 400 ft., 20-xi-11—6-xii-11. 9 ♂ ♂ and 9 ♀ ♀, under
 bark and rotten wood. Nos. $\frac{2231-47}{19}$, $\frac{2263}{19}$ and $\frac{2350}{10}$.

Rotung, 1400 ft., 23—28-xii-II. 3 ♂, 3 ♀, under bark and rotten wood. Nos. $\frac{2101}{19}$, $\frac{2146-7}{19}$, $\frac{2160}{19}$, $\frac{2195-6}{19}$.

Yembung, 1100 ft., 14-xii-II. ♂, in rotten wood. No. $\frac{2429}{19}$.

Below Dosing, 1400 ft., 29-i-12. 2 ♂, under bark. Nos. $\frac{2278-9}{19}$.

2. *Allodahlia coriacea*, Borm.

Upper Rotung, 24-i-12. ♂ No. $\frac{2405}{19}$.

Subfamily *FORFICULINAE*.

Genus *Elaunon*, Burr.

1. *Elaunon bipartitus*, Kirby.

Above Pang-i, 4000 ft., 16-i-12. 5 ♂♂ and 6 ♀♀, under bark. Nos. $\frac{2319-29}{19}$.

This species has a remarkable distribution: it is common in the Himalayas, occurs also in the extreme south of India but has not yet been recorded in the centre: it is also found in Ceylon. It is unknown in the Malay Archipelago, in Further India, Annam, Tonkin and Siam, but appears again in Formosa: unknown in New Guinea, it is found in New South Wales. In spite of the erratic distribution, I have seen no variation, except the usual dimorphic brachy- and macrolabiism.

Genus *Kosmetor*, Burr.

1. *Kosmetor brahma*, Burr.

Renging, 2150 ft., 19-xii-II. ♂, at light. No. $\frac{2285}{19}$.

A rare species recorded from Bhutan.

Subfamily *OPISTHOCOSMIINAE*.

Genus *Eparchus*, Burr.

1. *Eparchus insignis*, Haan.

Above Pang-i, 4000 ft., 16-i-12. ♂ and ♀, under bark. Nos. $\frac{2330-1}{19}$.

Yembung, 1100 ft., 14-i-12. 2 ♂♂ in rotten wood. Nos. $\frac{2428}{19}$ and $\frac{2430}{19}$.

Kobo, 400 ft., 2-xii-II, in rotten wood. No. $\frac{2335}{19}$.

Rotung, 1400 ft., 21—30-xii-11, 14 ♂♂ and 8 ♀♀ Nos.
 $\frac{2102-4}{19}$, $\frac{2144}{19}$, $\frac{2162-73}{19}$, $\frac{2191-5}{19}$, $\frac{2202}{19}$.

Abundant throughout the Oriental region.

Genus **Timomenus**, Burr.

1. **Timomenus** sp. ?

Below Dosing, 1800 ft., 31-i-12. ♀, from bank of Siyom
 River. No. $\frac{2281}{19}$

Indistinguishable from the Formosan *T aeris*, Shir. The discovery of the male would finally decide the question.

Genus **Cordax**, Burr.

1. **Cordax forcipatus**, Haan.

Upper Rotung, 9-i-12, ♂, under bark. No. $\frac{2288}{19}$.

Known from India and Burma.

XI. DIPTERA

By E. BRUNETTI.

(Plate vi).

In view of the comparatively small number of species and the insufficiency of our knowledge of Oriental Diptera, any attempt to gauge the nature of the fauna of the Abor district must be little more than surmise.

Of eighty-five named species, including all the new ones (of which several are known to occur outside the region collected over by the expedition), 4 are found also in the Palaeartic Region, 16 in the Himalayan, 13 in Assam, 23 in the Indian plains, 7 in Ceylon and 14 in the Malay Peninsula or East Indian Islands.

Grouping them roughly into "Temperate" species (Palaeartic and Himalayan together) as against "Tropical" species (all the remainder), there are 16 species which occur at least in Himalayan localities (four occurring also in Palaeartic latitudes) whilst about 30 species occur in one or more of the tropical localities.

MYCETOPHILIDAE.

Leia arcuata, Brun.

One specimen from Komsing, 1-iii-12.

In the Indian Museum from Darjiling, Kurseong and Naini Tal.

Allactoneura cincta, Meij.

One specimen under bark in rotting wood, Kobo, 2-xii-11. A widely distributed species, occurring in Nepal, Sylhet, various parts of India, Ceylon and Java.

Sciara orientalis, Brun.

Three specimens; Rotung, 24 and 25-xii-11, and Dibrugarh, 17-19-xi-11.

Also a widely distributed species, in India, Ceylon, the Himalayas and Assam.

Sciara, sp.

Two specimens, too damaged to identify. The species falls in the group with the 1st longitudinal vein ending much before the fork of the 4th vein, and with blackish thorax. One is from Yembung (13-i-12), "in camp," the other from below Dosing (1400 ft.), 29-i-12, "under bark."

BIBIONIDAE.

Pleciomyia melanaspis, Wied.

Six specimens altogether, from Dibrugarh, 17—19-xi-11; between Kalek and Misshing (4500 ft.), 17-iii-12, Kalek (2300 ft.), 15-iii-12. It is common in Abor villages.

Bibio obscuripennis, Meij.

A headless example from Rotung, 25-xii-11 (on the sand banks of the Dihang River), is in all probability this species. In this specimen the 3rd vein forks immediately over the anterior cross-vein; this is abnormal, as it usually forks very distinctly before it.

SIMULIIDAE.

Simulium ? *indicum*, Becher.

There are three specimens of a *Simulium*, of which at least one is likely to be *indicum*, Becher, but they are much too worn to identify with precision. The one in the best condition is from Rotung (23-xii-11), the others from Rotung (24-xii-11) and Upper Rotung (6-i-12). One bears the laconic note "bites."

CHIRONOMIDAE.

Calyptopogon albitarsis, Kief.

One specimen (17—19-xi-11) from Dibrugarh.

Kieffer (Mem. Ind. Mus. ii, p. 210) comments on Meijere's note (Tijd. v. Ent. 1, 216) on a specimen from Java which he identified with *Macropeza gibbosa*, Wied, saying that as that author said nothing about the form of the thorax, he (Kieffer) concludes that it is shaped as in the European (type) species of *Macropeza*, Mg. (*albitarsis*, Mg.): that is to say without the conspicuous projection over the head which characterizes Wiedemann's species.

But as it seems impossible that Meijere could have avoided reading Wiedemann's very distinct statement, "thorace antice supra caput producta," it must be assumed that he correctly identified the older author's species, though possibly considering a new genus for it unnecessary. If this be the case, Kieffer's *nom. nov.* (*Macropeza javanensis*) for the species identified by Meijere as *gibbosa*, Wied. will sink as synonymous. The erection of a new genus for *gibbosa* seems quite just.

C. albitarsis differs from *gibbosa* by the hind metatarsus being twice as long as the corresponding tibia; whilst, according to Meijere it is "longer" than the tibia in *gibbosa*. It seems to me the relative lengths of the tarsal joints are not always consistent. Although the present specimen is referred to this species, the hind metatarsus is only a little more than one and a half times as long as the hind tibia, and in two other specimens of the same species in the Indian Museum from South India (Kerumaadi, at the south end of Vembanaad Lake, Travancore (6-xi-08) and Trivandrum

(13-xi-08) both taken by Dr. Annandale) the relative lengths are not constant, the hind metatarsus in one being about one and three quarter times as long as the tibia. The abdomen in the Dibrugarh specimen is tinged with dull red, and in one of the other specimens referred to the legs are brown instead of black, the tarsi being less white than usual.

N.B.—Two specimens of *Chironomus (sensu lato)* are in the present collection but are too damaged to identify. One is from Dibrugarh, the other from Sadiya.

PSYCHODIDAE.

Psychoda notatipennis, mihi, sp. nov.

(Pl. vi, fig. 4).

Sex? N.E. Frontier of India. Long. barely 1 mm.

Head crushed by pin but one perfect antenna remains and this is densely covered with greyish white pubescence; there are also long whitish hairs about the frons.

Body.—Pale yellowish, thorax mainly brown, abdomen with a little blackish across the middle of the dorsum. Both thorax and abdomen with rather long whitish hairs in moderate density. Belly yellowish with whitish hairs.

Legs.—Dark brown with a little pale pubescence.

Wings.—Clear, with two divaricate rows of fine whitish grey hairs to each vein, the rows lying across one another between the veins. Six small but very distinct spots composed of dark brown hairs are placed in a transverse row at one third of the wing's length, situated respectively over the auxiliary vein, 1st vein, 2nd and 4th veins at their forks, 5th and 7th veins, in the case of the 7th vein near its tip, which is nearly opposite the tip of the 1st vein but rather more proximad. A second row of similarly formed spots crosses the wing a little beyond the middle, the third spot of which is a little more proximad than the others. In this second row the 1st spot is at the tip of the first ending of the 2nd vein, very close to the costa, the 2nd (the largest) on the lower branch of the 2nd vein, the 3rd spot (the most proximad one) on the upper branch of the 4th vein, and the 4th spot near tip of 5th vein, close to the wing margin. There is a similar spot at the tip of the 1st longitudinal vein, which lies on the costa, a little proximad of the second transverse row of spots. Two other similar spots are placed close to the wing tip, respectively at the tips of the lower branch of the 2nd vein and of the upper branch of the 4th vein.

Described from a single specimen in good condition, except for the partially crushed head, from Rotung, 1400 ft. (24-xii-11), taken under the leaf-stem of a decomposing plantain.

Owing to the long hair at the abdomen tip it is not easy to distinguish the sex. This specimen is the only one of this family obtained upon the Expedition.

CULICIDAE.

Toxorhynchites, sp.

One specimen of this genus, very much worn, from Dibrugarh, 17—19-xi-11.

Stegomyia fasciata, F.

Rotung (26-xii-11), a single ♂ in good condition. A very widely distributed species in the East as well in other parts of the Tropics

N.B.—One other specimen of *Culicidæ* is present, which I am unable to determine; it has the yellow appearance of a *Chrysoconops*.

TIPULIDAE.

Tipula majestica, Brun.

One ♀, a small specimen, from between Kalek and Misshing (4000 ft.), 15-iii-12. A not uncommon species, represented in the Indian Museum from Naini Tal, Kurseong, the Nilgiri Hills and Assam.

Dicronomyia saltans, Dol.

Several (♂ ♀) from Dibrugarh, 17—19-xi-11. Described originally from Central Java; it occurs also in Travancore, and is probably generally distributed in the East.

Dicronomyia marmoripennis, Brun.

Four specimens, ♂ ♀; Kobo (400 ft.) (2—3-xii-11), by sweeping in thick jungle. A species widely distributed in India; in the Indian Museum from Darjiling, Kurseong, Purnea, and Bangalore.

Limnobia, sp.

One ♂ in indifferent condition, probably of an undescribed species: Kobo, 12-xii-11.

Geranomyia notatipennis, mihi, sp. nov.

(Pl. vi, fig. 1).

♂ N.E. Assam.

Long. 5 mm.

Head.—Blackish grey, frons lighter; antennae dark reddish brown, 1st scapal joint very large and long; proboscis curved, black, about as long as extreme length of head and thorax together.

Thorax.—Rather bright light brownish yellow, three dorsal brown stripes, the median one continued over the anterior margin along the moderately lengthened neck; outer stripes shorter as usual. Traces of a pale brown lateral stripe from neck to root of wings; post-sutural surface of dorsum darker brown, scutellum concolorous, metanotum blackish.

Abdomen.—Brownish yellow, hind margins of segments indistinctly but obviously broadly brownish; belly mainly black.

Legs wholly brownish yellow.

Wings.—Pale yellowish; five pale brown moderately small spots on costa; 1st a little before origin of 2nd longitudinal vein; 2nd over origin of 2nd vein but extending to the costa; 3rd at tip of auxiliary vein and over subcostal cross-vein; 4th over tip of 1st longitudinal vein and marginal cross-vein; 5th at tip of upper branch of 2nd longitudinal vein. Of these spots the 2nd and 4th are slightly the largest. Halteres brownish yellow.

Described from a single ♂ from Dibrugarh, 17—19-xi-11.

***Libnotes punctipennis*, Meij.**

One ♂, Dibrugarh, 17—19-xi-11. The species described from Java; in the Indian Museum from Assam, Darjiling and Peradeniya.

***Libnotes fuscinervis*, Brun.**

One ♂ between Kalek and Misshing (4000 ft.), 18-iii-12.

In the three specimens in the Indian Museum of this species (apart from the present example) the submarginal cell has a cross-vein as well as the marginal, except in one wing only of one specimen. This fact seems to prove that the unusual presence of an additional cross-vein is not specific. No such extra cross-vein is present in the Abor example. The three ♂ ♂ in the Indian Museum are from Darjiling.

***Rhamphidia*, sp.**

One example without legs or antennae, taken between Kalek Misshing (17-iii-12) at 4000 ft.

***Teucholabis biannulata*, Brun.**

Two specimens (one is a ♀, the other has the abdomen tip missing); taken below Damda (3000 ft.) under leaf-stem of plantain and at Rotung, 27-xii-11. It occurs at Kurseong.

***Conosia irrorata*, Wied.**

Dibrugarh, 17—19-xi-11. Two specimens.

***Amalopsis glabripennis*, Brun.**

One ♀ is evidently this species, taken at Yembung (1100 ft.) (15-i-12) on bank of stream. Occurs at Darjiling.

***Limnophila claripennis*, mihi, sp. nov.**

♀ N.E. Frontier of India. Long. 3½ mm.

Head and *thorax* nearly ash grey or a little darker, with a pale brown median stripe on the latter with, on each side of the stripe,

a little darkening of the surface about the "pits," that is, in the spots where the subcontiguous side stripes usually appear. Viewed from behind, the thorax is a little darker and more brown in colour. Scutellum, metanotum and sides of thorax more or less concolorous; palpi blackish; antennae brownish yellow.

Abdomen.—Dark brown above, with indistinct blackish margins to segments and a blackish side stripe; belly dirty brownish yellow.

Legs.—Wholly brown or dark brownish yellow except coxae and basal part of femora which are pale yellowish, the colour in the latter darkening to brown by about the middle.

Wings.—Quite clear; 5 posterior cells; petiole of 2nd posterior cell shorter than the cell; 4th posterior cell as long as the discal cell; posterior cross-vein distinctly before the discal cell. Halteres pale yellow.

Described from three ♀ ♀ from Yembung (1100 ft.), 13-i-12; in jungle, near plantain trees.

In the two examples other than the type, the head and thorax are much darker, but this is apparently due to their being somewhat stained.

Limnophila quartarius, mihi, sp. nov.

♂ ♀ N.E. Frontier of India.

Long. 3-4½ mm.

Head.—Occiput cinereous grey, or nearly ash grey; antennae bright brownish yellow; palpi a little darker.

Thorax.—Brownish yellow; the pre-sutural dorsum brownish, the post-sutural part, shoulders and pleurae lighter, nearly pale yellowish; two large round black spots on the sides, one before and one behind the wing-root; post-sutural callosities a little deeper brown.

Abdomen.—Brownish yellow; a lateral black stripe; posterior margins of segments more or less blackish, and a fine black transverse line across the middle of each segment. Tip of abdomen darker, genitals concolorous in ♂, pale yellow in ♀

Legs.—Brownish yellow, tips of femora sometimes a little blackish.

Wings.—Very pale grey, rather large, broad, and rounded at the tip. The 2nd longitudinal vein, after the origin of the 3rd, forks at one fourth of its remaining length, the branches strictly parallel, just sufficiently turned upwards at their tips to make them bisinuate; the 3rd vein springs from the 2nd (at the lowest point of the downward curve of the praefurca), without any curve or angle, and the anterior cross-vein is situated at the same spot. The 1st posterior cell with strictly parallel sides; discal cell distinctly shorter than 2nd and 3rd posterior cells; posterior cross-vein just after base of discal cell, but slightly variable in position. Halteres obscure.

Described from 5 specimens from Rotung (1400 ft.), 26—27-xii-11.

The only ♀ present is stained and nearly black, but it is obviously of this species.

Epiphragma kemp, mihi, sp. nov.

(Pl. vi, fig. 2).

♀ N.E. Frontier of India.

Long. 10 mm.

Head.—Bright brownish yellow, a little darker immediately above the antennae, of which the 1st scapal joint is dark brown, long and cylindrical, the 2nd being cup-shaped, short and brownish yellow, (flagellum missing). Palpi and underside of head brownish yellow.

Thorax.—Brownish yellow, a little darker brown on each side of the middle, on and around the scutellum and metanotum and below the wings, but in all cases the brown colour ill-defined.

Abdomen.—Wholly brownish yellow, a lateral black stripe and a faint pale transverse line across the middle of each segment as is usual in this genus. Belly pale brownish yellow.

Legs.—Wholly brownish yellow; a moderately broad subapical pale brown band on all the femora, anterior to which the limb is distinctly paler.

Wings.—Pale yellowish grey with a brownish yellow ornamentation arranged as follows. The base of the wing is so coloured but the costal cell is clear at the base. Beginning (by punctiform contact only) at the basal brown part is a zigzag line of moderate width, proceeding to the costa, with which it is in moderately broad contact; it then descends to the 5th longitudinal vein, where it is sharply demarcated, thence proceeding upwards to the costa with which it is again in broad contact, at a little distance before the characteristic cross-vein between the costa and the auxiliary vein. It proceeds downwards again to the 4th longitudinal vein, at which point it is deflected backwards somewhat, reaching the hind margin of the wing where it encloses the tip of the 7th longitudinal vein. From the middle of the 1st basal cell a branch band proceeds again to the costa, with which it is broadly in contact, and whence the band proceeds directly hindwards to the wing margin (narrowing considerably at the inner side of the discal cell), which it reaches broadly behind the 5th vein.

An oblong spot, placed transversely to the wing's length, extends from the 3rd longitudinal vein (embracing the outer side of the discal cell) to the 5th longitudinal vein, where it sharply ends. A pear-shaped spot begins on the costa at the tip of the upper branch of the 2nd longitudinal vein, ending at about the upper branch of the 4th longitudinal vein, at which spot it is joined to another spot which gives out four branches to the wing tip, ending respectively at the tips of the lower branch of the 2nd vein, of the 3rd vein and of both ends of the upper branch of the 4th vein. A small spot beyond the middle in both the 3rd and 4th posterior cells. A spot in the middle of the axillary cell. Halteres brownish yellow.

Described from one ♀ taken between Kalek and Misshing (4000 ft.), 16-iii-12.

Dicranophragma gracilis, mihi, sp. nov.

(Pl. vi, fig. 3).

♀ N.E. Frontier of India. Long. just over 2 mm.

Head.—Occiput ash grey; eyes and mouth parts black; palpi blackish (antennae missing). *Thorax* seen from in front, grey; seen from behind, brownish; sides of thorax dirty brown.

Abdomen.—Dirty brown, a median stripe and a lateral one on each side, the emargination of the segments obscure; belly dirty yellow.

Legs.—All brownish yellow, very shortly pubescent, extreme tips of coxae and trochanters black.

Wings.—Pale grey. Auxiliary vein ending opposite the middle of the discal cell. The 1st longitudinal vein ends midway between the tip of the auxiliary and the wing tip; the praefurca takes a wide curve, its upper branch approximating very closely to the 1st longitudinal vein just beyond the tip of the auxiliary vein; marginal cross-vein just before tip of 1st vein. The two submarginal cells about equal in length, both distinctly longer than the marginal cell; base of 1st roundly pointed, that of the 2nd nearly square. Anterior branch of 4th longitudinal vein forked; petiole of 2nd posterior cell shorter than the cell; 4th posterior cell about as long as the discal cell; posterior cross-vein just before the discal cell. A distinct cross-vein in the 1st submarginal cell just beyond the marginal cross-vein. Costal part of wing from tip of auxiliary vein to nearly the end of the marginal cell, brownish, and most of the veins, except the basal half of the 4th and 5th and all the 6th and 7th, faintly but obviously narrowly tinged with pale brown here and there.

Described from a single ♀ from Yembung (1100 ft.) (13-i-12), in jungle near plaintain trees.

STRATIOMYIDAE.

Microchrysa albitarsis, mihi, sp. nov.

♀ N.E. Frontier of India. Long. 5 mm.

Head.—Frons one-fifth the width of the head, with a slight deep blue tinge, but brilliant violet immediately above the antennae. Head below antennae bronze green with black hairs. Antennal 1st joint black, 2nd and 3rd yellow, the latter divided by two annulations into three divisions, arista long. Back of head blackish.

Thorax.—Wholly brilliantly shining metallic green, with very short whitish pubescence.

Abdomen.—Dark green with very short sparse whitish pubescence, which is a little longer around the margin and at the tip. Belly darker, nearly black.

Legs.—Black, with microscopic whitish pubescence, all the tarsi wholly yellowish except the extreme tips.

Wings.—Clear, veins and the region of the stigma yellowish; halteres apple green.

Described from a single perfect ♀ from Dibrugarh, 17—19-xi-11.

Tinda indica, Walk.

One ♂, Dibrugarh, 17—19-xi-11. A not uncommon and rather widely distributed species, occurring in India, Assam, Celebes and Manila.

TABANIDAE.

Chrysops ? designata, Ricardo.

Two ♀♀ of a species of this genus agree fairly closely with Miss Ricardo's *designata*, and may be a varietal form of it. It was described from specimens from Naini Tal, Nepal and Yunnan.

ASILIDAE.

Of this family only four specimens are present. Two are not in sufficiently good condition for identification, one belonging to the *Dasyopogoninae*, the other to the *Asilinae*: both from Sadiya, taken respectively 23-xi-11 and 28-xi-11. The remaining two specimens are in good condition, representing *Asilus (sensu lato)*, coming respectively from Kalek (3200 ft) (19-iii-12), and Dibrugarh, 17—19-xi-11. In view of the large number of species of this group described from the East and the extreme difficulty of differentiating the species, any attempt at identification would be little better than conjecture.

DOLICHOPIDAE.

Six specimens are present belonging to this family, but identification is practically impossible, from the indifferent condition of most of them, and the fact that they are mostly females. Moreover, until the Oriental species already described are placed upon a firm foundation, it would be hazardous in the extreme to encumber the catalogue with further names. One is a *Psilopus*,¹ of which over seventy species have been described from the East, mostly from single specimens, the types of which are now probably in greater part unrecognizable or completely lost.

SYRPHIDAE.

Paragus rufiventris, mihi, sp. nov.

♂ Assam, Western Himalayas, Ceylon. Long. 5 mm.

Head.—Frons shining black, almost bare. Eyes subcontiguous only, and for a very short distance; posterior orbit of eyes with a

¹ Aldrich, the leading expert in North America in this family, has shewn that the use of this name by Poda previously was not in a zoological sense, and therefore its abandonment in favour of *Agonosoma* is unjustifiable.

fringe of white hairs, weakest behind the vertex, where the hair is darker. Face very pale lemon yellow, shining, bare, becoming nearly whitish towards the mouth, above which is a little white hair on each side. A black shining median line on the face from immediately below root of antennae to the mouth. The middle part of the face in profile a little protuberant. Antennae blackish brown, 3rd joint more or less reddish brown below at base, arista dorsal, placed at about one-third of the length of the joint. Proboscis shining blackish brown.

Thorax.—Shining black, covered rather closely with black socketed hairs, which give a punctured appearance to both the dorsum and the scutellum, which latter is concolorous. Sides black, a little conspicuous white hair in front of the wing roots.

Abdomen.—Black or blue black, shining; about the hind half or a little more or less, bright reddish brown; the whole surface of the abdomen with white hairs extending over the sides. The tip of the abdomen is sometimes black, or the reddish part may be black at the sides. Belly generally a replica of the upper side.

Legs.—Coxae and basal half of femora black, shining, apical part of femora brownish yellow, shading into the lemon yellow tip, this colour extending over about the basal third of the tibiae, the remainder being brownish yellow. Tarsi brownish yellow, a little golden yellow pubescence below the hind pair.

Wings.—Clear, venation normal, halteres pale yellowish white.

Described from a single ♂ from Sadiya, 23-ix-11, and also from four ♂♂ in the Indian Museum; the *type* from Mangaldai, Assam—Bhutan Frontier (1 or 2-i-11) [*Kemp*]; the others from Dhikala, Gharwal District, base of Western Himalayas, 10-iii-10; Bijrani, Naini Tal District, 19-iii-10; Peradeniya, Ceylon, 15-vii-10.

Paragus serratus, Fab.

Two ♂♂ from Sadiya, 23-xi-11, and Dibrugarh, 17—19-xi-11, respectively. A common and widely distributed species in South Asia, India, Sokotra, Ceylon and Java, and probably in many other parts of the Orient also.

Chilosia apicalis, mihi, sp. nov.

♀ N.E. Frontier of India.

Long. $7\frac{1}{2}$ mm.

Head.—Eyes with grey pubescence; the frons at just above the antennae, nearly one-third the width of the head, narrowing to the vertex, where it is only two-thirds as wide. Whole head aenous, with darker and with greyish reflections. Vertex and frons with black hairs, also the large transverse callosity just above the antennae, which reaches from eye to eye and is rather impressed in its middle. Facial bump moderately projecting, with a little yellowish grey hair on each side of the mouth opening. Proboscis blackish, with large reddish brown labella. Underside of head with a little white hair. Antennae reddish brown, upper

side and tip of 3rd joint blackish. Posterior border of eyes with white hair on the lower half.

Thorax.—Aenous, with a very slight bronze green tint viewed in certain directions, with short black and yellow hairs. Scutellum concolorous; black hairs on dorsum, with which some yellow ones are intermixed, yellow hair only on underside, softer and closer and there are at least six long black bristles on the hind border. A few inconspicuous black bristles behind the wings; pleurae with light yellowish hair.

Abdomen with 1st segment brownish, the remainder dull black, with yellowish hairs, which are thicker towards the base at the sides. Belly similar, nearly bare.

Legs.—Coxae black, a little reddish brown about the trochanters; femora black except narrowly yellowish at tips; tibiae orange, with a rather narrow median band which is narrower and incomplete on the anterior legs, and broader and complete on the hind legs. Tarsi orange, tips brown; hind tarsi with all the upper side dark.

Wings.—Nearly clear; stigma brownish yellow, extending to the end of the cell; a blackish infuscation over the apical third of the wing, extending from the stigma posteriorly to about the hinder limits of the 1st posterior cell. Halteres dirty yellow.

Described from one ♀ from Rotung (1400 ft.), 4—13-iii-12.

***Syrphus balteatus*, Degeer.**

Seven specimens (♂ ♀) of this widely distributed Palaearctic, North American and Himalayan species; from Sadiya (23-xi-11), Rotung (26-xi-11) and Dibrugarh, 17—19-xi-11.

***Syrphus aeneifrons*, mihi, sp. nov.**

♂ N.E. Frontier of India.

Long. 10 mm.

Head.—Eyes with dense dark brown pubescence; touching for more than half the distance from the upper corner of the frons to the elongate vertical triangle. This latter is black, with a few stiff black hairs curved forwards. Frons aenous bronze, antennal tubercle black, both with long black hairs. Face orange yellow, barely produced in the middle, just above the mouth, where it is blackish. Mouth border and lower edge of face black, with a few black hairs. Proboscis brownish. Antennae wholly black, 2nd joint emarginate, with black bristles at tip; 3rd joint elongo-conical, arista black. Posterior orbit of eyes with a fringe of bright orange scale-like thick hairs; occiput grey.

Thorax.—Shining black, with brownish yellow hairs. Sides dark grey; pleurae with grey or yellowish grey hairs; scutellum yellowish with dark brown hairs.

Abdomen.—Ovate, black, moderately shining; 2nd segment with a pair of elongo-triangular yellowish spots; their bases placed near the lateral margins, their apices nearly reaching the centre of

the segment; 3rd segment with a pair of elongate spots near the anterior margin, and not attaining the lateral margins. (They are slightly widened towards the sides in one specimen, but are of uniform width in the type). These spots nearly meet in the centre of the segment (probably in individual specimens actually are united). The 4th segment with two similar spots but rather smaller. (These in the type are of uniform width, but in the 2nd specimen are distinctly wider towards the sides as in the previous segment). Pubescence of abdomen concolorous with the ground colour; a quantity of pale yellow or whitish yellow hair laterally at base. Belly blackish, with greyish reflections, yellowish about the middle.

Legs.—Coxae and basal half of femora black, the tarsi brown; remainder of legs yellowish or brownish yellow; a little whitish and pale yellowish hair on the femora, longer on the underside.

Wings colourless; stigma dirty brownish yellow; halteres dull red brown.

Described from two ♂♂; the *type* taken between Kalek and Misshing (4000 ft.), 18-iii-12; the second example taken at Yembung (1100 ft.), 17-iii-12.

Syrphus transversus, mihi, sp. nov.

♀ Assam.

Long. 10 mm.

Head.—Eyes with yellowish white pubescence. Frons gradually widening from vertex to a line drawn through the base of the antennae, where it is fully one-third the width of the head at that point. Vertex shining violet, bare, except for the ocellar triangle which bears a few short black hairs. Rest of frons yellowish white dusted, but for a large space around the antennal protuberance it is shining black. Face pale yellow, more whitish below, central bump rather small, shining black, the colour extending in a stripe to the mouth. The whole frons (except the vertex) down to the antennae bears black pubescence, the whole face bears whitish pubescence, which is longest on the lower part and around the black mouth border. Proboscis blackish brown. Antennae wholly black, much as in *aeneifrons*, 3rd joint a little shorter. The anterior edge of the antennal protuberance brownish yellow. Back of head ash grey; upper posterior orbit of eyes with a fringe of bright yellow scale-like thick hairs, the lower part of the orbit with similar white scaly hairs.

Thorax.—Aenous, with pale brownish yellow hairs. Sides ash grey with whitish hairs. Scutellum yellowish, with yellow hairs on the dorsum and long black hairs in the region of the posterior border, and soft pendant white hair below.

Abdomen.—Ovate, black, 1st segment aenous, very short; 2nd, 3rd and 4th segments with a moderately broad yellow band on each, none of them attaining the side margins, all narrowed in the middle, the 1st and 3rd bands practically interrupted there. In fact the 1st band is really composed of two elongate triangular

yellow spots, their apices not contiguous, but connected by a small grey dusted patch. The 3rd band is actually interrupted for a very short space and in individual specimens might easily resolve itself into two elongate spots. Pubescence of abdomen concolorous with ground colour; a good deal of white hair laterally at the base and short pubescence along the side margins except where the black parts of the abdomen intervene. Belly blackish, the two wider yellow bands duplicated as on the dorsum, the pubescence sparser. In certain lights the dorsal abdominal bands have a creamy shade, especially the 1st band.

Legs.—Coxae rather less than half as long as the anterior femora, and more than half the hind femora, black. Tibiae brownish yellow, tarsi brown or blackish brown, hind pair with golden brown pubescence below. Femora with pale hair, hind tibiae with minute black pubescence on outer side.

Wings clear, subcostal cell pale yellow; halteres yellowish white.

Described from one ♀ from Sadiya, 28-xi-11.

Syrphus fulvifacies, mihi, sp. nov.

♀ N.E. Frontier of India.

Long. 9 mm.

Head.—Eyes bare; frons twice as wide at the level of the antennae (where it forms one third of the head) as at the vertex; wholly dull black, but for a short space below the black vertical triangle and also above the antennal protuberance it has a brassy aenous tinge. From the vertex to the antennae with black hairs. Face wholly, from roots of antennae downwards to lower margin, bright golden orange, rather deeper on central knob, which is of moderate size; mouth black but the mouth border itself yellow, with a small black spot at the extreme tip of the snout. Proboscis dark brown. Face with a little short black pubescence on sides of protuberance, on the remainder with very soft pale yellow hairs. Antennae dull black, basal two-thirds of underside of 3rd joint dull reddish brown, arista black. Occiput grey with a complete marginal fringe all round of uniformly sized bright yellow scale-like thick hairs.

Thorax.—Dull blackish, with soft pale brownish yellow hairs. These are so sparsely placed and of such fineness that the dorsum appears at first sight denuded of pubescence except towards the lateral margins and at the sides, where it is bright golden yellow and much thicker both in texture and quantity. The pleurae and wing bases also covered with similar golden yellow hair; sides of thorax cinereous grey. Scutellum yellow, with rather copious long black pubescence.

Abdomen.—Ovate, black. A pair of elongate yellow spots in the centre of the lateral margins of 2nd segment, their inner ends rounded but well separated from one another. A yellowish band in the middle of the 3rd and 4th segments, their anterior corners only reaching the lateral margins. These bands are emarginate in the

middle, more conspicuously so behind, both are of uniform width with the spots on the 2nd segment. Extreme posterior margin of 5th segment yellow. Pubescence of abdomen black, even on the yellow parts, but there is the usual amount of hair about the anterior corners, where it is bright yellow. Belly blackish, the yellow bands present about the same appearance as on the dorsum.

Legs.—Coxae, nearly the basal half of the anterior femora, all the hind femora except the tips, and hind legs wholly, except the basal third of their tibiae, black; the remainder of the legs yellow, tips of anterior tarsal joints with a row of black bristles, giving a darkened appearance to these parts, and the anterior tarsi with short black bristly hairs below. Hind tibiae with golden yellow pubescence on inner side; hind tarsi with similar pubescence below.

Wings clear, subcostal cell brownish yellow; halteres yellow.

Described from a single ♀, Rotung, 26-ix-11.

N.B.—This species is remarkably like the very common Palaearctic *S. ribesii*, L. and may possibly be a variety of it, unless the limits of that species are truly known. If so, it differs from *ribesii* by the hind femora being principally black. In this respect it resembles *vitripennis*, Mg., if this latter is really distinct. Verrall states of *vitripennis*, in comparing that species with his wonderfully correct description of *S. ribesii*, that its best specific distinction from the latter is "the scarcity of the tiny black bristles about the tip of the hind femora in both sexes." In *ribesii* these bristles are wholly yellow on all the femora except the middle pair (where they are black); in *vitripennis* they are all black and scarce. In the present form they are black and numerous. The hind tibiae are all black except about the basal third, whereas in *ribesii* there is at most an obscure dark patch on the front side, and in *vitripennis* the tibiae are wholly yellow.

The present form is as distinct from both *ribesii* and *vitripennis* as these two are from one another, but I am still open to question whether the three forms are not merely three well-marked varieties of one species. There are also so-called "species" in North America so near *ribesii* that further confirmation of their distinctness would be very satisfactory.

Syrphus maculipleura, mihi, sp. nov.

♀ N.E. Frontier of India.

Long. 6 mm.

Head.—Frons at base of antennae one third of the head, diminishing to half this width on the vertex, where it is shining with a dark violet aenous tinge. Remainder of frons shining aenous black, except for a narrow pale yellow eye margin which joins the pale yellow face, on which is a broad shining black middle stripe from the base of the antennae to the mouth. The small space between the roots of the antennae, yellow. Antennae with 1st and 2nd joints brown, 3rd with upper half black and lower part dull reddish brown. Frons with fine black hairs, face

with sparse short fine yellow hairs. Proboscis black with yellow labella. Hinder orbit of eyes with whitish yellow scaly hairs, back of head blackish grey. In profile the head does not extend downwards below the level of the eyes.

Thorax.—Bright shining aenous with a bronze tint, with short black or blackish brown hairs. Scutellum with dull black (almost velvet black) dorsum, the colour becoming dark brown on the hind margin; the extreme base is narrowly pale yellow; the surface covered with black hairs. Sides of thorax dull aenous or aenous grey, with a small quantity of yellowish or yellowish grey hair. A small oblong, pale yellow, inconspicuous callus-like spot on each shoulder; a small similar spot on the prothorax on each side just above the first pair of coxae. Three elongate similarly coloured small spots placed in a curved line below and behind the wings, the lowermost spot situated on the sternopleura.

Abdomen elongate, of uniform width, about as long as head and thorax together, black; 1st segment yellow except a little blackish in the middle at the base; 2nd segment with a pair of elongate yellowish spots across the middle, their outer ends touching the lateral edges of the segment, their inner ends well separated. The 3rd and 4th segments each with a slightly arcuate yellowish band, emarginate in middle on hinder side, placed just before the middle of the segment, and almost attaining the lateral margins (or if reaching them in individual examples, the contact probably practically punctiform only). The 5th segment with two oval yellow spots placed diagonally from anterior border to each hind corner. The whole abdomen with fine short black hairs, the sides also with black hairs; very little pale hair about the anterior corners of the abdomen. Belly mainly yellowish; the black parts of the dorsum more or less duplicated below.

Legs.—Anterior pairs pale yellow; an infuscated streak on upper side of fore femora and on outer side of fore tibiae; middle femora and tibiae similar but the obscure mark on the tibiae forms more nearly a median band. Fore tarsi all rich brown, middle tarsi black. Hind legs all black except base of femora a little yellowish; rich golden brown pubescence below hind tarsi. Pubescence of legs weak, pale yellow on anterior legs and black on hind pair.

Wings.—Clear, iridescent; subcostal cell pale brownish yellow; halteres yellow.

Described from one ♀, Rotung, 25-xii-11.

N.B.—According to Verrall, species with distinct yellow spots on the pleurae should not be included in *Syrphus*, yet it is difficult to know where else to place the present species. The shoulder spots are not continued as a yellow border to the thorax, and both this character, the *Syrphus*-like *facies* of the insect and width of abdomen (relatively broader than such species as *cinclis* and *cinclillus*) and the distinct *Syrphus*-like markings of the abdomen, all prevent it coming in *Sphaerophoria*. In its general appearance it is still less like *Mesogramma* or *Allograpta*. From *Xanthogramma*

its comparatively narrow abdomen and general appearance and also the absence of yellow side lines to the thorax, separate it.

As it seems to all intents and purposes a *Syrphus*, it is left in this genus, at least for the present.

***Asarkina salviae*, Wied.**

One ♂, typical, Sadiya, 23-xi-11.

***Asarkina aegrotus*, F.**

One ♂, Sadiya, 28-xi-11. The wings are infuscated on the entire basal half instead of bearing, as in typical forms, a broad cross band, but other specimens in the Indian Museum have only the shortest possible clear space at the wing base.

***Melanostoma mellinum*, L.**

Two specimens of this common and widely distributed Palearctic species: Dibrugarh, 17—19-xi-11 and Kobo (400 ft.), 3-xii-11, both females. It is common in many Himalayan localities.

***Melanostoma orientalis*, Wied.**

One ♀, Sadiya, 28-xi-11; two ♀ ♀, Dibrugarh, 17—19-xi-11.

Very near *scalare*, F. of Europe, as Wiedemann says; it is still nearer *mellinum*, L. The absence of the bump above the antennae seems to have been overlooked by Wiedemann, but it appears a sound and consistent specific character. The antennae are described as wholly bright orange yellow, but in one or two examples seen by me from other localities, as well as in the present specimens, there is a little brown on the upper side and the tip of the 3rd joint. Also, the frons is rather more grey-dusted. The species is in the Indian Museum, as determined by me, from Bangalore and Mergui.

***Melanostoma univittatum*, Wied.**

Four ♂ ♂, Dibrugarh, 17—19-xi-11, agree exactly with the description, as do other specimens in the Indian Museum from Bangalore and Mergui.

***Sphaerophoria scutellaris*, F.**

Sadiya, 23—28-xi-11, Rotung, 1400 ft., 26-xii-11, Kobo, 400 ft., 30-xi-11, four specimens in all, both sexes being present. One of the most widely distributed species of Syrphidae, extending (probably) over the whole of the Orient, North and South Africa, the Canaries, Madagascar and Formosa.

***Bacha flavopunctata*, mihi, sp. nov.**

(Pl. vi, figs. 5-6).

♀ Assam.

Long. 9 mm.

Head.—Vertex, and the frons for a short distance, shining black; remainder of frons, down to the antennal protuberance, yellow-dusted. From this part downwards, the whole face pale yellow, with a median shining black stripe and a black spot immediately above the antennae, which latter are wholly bright yellow. Below the mouth opening, shining steel colour; proboscis yellow, occiput dark grey with a fringe of short yellow hairs.

Thorax.—Dorsum shining dark aeneous black, an oblong bright callus-like yellow spot on the shoulders; an elongate perpendicular stripe on the mesopleura, with a small spot below it on the sternopleura; a diagonal stripe on the metapleura from the just mentioned spot, passing behind the wing root; all these spots bright yellow, callus-like, smooth and shining. Scutellum bright yellow, with a central brown oval spot; a few grey hairs.

Abdomen.—Very attenuated on basal half except at base of 1st segment; some white lateral hairs towards the base, the rest of the surface with sparse short black hairs. The 1st segment pale yellow, 2nd light brown, very narrow to tip, 3rd and 4th gradually widening to the tip of the latter, each with a wide black band on posterior margin; 3rd blackish also at base, especially towards the sides; 5th segment brownish yellow. Belly similar to dorsum.

Legs.—Coxae black; anterior legs (except coxae) wholly bright yellow down to tarsi tips; a broad median band on hind femora, and the apical half of hind tibiae, dark brown or black; upper side of hind metatarsus rich dark golden brown, the colour more or less extending to the under side, which is covered with golden brown hair; remainder of hind tarsi orange-yellow.

Wings.—Clear grey; subcostal cell blackish, costal cell and about the basal half of the marginal cell brownish, and the costa from the end of the stigma to the tip of the 3rd vein, narrowly and distinctly black suffused. Halteres yellow.

Described from a single ♀ from Dibruigarh, 17-19-xi-11.

N.B.—This species must be near *gratiosa*, Big. Several specimens were already in the Indian Museum from Sukna (base of Darjiling hills) and one from Rungpo, Sikkim, 6-ix-09, all males.

***Sphegina tristriata*, mihi, sp. nov.**

(Pl. vi, fig. 7).

♀ N.E. Frontier of India.

Long. 6 mm.

Head.—Frons uniformly wide, about one-fourth of the head, shining black, but not brilliant. Eyes dull red, antennae brownish yellow, 1st joint brownish, 3rd a little infuscated above at the tip. Mouth parts and proboscis yellowish.

Thorax.—Ground colour brownish yellow, but dorsum almost wholly occupied by three practically contiguous dark brown

stripes, with only a brief space between them, at their middles, as they are united on the anterior margin and practically so near the posterior margin also. Pleurae dark brown; scutellum concolorous.

Abdomen.—Mainly black, base of 2nd segment and whole of 3rd, pale whitish yellow.

Legs.—Anterior pairs pale yellow, tarsi tips brownish; hind legs yellowish brown, with femora broadly dark brown at tips and on upper side, the colour extending over the sides, but not attaining the ventral surface for a certain space beyond the all pale yellow base.

Wings.—Pale grey, subcostal cell darker grey. Tip of wing infuscated as far inwards as just proximad of the up-turned section of the 4th longitudinal vein; but, in the marginal cell, implanted in the infuscated part, is a tear-shaped clear spot in contact with the clear part of the wing. Small infuscation; over the origin of the 3rd vein, the anterior cross-vein, and the up-turned section of the 5th vein. Halteres dirty white.

Described from a unique ♀ from Rotung, 6-13-iii-12.

Rhingia binotata, Brun.

The ♂ was described by me from a specimen in my own collection from Darjiling, since when a perfect example has been acquired by the Indian Museum from Kurseong.

A ♀ occurs in the Abor collection from the banks of the Siyom River, near Yekshi, taken 3-ii-12. It resembles the ♂; the frons is one-fifth of the head, dark grey, of uniform width, the general colour less bright, the thorax rather more grey than yellowish grey, and the general pubescence grey instead of yellow.

Rhingia sexmaculata, mihi, sp. nov.

♀ Assam.

Long. 8 mm.

Head.—Frons rather more than one fourth the width of the head, just perceptibly narrower at vertex, the ground colour aenous, brownish yellow-dusted, with short, comparatively fine, black hairs. Ocelli red, distinct, placed in an impressed triangle. Face immediately below antennae, concolorous, the snout orange, comparatively short, being only as long as the lateral width of the eyes; haustellum blackish, the mouth parts brownish yellow. Antennal protuberance of moderate size, concolorous with frons; antennae wholly orange, upper margin and tip of 3rd joint very narrowly brownish, arista black.

Thorax.—Ground colour aenous, brownish yellow-dusted. Two narrow, closely approximated narrow median lighter stripes, and an outer under stripe each side, none of the stripes very obvious. Scutellum concolorous, posterior margin very narrowly brownish yellow; dorsum with a few short black hairs. Sides of thorax concolorous, a little pale yellow hair about the pleurae and wing bases.

Abdomen.—Blackish; 1st segment pale whitish yellow except for the dark posterior corners; 2nd, 3rd and 4th segments each with a pair of well-separated oblong yellowish spots (about as wide as one-third the length of the segment), placed towards but not on, the anterior margin, their extremities attaining the lateral edges of the segments. A little yellowish hair at the sides of the abdomen, basally; belly blackish.

Legs.—Brownish yellow; coxae, and, to a slight extent the extreme base of the femora, black; tarsi tips a little brown; the femora with a very little pale hair.

Wings.—Clear-yellowish grey; stigmatic region of subcostal cell yellowish; tegulae brown with yellow fringe; halteres brownish yellow.

Described from one ♀ from Dibrugarh, 17-xi-11.

Graptomyza brevirostris, Wied.

One ♀, Rotung (1400 ft.), on bank of Dihang River, 25-xii-11. There is another specimen in the Indian Museum from the Nilgiri Hills.

Graptomyza ventralis, Wied.

A ♀, which appears to be the typical form of this species, from Rotung, 26-xii-11.

G. ventralis, W ; nigripes, mihi, var. nov.

This form differs from the normal one by the partly black femora, instead of being honey yellow. The anterior pairs have the apical half black except for the very narrowly yellow tips; in the hind pair the black is more extensive. The middle and hind tarsi are brownish yellow, with only the last joint black.

One ♀, Sadiya, 27-xi-11.

Helophilus bengalensis, Wied.

One ♀, Dibrugarh, 17-19-xi-11. It shows a slight variation from the typical form as the antennae and antennal protuberance are both wholly black; also the inverted V-shaped mark on the 4th abdominal segment is hidden by a triangular black spot.

Sericomyia eristoloides, mihi, sp. nov.

♀ N.E. Frontier of India.

Long. 13 mm.

Head.—Frons barely projecting in profile beyond eyes; face moderately swollen, the protuberance elongate and not conspicuous; haustellum somewhat thick and long, the mouth parts blackish. Frons, at a line drawn through the base of the antennae, one-third as wide as the head, narrowing considerably at

vertex; the upper half barely shining, black; ocelli distinct, red, set on the surface of the frons, enclosed by a slightly impressed line; lower half of frons brownish yellow-dusted. The whole frons with long soft black hairs, which towards and on the vertex become dark brown. Whole underside of head, and face from parallel with the antennae, yellowish pollinose, the central bump dark brown (a little lighter in the centre), with a fairly wide black stripe on each side of it. Some black hairs towards the sides of the central bump, and a little short bright yellow hair on the other parts of the underside of the head, including the two black stripes. Antennae without any protuberance; a small shining rich mahogany-brown triangle immediately above and contiguous to their roots. The 1st antennal joint shining black, the 2nd nearly quadrate, viewed from in front, with a few stiff black hairs, 3rd joint much wider than 2nd, twice as long, quite bare, dark reddish-brown, oval, a little whitish dust on underside; arista long, yellow, plumose above and below, the upper rays distinctly the longer. Occiput ash grey, nearly whitish on ocular orbits, which on the upper half of the head do not project beyond the margin of the eyes themselves, but they do so on the lower half, where they bear long white hair.

Thorax.—Dull brownish, barely shining, and with the sides brownish grey; the whole rather thickly covered with yellowish brown hair. Scutellum brownish yellow, paler on hind margin; dorsum with brown hairs at base which become yellow and longer towards the tip; underside with a fringe of soft whitish yellow hairs.

Abdomen.—The 1st segment whitish yellow, the remainder blackish; 2nd yellowish on anterior corners, 2nd, 3rd and 4th with an uninterrupted rather narrow yellowish band just before the middle and reaching the lateral margins or nearly so. All the bands of the same width; 5th segment all black. Some long soft yellow hairs at the sides at the base. Surface of abdomen with very short pubescence concolorous with the ground-colour; a fringe of very short yellow hairs on hind margin of each segment, most conspicuous on the 4th segment, and the extreme edges of the segments themselves, brownish yellow. Genitalia consisting of a short cylindrical tube, from which emerge two oval brownish yellow lamellae.

Legs.—Coxae black. Fore femora black, with a yellow streak on hinder side, middle femora yellow, with a wide black streak on front side, hind femora with basal half brownish yellow, and apical half black; all the femora with a little pale yellow hair; the hind femora with a number of stiff black bristles of different lengths below, on apical half. Tibiae mainly black, fore pair at base, and middle pair at base and tip yellowish; hind tibiae black; all tibiae with close pubescence, which is brownish yellow on the front side of the fore tibiae, and whitish on the hinder side, where it is much longer; hind tibiae with very short pubescence which is black in front and whitish on hinder side. Tarsi black or

dark brown, with short golden yellow pubescence; hind pair with rich golden brown pubescence below.

Wings.—Pale grey; a small brownish yellow infuscation in the middle from the costa and the brown stigma, reaching posteriorly to the 4th longitudinal vein. Tegulae and halteres brownish yellow.

Described from a single ♀ taken between Renging and Rotung (2200 ft.), 20-xi-11.

N.B.—Although with the general appearance of an *Eristalis*, this is a true *Sericomyia* in every character.

***Chrysotoxum sexfasciatum*, Brun.**

One ♂ taken between Rotung and Kalek (2000–3500 ft.), 14-15-iii-12. In this specimen the antennae show hardly any red at their base, and the antennal protuberance is wholly shining black. In all other respects it meets the description exactly.

***Mixogaster vespiformis*, mihi, sp. nov.**

(Pl. vi, figs. 8-10).

♀ Assam.

Long. barely 8 mm.

Head.—Frons about half as wide as the head, with parallel sides, black, closely wrinkled; the dull-red eyes, bare, seen in profile, not attaining either the upper or lower limits of the head. Face with short bright yellow hair; a narrow reddish brown stripe across the frons, from eye to eye, immediately above the antennae. The vertex gently curved, the whole of the face quite flat. Antennae reddish brown, absolutely bare; 1st joint moderately long, elongate, 2nd very short (easily overlooked), 3rd about six times as long as the 1st, elongate, slender, sub-cylindrical, very slightly thickened beyond the middle, and tapering to a blunt point, the whole antenna as long as from the frons to the tip of the scutellum. A bare, comparatively small, curved arista near the base of the 3rd joint. This joint is bent backwards across the eyes after the fashion of Aculeate Hymenoptera. Back of head blackish, a little bright yellow hair behind the eyes.

Thorax.—Bright red, with a median black stripe about one-third the width of the dorsum. Sides blackish with a stripe of bright yellow hair from the ends of the transverse suture nearly to the legs; posterior margins of the dorsum with yellow hair. Scutellum black, covered with bright yellow hair.

Abdomen.—The 1st segment narrowed immediately after the base, black, the posterior border reddish brown; 2nd segment at base of same width as the tip of the 1st, but from its middle rapidly widening; 3rd segment widening still further, the greatest width of the abdomen being at the juncture of the 3rd and 4th segments, after which it rapidly narrows. The 2nd segment black on basal half, with a peculiar dirty milk-white stripe each side of the median line; apical half of segment reddish brown,

with a fringe of short bright yellow hairs on posterior margin. The 3rd and 4th segments mainly blackish with very short bright yellow hairs, the sides of the former obviously but not conspicuously reddish brown; the tip of the abdomen similarly coloured. Belly blackish, whitish at base, the genitalia orange.

Legs.—All coxae black; remainder of anterior legs brownish yellow, the tibiae with some whitish reflections. Hind legs black, knees brownish yellow, and tarsi tips yellowish, the tibiae and tarsi with minute whitish pubescence. Underside of hind tarsi brownish yellow.

Wings.—Pale grey, stigmatic cell yellowish. A blackish infuscation at tip of wing from about the tip of the 1st longitudinal vein to just below the 3rd vein. The appendix in the 1st posterior cell very distinct. Halteres bright lemon-yellow.

Described from a single ♀ from Dibrugarh, 17-19-xi-11.

N.B.—This peculiar genus is only previously known from Australia, Mexico, Central America and Brazil. All the species must possess a more or less vespiform appearance from the remarkable resemblance in the 3rd antennal joint being bent back as is usually the case in Aculeate Hymenoptera.

MUSCIDAE.

1st Division CALYPTRATA.

TACHININAE.

Of this sub-family six species are present, represented by eight specimens, but there are no means available for determining them. Two specimens of a species of *Sarcophaga* are present.

MUSCINAE.

Of *Muscidae verae* six species are represented.

Rhinia limbipennis, Macq.

Four ♀ ♀; Sadiya, 23-xi-11. Occurs in various parts of India and Assam.

Rhynchomyia (*s. lato*).

Four ♀ ♀ of a *Rhynchomyia* in the wide sense, from Sadiya, 23-28-xi-11 and Kobo (400 ft.), 1-xi-11.

Pyrellia violacea, Macq.

Eight specimens, representing both sexes, of what I have always regarded as this species; Sadiya, 28-xi-11. It is commonly distributed in India.

***Philaematomyia insignis*, Aust.**

Dibrugarh, 17-19-xi-11 and Sadiya, 25-xi-11, some taken by "sweeping *Artemisia*," seven specimens in all, both sexes. A very widely distributed species of "blood-sucking fly," found in India, Ceylon, Sokotra, Cyprus, Palestine, Senegal, Congo Free State, Burma, Assam, Borneo.

N.B.—Of the remaining true Muscids there are 5 of a species of *Lucilia*, ♂ ♀; and several of both sexes of a species of *Musca* allied to *domestica*, L.

ANTHOMYINAE.***Ophyra caerulea*, mihi, sp. nov.**

♂ ♀ N.E. Frontier of India.

Long. 4 mm.

Head.—Eyes not quite touching in ♂, for some little distance; frons dead black; face black, with a greyish shimmer if viewed from certain directions; the eye margins with a row of bristles along the distance of greatest contiguity, that is, from the lowest point of the small triangular frons to the brilliant white spot above the root of the antennae. This spot is semicircular in outline on its upper side and pointed below. Antennae blackish, not reaching mouth opening, without greyish shimmer; proboscis and palpi blackish.

In the ♀ the frons is one-third the width of the head, blackish, but with a brownish yellow tinge. (This may be due to the head having been moistened).

Thorax.—Shining indigo blue, the colour less bright on the sides in the region below and behind the wing base, and below the shoulder where it is more or less dirty brown-tinged. A very distinct small cream-yellow spot on the humerus.¹ Dorsum of thorax with rather thick blackish brown hair. Scutellum concolorous, a pair of post-basal bristles and a pair of long convergent apical ones.

Abdomen.—Rather narrow, shining indigo blue; when viewed from in front a little brownish about the base. Belly pale dirty brown.

Legs.—Dull yellowish brown, pubescent; tarsi black, the inner sides of the femora lighter (?).²

Wings.—Clear, veins yellowish; tegulae whitish with short white fringe; halteres black.

Described from a single ♂ and ♀ from Rotung, 1400 ft., 31-xii-11.

¹ In the ♀ the humeri are darkened, but this may be due to accident, the front part of the specimen shewing signs of having been wetted.

² This is so in the ♀ example, but may be individual variation, or perhaps the more normal colouration, or even a sexual difference, though this latter seems unlikely.

N.B.—This species differs from all other Eastern ones by the brilliant blue colour, its yellowish shoulder spots, and rather smaller size. It is near, but quite distinct from, the European *O. anthrax*.

***Limnophora kempfi*, mihi, sp. nov.**

♂ Assam.

Long. 3 mm.

Head.—Eye margins narrowly pale yellowish grey, the width not uniform but continued with extreme narrowness to between the points of greatest contiguity of the eyes. The whole of the remainder of the front part of the head very pale grey-dusted with a slight bluish tinge. Two or three short bristles on upper part of eye margin, alongside of the dull-reddish brown frontal triangle. Vertical triangle dark grey, a few short bristly hairs, the three ocelli very small, brilliantly shining ruby-red, placed on extreme angles of the triangle. A longer pair of bristles just behind the vertex, convergent, placed one behind each corner of the ocellar triangle. Antennae black, arista microscopically pubescent only. A pair of strong oral vibrissae. Back and underside of head dark grey with short stiff black hairs. Proboscis black; palpi black, slender, rather long, slightly enlarged at tips.

Thorax.—Pale cinereous grey (centre part damaged by pin), with at least four rows of bristles of various sizes. There are three stronger ones in the humeral region, four more or less in a row from below the humerus to the wing root, three or four above and in front of the wing. Scutellum concolorous, with three pairs of bristles, one post basal, near the sides, a smaller pair near the middle of the dorsum, and a long apical pair.

Abdomen.—Dark grey, the dorsum of the segments appearing more or less darker according to the angle at which they are viewed. Surface of abdomen covered with soft black hairs and a row of stronger bristly hairs near posterior border of each segment.

Legs.—Dark brownish black, shortly pubescent; femora and tibiae with numerous spines and bristles; all tibiae with a circlet of spines near tip.

Wings.—Colourless, squamae yellowish white; halteres yellow.

Described from one ♂ from Sadiya, 25-xi-11.

***Lispa ? pallitarsis*, Stein.**

Two specimens from Dibrugarh, 17—19-xi-11, agree so closely with the description of this species that it seems likely they are identical, although disagreeing in one or two points. They agree in the shining black unmarked thorax, in the absence of strong bristles in this part except towards the sides, in the black face and antennae, in the oblong or sub-cylindrical abdomen with a narrow whitish mark on the anterior margin towards each side of the 2nd to the 4th segments. This character alone is quite

unusual in the genus. They also agree in the last four joints of the fore tarsi being whitish yellow. The palpi are pale yellow, but in Stein's species they are black or "rarely dirty yellow," but as he described from only three specimens the "rarely" is somewhat discounted.

In the face of such close agreement it is impossible to describe the present form as distinct, yet I cannot decide for certain that it represents *pallitarsis*. The latter was described from Java.

The remaining *Anthomyidae* consist of 4 species of *Spilogaster*, each represented by a single specimen only, and two specimens of a *Coenosia*.

Many species have been described of both these genera and on such small material it seems inadvisable to add to the number.

2nd Division ACALYPTRATA.

BORBORINAE.

Limosina magna, mihi, sp. nov.

N.E. Frontier of India.

Long. 3 mm.

Head.—Wholly black. Eye two-thirds the vertical height of the head. Antennae dark reddish brown; 3rd joint large, oval with microscopic yellowish grey pubescence and very long black shortly pubescent arista, situated at its upper corner; 2nd joint strongly projecting over the 3rd on the inner side with a circlet of strong spines. Two rows of dorso-frontal converging bristles placed so as to divide the frons into three nearly equal parts; of these the middle ones seem the larger but both the exact number and their size appear variable. A pair of strong proclinate bristles on ocellar triangle, which is black, and barely distinguishable from the frons. Four pairs of strong long orbital bristles, the upper pair diverging, near vertex and upper corner of eye; the 2nd pair set midway between the frontal triangle and the eye margin, strongly converging, and on a level with the ocellar ones; the 3rd and 4th pairs in a line with the upper pair, contiguous to eye margin and opposite the strongest of the dorso-central bristles. A pair of converging vertical bristles, set rather widely apart and a diverging pair near the eye corners. Underside of head blackish, mouth opening very large, projecting well forward on upper side. A double row of stiff bristly hairs on each side, the uppermost, a very strong bristle, directed forwards, placed between the lower anterior corner of the eye and the oral margin. A still more powerful one at lower corner of mouth opening, directed perpendicularly, and a much smaller one at the same spot directed downwards. Some bristles (at least a pair on each side) can be perceived in the mouth opening, but it is not obvious if they are affixed to the root of the mouth or to the proboscis, which latter is withdrawn, blackish, with very large ribbed yellow labella; palpi reddish yellow, moderately short, very slender.

Thorax.—Blackish, shortly pubescent with stiff short hairs, (bristles, mostly broken off). One or two weak dorso-central ones remain and a strong pair on posterior margin. Scutellum, metanotum and sides of thorax blackish, the first with the usual basal and apical pair of strong bristles.

Abdomen.—Blackish, shortly and apparently barely pubescent.

Legs.—Coxae brownish yellow, marked with blackish; femora black, brownish yellow at base and tips; tibiae and tarsi brownish yellow, hind tibiae with a blackish indistinct ring towards tip; hind metatarsus dilated, blackish at base. Middle tibiae with several strong but quite conspicuous bristles.

Wings distinctly yellowish, a little darker anteriorly; halteres yellow.

Described from a single specimen from Kalek, 3800 ft., 29-xii-11.

***Limosina subinctipennis*, mihi, sp. nov.**

Assam.

Long. 1 mm.

Head.—Frons blackish grey, a little reddish brown above the antennae; three or four small dorso-frontal bristles; four pairs of orbital bristles, situated as in *L. magna*, but the two lower pairs relatively smaller; a pair of proclinate ocellar bristles. Antennae dark brownish yellow, 2nd joint, relatively large, as large as 3rd, which is oval at the tip with a circlet of bristles; arista pubescent.

Thorax.—Black with short stiff hairs; three bristles below shoulder a very strong supra-alar bristle and one below the wing; several stiff bristly hairs on hinder part of dorsum, the dorso-central bristles (if present) apparently weak. Scutellum with a post-basal pair set on the margin, a much smaller inner pair and a strong apical pair.

Abdomen.—Black, dull, bare, except for a few soft side hairs. Belly similar.

Legs mainly yellow; femora, especially the hind pair, more or less brown, except at base and tip; tibiae with two more or less indistinct equidistantly placed blackish brown rings, which are quite distinct on the hind legs. Hind metatarsus emarginate near base so that it appears as a small thumb. Middle tibiae with numerous strong spines of different lengths, and a strong pre-apical one; middle tarsi with first two joints bearing a circlet of spines at tip, the middle metatarsus with an additional bristle in the middle on inner side. Hind tibiae with only stiff hairs of different lengths.

Wings.—Grey a slightly clearer transverse streak just beyond discal cell, which cell, with the basal cells, are also slightly clearer. The veins with a suspicion of suffusion; halteres yellow.

Described from a single specimen from Dibrugarh, 17-19-xi-11.

HETERONEURINAE.***Trigonometopus trilineatus*, mihi, sp. nov.**

(Pl. vi, fig. 11).

Assam.

Long. 3-3 $\frac{1}{4}$ mm.

Head.—Frons flattened, horizontal (generic character); at its narrowest part, which is opposite the frontal bristles, more than one-third the width of the head, widened rapidly at vertex, brownish yellow. Ocellar triangle well below vertex, small, black. A single pair of frontal bristles just below narrowest part of frons, and removed from eye margins. Two sub-triangular brownish marks on frons placed, so to speak, base to base, but separated from each other, situated midway between the ocellar triangle and the base of the antennae. Two pairs of vertical bristles, the median pair converging, the outer pair, near the corners of the eyes, diverging. Occiput wholly yellow, with a few soft yellow hairs. Face very retreating, with a deep groove each side near the eyes (both generic characters). These grooves and a median stripe are dark brown and very conspicuous, extending from the base of the antennae to nearly behind the eye, and to the mouth opening. Cheeks with a row of about six bristles, placed behind the ends of the facial groove. Proboscis and palpi concealed, brownish yellow the latter moderately long, cylindrical, slender. Antennae brownish yellow 1st and 2nd joints with a row of spines at the tip; 3rd as long as 1st and 2nd together, bare, except for microscopic pubescence, and with a long black pubescent arista inserted on the inner side. A small black spot between the eye margin and the base of the antennae, contiguous to both.

Thorax.—Dull brownish yellow, violet-grey-dusted seen from certain directions, and with two narrow, well separated median brown stripes from anterior to posterior margin where they nearly or quite meet, and are then continued as a single broad stripe to the tip of the concolorous scutellum. Sides of thorax mainly yellowish, but brownish about the shoulders and from there to the wings, the colour probably extending in individuals to a varying extent. Three pairs of dorso-central bristles, of which the most anterior pair are placed but little in front of the middle of the thorax; a row of four similar bristles from shoulder to root of wing; two mesopleural, one sternopleural, all three weak. A pair of strong lateral scutellar bristles placed midway between base and tip, and a pair of strong apical ones also.

Abdomen.—Brownish yellow, blackish at base, and apparently here and there elsewhere; shortly black pubescent; belly more or less similar.

Legs.—Pale brownish yellow; fore femora with a number of stiff black hairs below; posterior femora nearly bare, and with a small bristle near tip; all tibiae with a preapical bristle. Legs generally shortly pubescent.

Wings.—Pale grey, slightly clearer here and there; veins rather indistinct except the 3rd and 4th longitudinals (which however become very weak at their tips), and the posterior cross-vein; these three veins being very conspicuous. A sub-apical smoky band of moderate width begins just below the costa, above the tip of the 2nd vein, and nearly reaches hind border of wing. Auxiliary vein quite distinct throughout from 1st longitudinal, which ends but little beyond it, distinctly before middle of wing. The 2nd vein ends towards wing tip, the 3rd at the rounded wing tip, the 4th just below, these two latter veins parallel. Anterior cross-vein slightly infuscated, a little before middle of wing; posterior cross-vein erect, a little before midway between anterior cross-vein and wing margin; anal cell large, rather clearer in middle.

Described from two specimens from Sadiya, 23-xi-11.

N.B.—Apparently only four species are at present known in this genus beyond the present one, the *frontalis*, Mg. of Europe and three from North America.

SCIOMYZINAE.

Sciomyza trypetoptera, Hend. (*Sapromyza*).

Sapromyza histrio, Meij.

Several specimens from Sadiya, 27-xi-11, Dibrugarh, 17-19-xi-11 and Kobo, 6-xii-11, cannot fail to be this species, but Hendel and Meijere refer it to *Sapromyza*. It appears to me a *Sciomyza*.

Sciomyza strigata, Meij. (*Lauxania*).

Five ♀ ♀ from Rotung, 1,400 ft. (25-xii-11), agree exactly with Herr Meijere's description and wing figure of this species. Very near *S. quinquevittata*, Meij., of which the Indian Museum possesses a specimen from Java named by that author, but the two species are obviously distinct, and I cannot help regarding *strigata* as a *Sciomyza*.

Sciomyza ocellata, mihi, sp. nov.

(Pl. vi, fig. 12).

♀ Assam and N.E. Frontier of India. Long. 3 mm.

Head.—Cream yellow, with marks of a nearly uniform brownish colour placed as follows: an oval spot on frons, from each side of ocellar triangle nearly to base of antennae; a row of three round spots on frons between the oval spot and the eyes (the fronto-orbital bristles being set in these spots); a spot between base of antennae and eye margin, contiguous to both; and a row of three above the mouth opening, contiguous or sub-contiguous to one another, but placed clear of both mouth border and eye margins. Antennae brownish yellow, 3rd joint more or less brown-

ish, arista plumose. Proboscis rather long with large labella; palpi long, cylindrical, all pale yellow. Back of head blackish in middle. Three pairs of fronto-orbital bristles, the upper (and strongest) pair nearly on vertex; a pair of ocellar, a pair of small central vertical and a strong vertical bristle situated on the absolute margin, behind the corner of each eye. Smaller post-vertical bristles are present.

Thorax.—Brownish; maculated with numerous small light grey spots and short zigzag lines, the most conspicuous of the latter beginning on each side of the anterior margin and passing over the shoulder, below which it encloses at its end a round black spot.

Bristles: 3 dorso-central, 1 humeral, 1 post-humeral, 1 prealar, 1 sternopleural; numerous acrostichal bristles. The scutellum with one pair of post-basal (marginal) and a pair of widely separated apical ones. Scutellum generally brown with grey marks as the thorax, but all the marks are variable, so that in some specimens the ground colour may be considered light grey, and the markings brown.

Abdomen—Dark brown. The 1st segment mainly light grey with a triangular brown mark at base, and the hind margin brown spotted. Each of the remaining segments bear a pair of large light grey spots on the front border, approximately semi-circular (emarginate on lower outer part) and bearing a distinct round black spot in each. Posterior margins of segments with bristles; surface of abdomen generally shortly pubescent. Belly dark, with grey markings.

Legs.—Pale yellow; posterior femora (especially hind pair) mainly brown or brownish for basal three-fourths, the intensity of the colour variable; bristles on lower sides of all the femora, longest and fewest on fore pair, weakest on hind pair. Tibiae and tarsi pale yellowish or pale brownish yellow, pubescent; hind metatarsi more or less brownish above; posterior tibiae with pre-apical bristle, middle tibiae with a few spines at tip.

Wings.—Blackish, with several semicircular or sub-triangular pale whitish grey spots around margin and numerous smaller similarly coloured spots over the disc. The larger spots are placed thus. An oval one on the costa (with a black spot in its middle), filling the costal cell as far as the auxiliary vein. Four spots on the costa, between tip of 1st longitudinal vein and tip of 2nd; of these, the first three are subtriangular, the first one separated further from the second than the latter is from the third, and in this intervening space a small yellowish costal spot, often indistinct; the fourth spot is more rounded. The remaining spots on the wing margin are more or less semicircular and approximately uniform in size. The submarginal cell has two (a large and a small one), the 1st posterior cell, two, the upper one the smaller and more triangular; the 2nd posterior cell has three, the uppermost the smallest. Behind the 5th longitudinal vein tip there are four on the wing margin, the first immediately behind the 5th vein tip and practically contiguous to

it. These spots vary from sub-triangular to semicircular. The spots on the disc are very small, though varying in size, and there is usually a row just in front of and another just behind the 2nd, 3rd and 4th longitudinal veins; those in the anal cell being the largest. Halteres dull pale yellow.

Described from 10 specimens; Kobo, 400 ft., 3-xii-11 (*type*), Sadiya, 28-xi-11, Rotung, 25-xii-11.

N.B.—One specimen only appears to be a male, but is in too bad a condition to set up as the type.

***Sciomyza septemlineata*, mihi, sp. nov.**

(Pl. vi, fig. 13).

♀ N.E. Frontier of India.

Long. $2\frac{1}{2}$ mm.

Head.—Very pale yellow; frons from vertex to antennae broadly dark brown, leaving a rather wide ocular orbit each side. Two conspicuous round dark brown spots above mouth border. Proboscis pale yellow, palpi black. Antennal 1st and 2nd joints black, 3rd pale yellow, slightly brownish at tip, arista black. Back of head yellowish. Bristles normal; a row of short bristles behind each eye.

Thorax.—Brownish yellow; a broad median dark brown stripe from anterior to posterior margin, carried continuously over scutellum to its tip. Three lateral dark brown stripes each side of thorax; one from the shoulder, passing on inner side of wings, the second from just below the shoulder to the wing base, the third across the pleurae.

Abdomen.—Blackish, pubescent, bristles on hind borders of segments, belly blackish.

Legs.—Uniformly pale whitish yellow; bristles normal, as in *S. strigata*, Meij.

Wings.—Blackish brown, with pale spots as follows: a round spot below tip of 2nd longitudinal vein, not touching margin of wing; a squarish one near tip of 1st basal cell, extending a little above 3rd vein; a squarish one over 3rd vein just beyond middle of wing; a semi-oval marginal one at tip of 1st posterior cell, and three smaller ones arranged more or less in the form of a triangle, on distal half of same cell; a round one in middle of 2nd posterior cell; a rather large squarish one towards end of discal cell, extending above the 4th vein. Anal cell clearer. Halteres dirty grey.

Described from a unique ♀; Rotung, 1400 ft., 24-xii-11

SAPROMYZINAE.

***Lonchaea montana*, mihi, sp. nov.**

♂ Assam and N.E. Frontier of India. Long. 3 mm.

Head.—Frons $\frac{1}{4}$ to $\frac{1}{5}$ width of head; two frontal bristles on upper part, from the ocellar spot; a pair of long converging

vertical bristles and a pair of smaller outer diverging ones. Face with a little grey shimmer viewed from certain directions; proboscis and palpi black. Antennae dull black; from base of 2nd joint to tip of 3rd, exactly equal to half the height of the eye; 2nd joint with a single bristle above; arista very finely but not shortly plumose above and below. Back of head black.

Thorax.—Blackish with an aenous green tint and microscopic pubescence. A row of four bristles near posterior margin; 2 supra-alar, 2 notopleura', 2 sternopleural bristles. Sides of thorax dull black. Scutellum concolorous with thoracic dorsum; two post-basal bristles towards sides; a pair of converging apical ones.

Abdomen.—Dull black, with a suspicion of a faint aenous green tinge in certain lights; a little shining towards the base at the sides; very shortly pubescent. Belly black.

Legs.—Black, a row of bristly hairs below femora, remainder of legs shortly pubescent, as are the femora also.

Wings.—Pale but distinctly yellowish; halteres black.

Described from 3 ♂♂; Rotung, 1400 ft., 25—26-xii-11, and Sadiya, 23-xi-11.

This must be near Meijere's *aenea*, described from East Austria but not known to Schiner. It is rather larger, and seems to have affinities with more than one of Meijere's lately described species from Java.

Lonchaea, sp.

Two specimens in very indifferent condition represent a second species, noticeable by the reddish yellow antennae. Slightly but appreciably larger than *L. montana*. From Kobo, 400 ft., 3-xii-11, and Dibrugarh, 17—19-xi-11.

Lauxania flavicornis, mihi, sp. nov.

Assam.

Long. 3 mm.

Head.—Frons shining black, the sides parallel, distinctly but not greatly more than one-third the width of the head. A median velvet-black stripe from vertex, gradually narrowing on reaching base of antennae; the very distinct but small yellow ocelli placed on this stripe well below the vertex. Antennae orange-yellow, normally shaped, the 2nd with a few bristly hairs at tip, 3rd very elongate cylindrical, nearly twice as long as first two joints together, black, with a long white arista which is yellowish at its base and microscopically plumose. Two pairs of dorso-frontal bristles, the upper pair just below the ocelli, situated half-way between the velvet-stripe and the eye margin, the lower pair half-way between the upper pair and the base of the antennae, set rather more widely apart.

A pair of long, converging vertical bristles placed midway between the velvet-stripe and the eye margin; a pair of similar ones outside of these, and a pair of very small ones immediately behind middle of vertex. Occiput black, a little behind vertical

corners of eyes. Underside of head shining black, very smooth, slightly swollen; proboscis and palpi concealed, black.

Thorax.—Wholly shining black (bristles mostly damaged); three or four dorso-central, one or two supra-alar and the usual basal and apical pair on the scutellum are visible. Scutellum and metanotum shining black.

Abdomen.—Shining black, minutely pubescent.

Legs.—Fore femora brownish yellow, becoming blackish on apical third or half, middle femora black, broadly brownish yellow at base and tip, hind femora black up to the middle or a little beyond, remainder brownish yellow. Fore tibiae black on basal half, the remainder whitish; fore tarsi black. Posterior tibiae and tarsi brownish yellow, hind metatarsus a little brownish above. Posterior tibiae with one preapical bristle.

Wings.—Pale yellowish, veins yellow, halteres whitish with black knobs.

Described from a single specimen from Sadiya, 25-xi-11.

***Drepanephora multimaculata*, mihi, sp. nov.**

(Pl. vi, figs. 14-15).

? ♂ N.E. Frontier of India.

Long. 3 mm.

Head and appendages entirely very pale yellow except for a little brown at the base below the head, for the black occiput, which is perpendicular, and for the upper side of the antennae which is narrowly dark brown, with thickly pubescent arista, the latter black. The vertex is in the form of a truncated cone.¹ Three pairs of fronto-orbital bristles, the uppermost pair practically on the vertex; a pair of vertical bristles, close together, immediately behind the ocelli, which latter are brown, closely approximated, each bearing a bristle. A row of rather short bristly hairs along the cheeks. The 2nd joint of the antennae has the normal single long bristle above, and two or three of different lengths below. Proboscis well developed, perpendicular; palpi long, cylindrical, with a few stiff hairs.

Thorax.—Pale brownish yellow, with numerous moderately stiff hairs. On each side of the dorsum are four very conspicuous elongate black spots, the anterior one over the shoulder, the fourth ending in the wing-base, the other two intermediate and equidistant. On the pleurae each side, in a line with the coxae, are four similar black elongate spots or short stripes, the two posterior ones bifid at the upper end.

Abdomen.—Pale brownish yellow with a broad blackish brown median stripe occupying one-third the width of the segments, terminating at the end of the 4th segment. Soft hairs cover the surface of the abdomen, and a row of long stiff hairs on the posterior margin of each segment. Belly pale yellowish, nearly bare.

¹ As illustrated by Hendel, *Gen. Ins. Fasc. 68*, pl. I, fig. 1.

Legs.—Pale yellow; fore femora with two dark brown bands (which give the impression that in some individuals they may be incomplete), placed, one at the base, the other at the middle. Posterior femora with a subapical band, not always complete below; all the tibiae with two narrower bands dividing the limb equidistantly; tarsi all pale yellowish. All the femora with long soft hairs on underside; tibiae with shorter soft hairs, and hind tibiae with three preapical bristles.

Wings clear, with narrow brown streaks from the costa to the hind margin. The first two very narrow, the 3rd slightly widening towards the hind margin; the 4th is bifid on the costa, single at the 2nd longitudinal vein, and extending only to the 5th vein. The 5th streak has three endings on the costa, the distal two uniting at the 2nd longitudinal vein, the proximal one uniting also at the 3rd vein; the band being almost interrupted in the discal cell, and reaching the hind margin of the wing broadly, half way between the tip of the 5th vein and the anal angle. The remaining wing marks may be best described as a streak (longitudinal to the axis of the wing) between the 2nd and 3rd veins at the end of the wing, and a streak each on the last fourth of both the 3rd and 4th longitudinal veins, these three streaks being united proximally by a narrow oblique band which continues over the posterior cross-vein to the wing margin, where it broadens and runs along the margin of the 2nd posterior cell. The hind border of the wing is also brown except narrowly between the hinder terminations of the 3rd and 5th bands (the 4th does not reach the wing margin). The tip of the 2nd vein is darkened but not suffused; the costa is brown on the parts where the bands begin, otherwise clear. Halteres pale yellow.

Described from one specimen (? ♂) from Rotung, 1400 ft., 27-xii-11, under leaf stem of plantain.

Camptoprosopella notatifrons, mihi, sp. nov.

(Pl. vi, figs. 16-17).

♂ ♀ N.E. Assam.

Long. $3\frac{1}{2}$ mm.

Head.—Wholly orange yellow or brownish yellow, except for a more or less quadrate lemon-yellow space touching the vertex. Frons distinctly more than one-third the width of the head, with a large jet-black circular spot from the vertex reaching more than half way to the base of the antennae, and a similar round spot each side of the face a little below the antennae. Antennae concolorous, 3rd joint elongate, the thickly pubescent black, basally situated arista very conspicuous, as long as the 3rd joint. Proboscis brownish yellow, palpi very small, cylindrical, black, with a bristly hair or two. A row of three fronto-orbital bristles, each set in a small brown spot on the frons, but the upper pair practically on the vertex; post vertical bristles close behind these latter, divergent.

Thorax.—Brownish yellow, with four well-separated very thin black lines which fade away at or just behind the middle of the dorsum; pleurae a little lighter. Bristles (mostly damaged) comprise at least one post-humeral, one mesopleural (notopleural?), one supra-alar and one or two dorso-central; there being a row of four near the posterior margin of the dorsum. Scutellum and metanotum brownish yellow, former rather elongate, with bristles beyond the base each side, and an apical pair.

Abdomen.—Brownish yellow, 1st segment paler; segments towards sides, especially on apical half of abdomen, more or less brown or blackish brown; sometimes a small round black spot each side on dorsum of penultimate segment. Belly brownish yellow. The colour of the whole abdomen varies in shade in individual specimens. The ♀ (?) has a long thick conical bisected process curled under its belly.

Legs.—All brownish yellow, minutely pubescent, tarsi darker.

Wings.—Distinctly brownish yellow, unmarked; venation in conformity with Hendel's figure (Gen. Ins. Fasc. 68, pl. I, fig. 11); halteres pale yellowish.

Described from four specimens, Sadiya, 23—28-xi-11.

Stenopterina flavofemorata, mihi, sp. nov.

♂ N.E. Assam.

Long. 7 mm.

Head.—Frons less than one-third of the head, blackish; face blackish, dull brownish yellow about the cheeks and immediately below the antennae; of the latter, the two basal joints are dull brownish yellow, the 3rd blackish grey with microscopic grey dust, the arista yellowish and minutely pubescent at base, the remainder being black and bare. Back of head black, slightly shining, a little grey-dusted around the eyes, both narrowly on the frons and on their hinder margin. Proboscis rather bulky, brownish yellow, blackish in parts. A pair of median converging, and a pair of outer diverging vertical bristles; (frontal bristles broken off).

Thorax.—Dorsum dull aenous green, with a pair of obvious but not very distinct, approximated, moderately narrow grey stripes from anterior margin to near posterior border; shoulders bluish violet tinged. Sides dull aenous green, the hinder part of the sternopleura blackish with microscopic grey dust; scutellum and metanotum dull aenous green, former with the two normal pairs of bristles.

Abdomen.—Ground colour black, with, when viewed from certain directions, a dark violet tinge; covered with microscopic yellowish grey hairs.

Legs.—Coxae blackish grey, a little grey-dusted, brownish yellow at tips; femora wholly brownish yellow except for a small (possibly variable) blackish streak on underside of hinder pair; tibiae and tarsi all black, underside of hind tarsi with minute golden yellow pubescence.

Wings pale grey. Costa as far as auxiliary vein quite clear, thence narrowly blackish up to just beyond the tip of the 4th longitudinal vein. A median blackish longitudinal streak fills the 1st basal cell, and extends in attenuated form to the upper end of the posterior cross-vein; 2nd basal, anal and discal cells, and remainder of wing wholly clear. Halteres dirty yellow.

Described from a single ♂ from Sadiya, 25-xi-11.

Stenopterina aenea, Wied.

One specimen from Dibrugarh, 17—19-xi-11, is either this species or *eques*, Sch., and I am not convinced that these two forms are really distinct. Yet when describing *eques* (from six specimens) Schiner had also before him three examples that he referred to *aenea*. The characters he draws do not seem at all consistent. There is much variation in a small series in the Indian Museum which I had previously referred to *aenea*, and a close approximation to two specimens sent by Herr Meijere from Java as *eques*. The amount of reddish colour in the face, about the mouth, on the antennae and occasionally the frons also, and also its extent at the femora tips, the length of the median longitudinal black streak on the wing, the violet or bluish shoulder tips and other characters all seem liable to variation independently of one another.

Nerius obscurus, mihi, sp. nov.

♀ N.E. Frontier of India. Long. 6½ mm. (excl. ovipositor).

Head.—Chocolate brown on frons and upper side of neck; sides of head dark brown, very shining. Underside of head, proboscis and palpi yellowish. Antennae with 1st and 2nd joints subequal, 3rd a little longer, tip rounded, arista white, yellow at base (a character common to several species); the antennae brownish yellow, more or less marked with black, especially on upper side of all three segments.

Thorax.—Yellowish brown; dorsum, sternopleurae and metanotum chocolate brown.

Abdomen.—Dark chocolate brown; ovipositor two-thirds the length of the abdomen.

Legs.—Coxae brown, femora brownish yellow, with narrowly black tips and a narrow yellow ring, incomplete below, just before the black tips. All femora with a row of minute bristly hairs below, from base to tip, weakest on hind legs; middle femora without any very short stiff bristly hairs on upper side towards base. Anterior tibiae dark brown, hind pair lighter; all tarsi black.

Wings.—Yellowish; 3rd longitudinal vein nearly straight, 4th approximating normally to 3rd at the tip. Tip of 2nd vein, of the 3rd and 4th veins jointly, and both cross-veins very faintly

but perceptibly darkened. Halteres whitish yellow, a little brownish at tips.

Described from one ♀: Rotung, 1400 ft., 26-xii-11.

N.B.—From the narrow yellow ring on the femora this species must be near *annulipes*, Dol., but that species has both the fore femora slightly but distinctly thickened and the fore tibiae conspicuously dilated. The synonymy of *tibialis*, Dol., with *annulipes* is not mine but from Doleschall's figure of *tibialis* it evidently stands out by the peculiar construction of its forelegs from all other eastern species of the genus, yet he does not mention this character in his description of *annulipes*; in which he says all the femora have a reddish ring.

CELYPHINAE.

Celyphus scutatus, Wied.

Five specimens from Sadiya, 23-xi-11, and Rotung, 1400 ft., 25-xii-11. In the Indian Museum in plenty from Calcutta, Tenasserim, Upper Burma and the Nilgiris.

Celyphus ? *lucidus*, Karsch.

Five specimens appear to be this species. The species is represented in the Indian Museum by a considerable number from various localities, but I cannot identify it with any of the older descriptions. As Karsch notifies *lucidus* from Ceylon, differentiating several new species in a table but giving no further description of it, I here append some notes from the specimens before me.

Brownish yellow; antennae similar, 2nd joint with a circlet of short bristly hairs near base, arista thickened for three-fourths of its length, and of a dirty blackish grey colour. Thorax, viewed from certain directions, with a light but obvious aenous blue-green tinge. Scutellum granulated at sides but hinder part nearly or quite smooth; a faint but distinct middle, pale, very narrow line. Colour of abdomen varying from brownish yellow to blackish. Legs brownish yellow, fore femora with a few bristles below. Wings and veins yellowish.

The Abor specimens were taken as follows: Rotung, 25-xii-11; Sadiya, 27-xi-11; Kobo, 3-xii-11; and Dibrugarh, 17—19-xi-11.

DIOPSINAE.

Diopsis indica, Westw.

Rotung, 1400 ft., 25-xii-11; Dibrugarh, 17—19-xi-11. Six specimens. The Indian Museum has a series taken by Mr. Kemp on the Assam-Bhutan Frontier in December, 1910; also others from Bhim Tal, Naini Tal, Tenasserim and Rangoon.

TRYPETINAE.*Ptilona dunlopi*, Wulp.

Dibrugarh, 17—19-xi-11; one ♂, two ♀♀ In these specimens the wing marks agree exactly with Van der Wulp's plate; his type coming from Padang.

Rioxa, sp. nov.

One ♂, Dibrugarh, 17—19-xi-11.

This is identical with a new species to be described by Prof. Bezzi in his forthcoming paper on Indian *Trypetinae*.

Acidia fossata, F.

One ♂, Kobo, 400 ft., 7-xi-11. Described from Tranquebar. In the Indian Museum from Travancore, Tenasserim, Assam and Sukna. This species has been referred to the genus (sub-genus) *Anomoea*, Walk.

Spheniscomyia sexmaculata, Macq.

Sadiya, 23-xi-11, one specimen. Described from Sumatra. In the Indian Museum from Naini Tal, Calcutta and Sarawak, and I have taken it myself at Batavia.

Themara maculipennis, Westw.

One ♂, Kobo, 400 ft., 1-xii-11. Evidently a somewhat widely distributed species, as it occurs in Singapore, Java, Borneo, Amboina and other places.

SEPSINAE.*Sepsis indica*, Wied.

One ♂, Dibrugarh, 17—19-xi-11. A widely distributed common Oriental species.

Sepsis viduata, Thoms.

Three ♀♀, Dibrugarh, 17—19-xi-11. Extensively distributed in the East.

Sepsis bicolor, Wied.

Kalek, 3800 ft., 29-xii-11, by sweeping. A very widely distributed species in the East, extending to China.

Sepsis coprophila, Meij.

Kalek, 3800 ft., 27-xii-11, by sweeping. A widely distributed species at least in India; described originally from Java.

MICROPEZINAE.

Calobata trifascipennis, mihi, sp. nov.

(Pl vi, fig. 19).

♂ ♀ Assam.

Long. 10 mm. (excl. ovipositor).

Head.—Frons shining black, with a brilliant dark blue tinge on lower part; a velvet black spot on the frons, elongate-triangular in shape, its apex at the vertex, and with a small triangular prolongation at its lower extremity; the minute ocelli set just before the apex of the spot. Face dull blackish, a little brownish yellow on lower margin of eyes, around the mouth border and immediately below the antennae. Proboscis and palpi blackish, antennal 1st and 2nd joints blackish, 3rd dull brownish yellow, with microscopic greyish pubescence; arista black, minutely pubescent at base, where it is yellowish. Back of head shining brownish black, the normal pair of vertical bristles and a pair of post-vertical ones. (In the type there is a supplementary very short bristle in front of one of the vertical ones).

Thorax, scutellum and metanotum dull blackish. (Bristles mostly broken off). One pair of dorso-central, near hind margin, one or two supra-alar and an apical pair of scutellar bristles.

Abdomen blackish, a little blue tinged, hardly shining, an indistinct greyish band on hind margins of 2nd and 3rd segments; belly obscure, genitalia large.

Legs.—Coxae black, fore legs dark brown, tips of metatarsus and remainder of tarsus whitish yellow. Posterior femora and tibiae brownish yellow; middle tibiae sometimes darker; posterior tarsi mainly black for a greater or less distance from the tips. Posterior femora with three indistinct or incomplete blackish bands, the first basal, the second just beyond the middle, the third subapical, all these bands subject to variation in extent and intensity, sometimes reduced to a mere trace. The hind femora have in addition a narrow bright yellow ring at the extreme base.

Wings nearly clear; 1st posterior cell closed immediately before the border. An ill-defined but distinct, brownish transverse band across the middle from the costa to just below the discal cell, its proximal edge passing distad of the anterior cross-vein. The wing tip still more indistinctly but obviously clouded brownish; an irregular, indistinct brownish spot over the 1st basal cell and basal half of the discal cell. Halteres very small, obscurely brown.

Described from 3 examples; Dibrugarh, 17—19-xi-11.

N.B.—Judging from the description this form appears to be new, although in such a critical genus as *Calobata* the species require very careful comparison, and the Oriental ones are badly in want of complete revision.

PSILINAE.*Psila kempí*, mihi, sp. nov.

(Pl. vi, fig. 18).

♂ ♀ N.E. Frontier of India.

Long. 5½ mm.

Head.—Bright yellow, a little brownish from vertex to antennae; the vertex, which is deeply cut away behind, mainly occupied by a large velvet black spot with a semicircular outline on its lower part. A very large semicircular velvet black spot on each side of the frons, widely separated from the vertical spot, but absolutely contiguous throughout its whole width with the eye margin, and contiguous to the base of the antennae, the interval between the two spots being equal to one-fifth the width of the frons at that spot. Ocellar spot brought well forward on the frons, contiguous to the lowermost edge of the vertical black spot; it is blackish, the ocelli pale yellow. The frons proper bears two pairs of dorso-central strong curved bristles, the lower pair situated at the middle of the inner margin of each large frontal spot, the upper pair placed in a line with the lower edge of the vertical spot, but separated from both it and the eye margin. A third pair of bristles is vertical, between the upper corners of the vertical spot and the eye margin. Behind these, and distinctly behind the vertical margin, is another pair. Antennae yellow, 3rd joint elongate-oval, with rounded tip, the upper and outer edge blackish; the arista black, long plumose on upper side, bare on underside except for a few short hairs towards the tip. The face bears a black median stripe. Proboscis light yellow, with large labella, each bearing a black spot; palpi long cylindrical, pale yellow, with a few light hairs.

Thorax.—Light ferruginous, a brownish median stripe of moderate width from anterior margin, diminishing in intensity posteriorly. Sides of thorax concolorous, a small darker longitudinal streak below shoulders. A pair of dorso-central bristles just in front of the scutellum; two supra-alar bristles; one notopleural. Scutellum and metanotum brownish yellow, dorsum of former wholly blackish; a strong basal bristle each side and a pair of strong apical bristles.

Abdomen.—Dull black, basal half of 1st segment and genitalia yellow. There is a transverse yellowish band across the middle of the abdomen which fades after death.

Legs.—Femora yellow, posterior femora narrowly black at tips; tibiae black; tarsi black, fore metatarsi pale yellow; all metatarsi equal in length to rest of tarsus.

Wings.—Very pale yellowish; apical margin from m in front of 3rd longitudinal vein to about tip of 5th vein very narrowly brown suffused; a narrow brown band of irregular width from tip of 2nd vein, traversing the posterior cross-vein, ending on 5th vein.

A brown streak, widest in the middle, on posterior side of 5th vein, not quite extending as far as opposite the anterior and posterior cross-veins. This streak varies in extent, as in one specimen it reaches the hind margin and is more diffused in nature.

Described from 3 specimens, Kobo, 400 ft., 2-xii-11, by sweeping in thick jungle.

OSCININAE.

Chlorops maculipleura, mihi, sp. nov.

N.E. Frontier of India.

Long. barely $1\frac{1}{2}$ mm.

Head.—Bright yellow; upperside and tip of 3rd antennal joint black, arista black, pubescent; ocellar triangle black; a little blackish about mouth opening; centre of back of head black. Frons with about 5 or 6 stiff hairs as orbital bristles, a pair of small vertical bristles behind the ocellar triangle, and two vertical similar bristles behind the corner of each eye.

Thorax.—Dorsum yellowish brown, or it may be considered yellowish with three rather indistinct nearly contiguous brown stripes, of which the median is the widest. A very distinct oval black spot of moderate size on the sternopleura. Sides of thorax, scutellum and metanotum yellow. Thoracic bristles mostly broken off, but there is at least a pair of strong dorso-central bristles near the posterior margin and several less strong ones, laterally from the shoulder to the wing base. Scutellum with a pair of bristles towards the sides, midway between base and apex, and an apical strong pair.

Abdomen—Brownish yellow, a brown indistinct spot towards the sides of 2nd and 3rd segments; belly yellow.

Legs yellow. *Wings* clear, venation normal; halteres yellow.

Described from one specimen from Kobo (400 ft.), 9-xi-11.

Meromyza, sp.

One example in bad condition, the antennae and most of the bristles being missing, the wings are also damaged.

It is bright yellow with three broad black shining thoracic stripes nearly contiguous; a black spot on the mesopleura, a larger one on the sternopleura and one on the metapleura; also one on each side below the abdomen. Frons shining blackish brown; legs all yellow, Yembung, 1100 ft., 13-i-12.

? *Pachylophus rufescens*, Meij. (*Myrmomorpha*).

Assam, India.

Long. $1\frac{1}{2}$ -2 mm.

Head.—Yellowish or brownish yellow, underside paler yellow, generally with a little whitish dust on face and cheeks. Ocellar triangle black, small; the configuration of a large triangular frontal

spot more or less visible by a darker outline; in occasional specimens a large shining brownish triangle distinctly visible. Antennae yellow, 3rd joint elongate, with a thickened black densely pubescent arista twice as long as the joint, turned inwards slightly but obviously. Back of head yellowish, often with an irregularly shaped black spot in the middle.

Thorax varying from yellowish to rather dark brown, the usual three dorsal stripes present in some specimens but indistinctly. Usually the stripes are not visible, in some cases the spaces between them appear as two fine indistinct whitish lines. In other examples the whole thorax, including sides and scutellum, are dark brown, nearly blackish. The scutellum bears a few weak stiff hairs about its tip.

Abdomen varying from brownish yellow to dark mahogany brown; sometimes a little pale yellowish about the base, generally with posterior margins of segments very narrowly pale. Belly usually similar to upperside.

Legs wholly bright brownish yellow; fore pair often a little paler, front and hind tibiae often obscurely blackish, and some of the tarsi often more or less darkened. Hind femora distinctly but not greatly enlarged.

Wings clear; 3rd longitudinal vein not parallel with 2nd or 4th; anterior cross-vein just beyond tip of 1st vein (in some specimens barely so); posterior cross-vein distant from anterior cross-vein by a little more than its own length, its position not being quite stable. Halteres very pale yellowish.

Described from 3 specimens from Dibrugarh, 17—19-xi-11; also from a considerable series in the Indian Museum. Calcutta, 13-iii-07 [*Annandale*]; 17-v-07; 17-vii-07; 9-viii-07; Allahabad, 15-viii-09 [*Lord*]; Manbhum Dist., Bengal, 13-x-09 [*Jenkins*]; Monghyr, Bengal, 23-ix-09 [*Jenkins*]; Kulti, Bengal, 10-viii-09 [*Lord*]; Rajmahal, Bengal, 14-ii-10 [*Chaudhuri*]; Mangaldai, Assam-Bhutan Frontier, 30—31-xii-10 [*Kemp*]; Jahada, Nepal, 14-ii-08.

Some uncertainty attaches to this species. The generic characters agree perfectly with Becker's plate of *Pachylophus*, and figure of the antennae (Ann. Mus. Hung. viii, pl. xiii, 5-6), except that the hind femora in the present species is not spinose below. Loew says in his generic description that the frons protrudes forwards considerably in front of the eyes, and figures this character very definitely, but it is not obvious in Becker's figure, and it is certainly absent in my species.

As regards the spinose underside of the hind femora, Loew did not make it a generic character, nor is it necessarily one, and it does not appear in the description of *rufescens*, Meij. As the present species agrees with remarkable precision with Becker's description of *rufescens*, Meij., it is reasonable to assume the identity, especially as the present is a quite variable species and apparently widely distributed.

Oscinis¹ obscuripes, mihi, sp. nov.

Assam and N.E. Frontier of India. Long. 2—2½ mm.

Head.—Occiput dark grey, frons on upper part blackish, with a large triangular shining black spot reaching from vertex nearly to antennae; frons below this spot bright yellow. Head below antennae brownish yellow, rather variable in shade. Antennae yellowish, upperside broadly dark brown, arista dark proboscis darkened.

Thorax, scutellum and metanotum wholly blackish grey.

Abdomen.—Blackish grey, underside paler, sometimes nearly whitish.

Legs.—Yellowish, femora mainly blackish, leaving a broad yellow part at base and a narrow yellow ring at tip. Tibiae and tarsi mainly blackish, the former always pale at base for a greater or less distance; underside of tarsi paler, and hind tarsi sometimes yellowish on upper side also.

Wings clear; halteres whitish.

Described from six specimens from Dibrugarh, 17—19-xi-11, and one from Kobo, 9-xi-11.

Amongst the remainder of the *Acalyptrata* there is an Ephydrid, a Geomyzid, two Drosophilids and about half a dozen other species that owing to their indifferent condition it is impossible to classify generically; all these except one species of (?) *Drosophila* being represented by single specimens only.

PUPIPARA.**Cyclopodia horsefieldi, Meij.**

Two specimens taken on a flying-fox (*Pteropus medius*, Temm.); Sadiya, 24-xi-11.

¹ There is no justification for altering this generic name to *Oscinella*, Beck. as *Oscinis* has stood unchallenged since 1804.

EXPLANATION OF PLATE VI.

FIG. 1.—	<i>Geranomyia notatipennis</i> ,	Brun., sp. nov.	wing.
„ 2.—	<i>Epiphragma kempi</i> ,	„ „	„
„ 3.—	<i>Dicranophragma gracilis</i> ,	„ „	„
„ 4.—	<i>Psychoda notatipennis</i> ,	„ „	„
„ 5.—	<i>Bacha flavopunctata</i> ,	„ „	„
„ 6.—	<i>id.</i>	„ „	abdomen.
„ 7.—	<i>Sphagina tristriata</i> ,	„ „	wing.
„ 8.—	<i>Mixogaster vespiiformis</i> ,	„ „	„
„ 9.—	<i>id.</i>	„ „	head.
„ 10.—	<i>id.</i>	„ „	abdomen.
„ 11.—	<i>Trigonometopus trilineata</i> ,	„ „	head.
„ 12.—	<i>Sciomyza ocellata</i> ,	„ „	wing.
„ 13.—	„ <i>7-lineata</i> ,	„ „	„
„ 14.—	<i>Drepanephora multimaculata</i> ,	„ „	„
„ 15.—	<i>id.</i>	„ „	thorax.
„ 16.—	<i>Camptoprosopella notatifrons</i> ,	„ „	head.
„ 17.—	<i>id.</i>	„ „	antenna.
„ 18.—	<i>Psila kempi</i> ,	„ „	wing.
„ 19.—	<i>Calobata trifascipennis</i> ,	„ „	„

