

April 18, 1893.

Sir W. H. FLOWER, K.C.B., LL.D., F.R.S., President, in the Chair.

The Secretary read the following report on the additions to the Society's Menagerie during the month of March:—

The registered additions to the Society's Menagerie during the month of March were 107 in number. Of these 58 were acquired by presentation, 17 by purchase, 5 by exchange, 21 were born in the Gardens, and 6 were received on deposit. The total number of departures during the same period, by death and removals, was 118.

The most noticeable additions during the month were:—

1. Three White-tailed Gnus (*Connochætes gnu*), from the Transvaal (a male and two females), obtained by purchase March 7th.
2. Three Spring-boks (*Gazella euchore*), from South Africa, deposited by H.R.H. the Prince of Wales.

Mr. Sclater exhibited the skin of a singular variety of a (female) Pig-tailed Monkey, *Macacus nemestrinus*, from the Baram River, Sarawak, Borneo, which had been deposited in the Society's Gardens by Major F. Day, on the 13th July, 1892, and had died on the 9th January of the present year. The specimen was of a dark fulvous above, darker in the mesial line, much paler on the lower surface, and growing nearly white on the middle of the chest. Mr. Charles Hose, who was well acquainted with the specimen, had informed Mr. Sclater that it had been captured by the natives of the Baram River about five years ago, and had not grown since it was in captivity. Major Day had obtained it from the Rajah of the district. Mr. Hose had no doubt of its being simply a variety of *Macacus nemestrinus*, in which opinion Mr. Sclater fully concurred, but thought the specimen worthy of notice.

Mr. Sclater read a communication from General Sir Lothian Nicholson, K.C.B., R.E., Governor of Gibraltar, which he had received during a recent visit to Gibraltar.

In reply to inquiries about the present condition of the Barbary Apes (*Macacus inuus*) on the Rock, Sir Lothian stated that they were now distinctly increasing in numbers. He had himself counted as many as thirty in one group, and, according to some reports, there were altogether as many as double that number on the Rock. In fact they were so numerous and their depredations had become so serious that a short time ago an agitation had been got up for their reduction in numbers, and it would perhaps be necessary to thin them a little, but their extermination was quite out of the question and would not be thought of.

Mr. W. L. Sclater, F.Z.S., made some remarks on the Zoological Gardens of Antwerp and Amsterdam, which he had lately visited. In the Antwerp Gardens, amongst other interesting animals, was an example of the Ounce (*Felis uncia*), which appeared to be in good health. The female Hippopotamus which had produced the young male now living in the Society's Gardens was expected to give birth to another young one very shortly.

The following papers were read :—

1. Notes on the Genus *Sipunculus*. By ARTHUR E. SHIPLEY, M.A., Fellow and Lecturer of Christ's College and Demonstrator of Comparative Anatomy in the University of Cambridge. (Communicated by FRANK E. BEDDARD, F.R.S., F.Z.S.)

[Received March 28, 1893.]

(Plates XXV.—XXVII.)

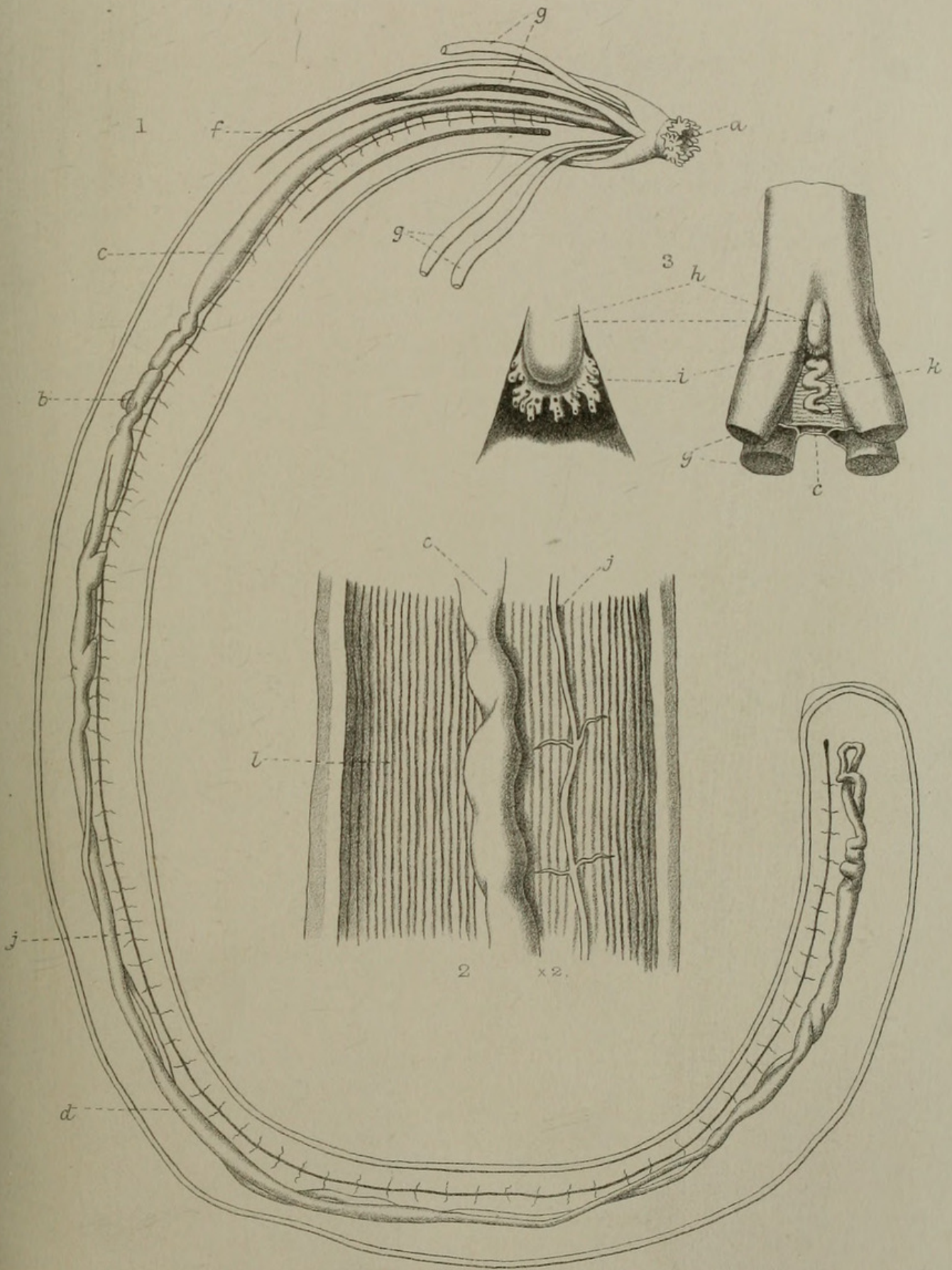
During his recent expedition to Zanzibar, Mr. F. Finn, F.Z.S., collected specimens of two species of Gephyrean worms of the genus *Sipunculus*; these were handed to me by my friend Mr. Beddard, and the following paper contains some notes on the anatomy and histology of these forms, together with a few observations on Sipunculids in general. The two species are *Sipunculus indicus* and *S. cumanensis*; the anatomy of the latter is well known.

SIPUNCULUS INDICUS.

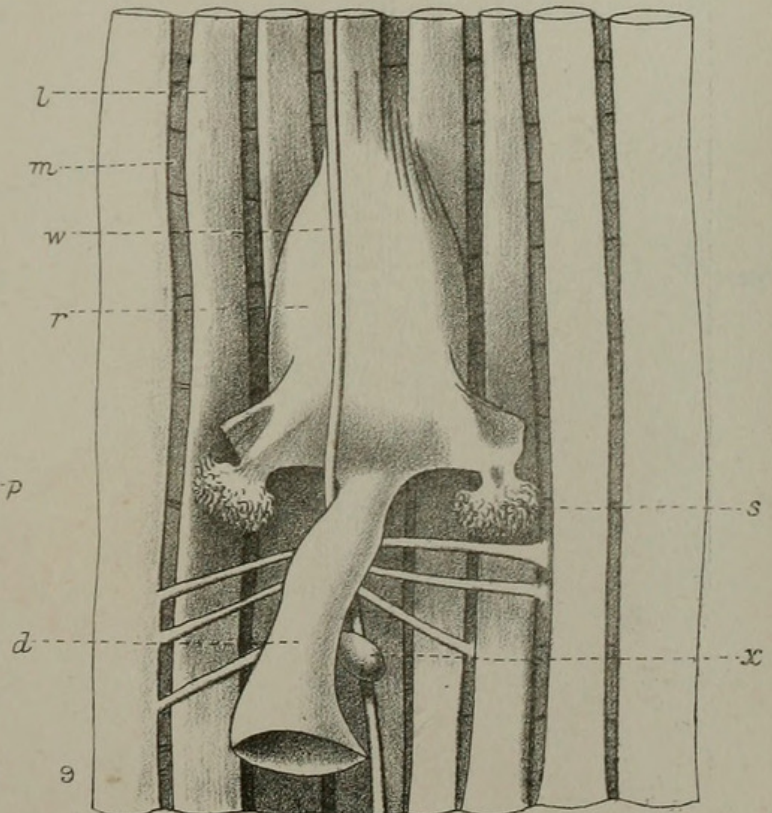
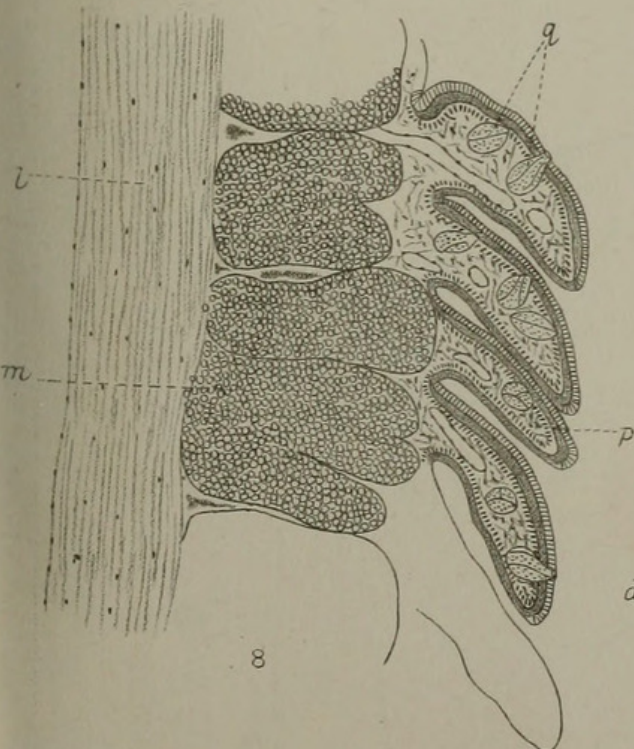
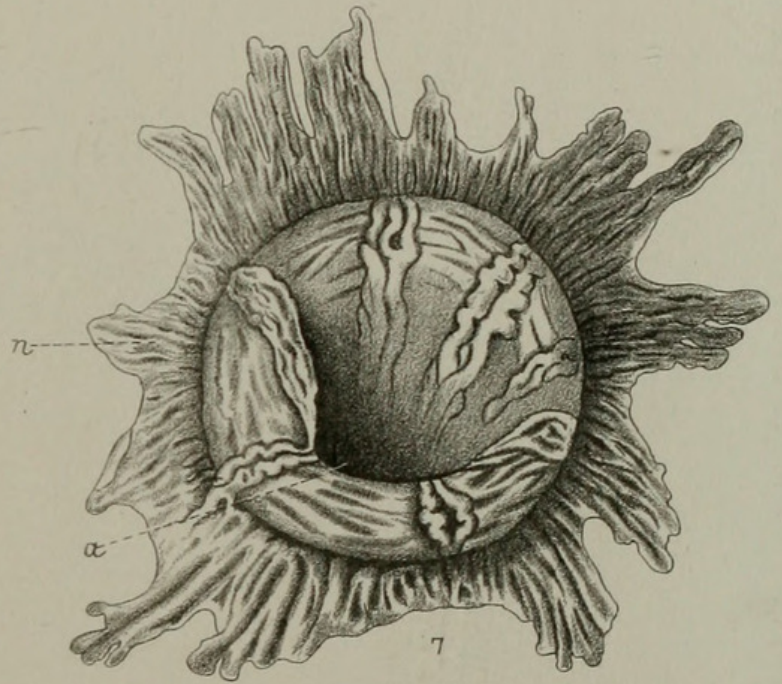
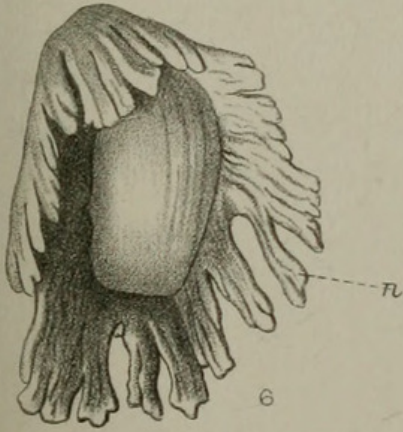
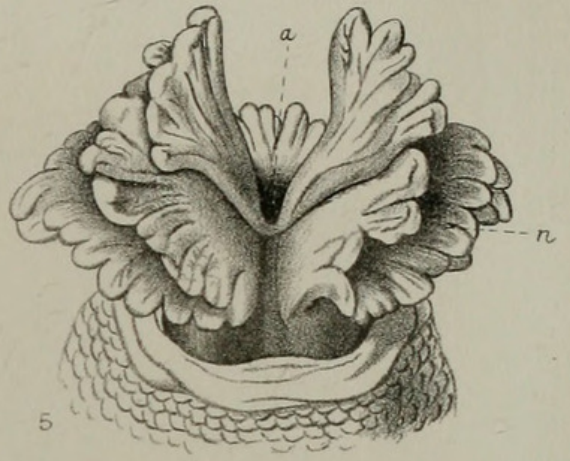
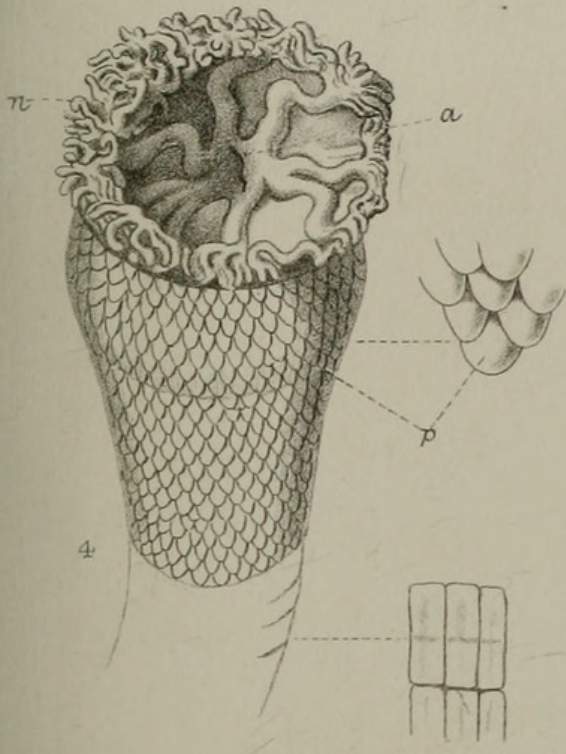
The exterior of this Sipunculid is well shown in Keferstein's article in the 'Zeitschrift für wissenschaftliche Zoologie' (1), but unfortunately he had only one example at his disposal, and could not investigate the internal anatomy of the animal. The examples which Selenka had to describe for his admirable monograph on the Sipunculidæ (2), although externally well preserved, were so much macerated as to make any investigation of the soft internal organs impossible; he therefore had to content himself with adding a couple of lines to Keferstein's description of the external appearance of the Gephyrean, which he quotes.

Sipunculus indicus is one of the largest species of the genus. The length of the four individuals placed in my hands was 18, 17½, 17, and 15 inches respectively. Their bodies were very attenuated, the average diameter being $\frac{1}{4}$ to $\frac{3}{8}$ of an inch, but their posterior ends were slightly swollen and ended in a truncated cone.

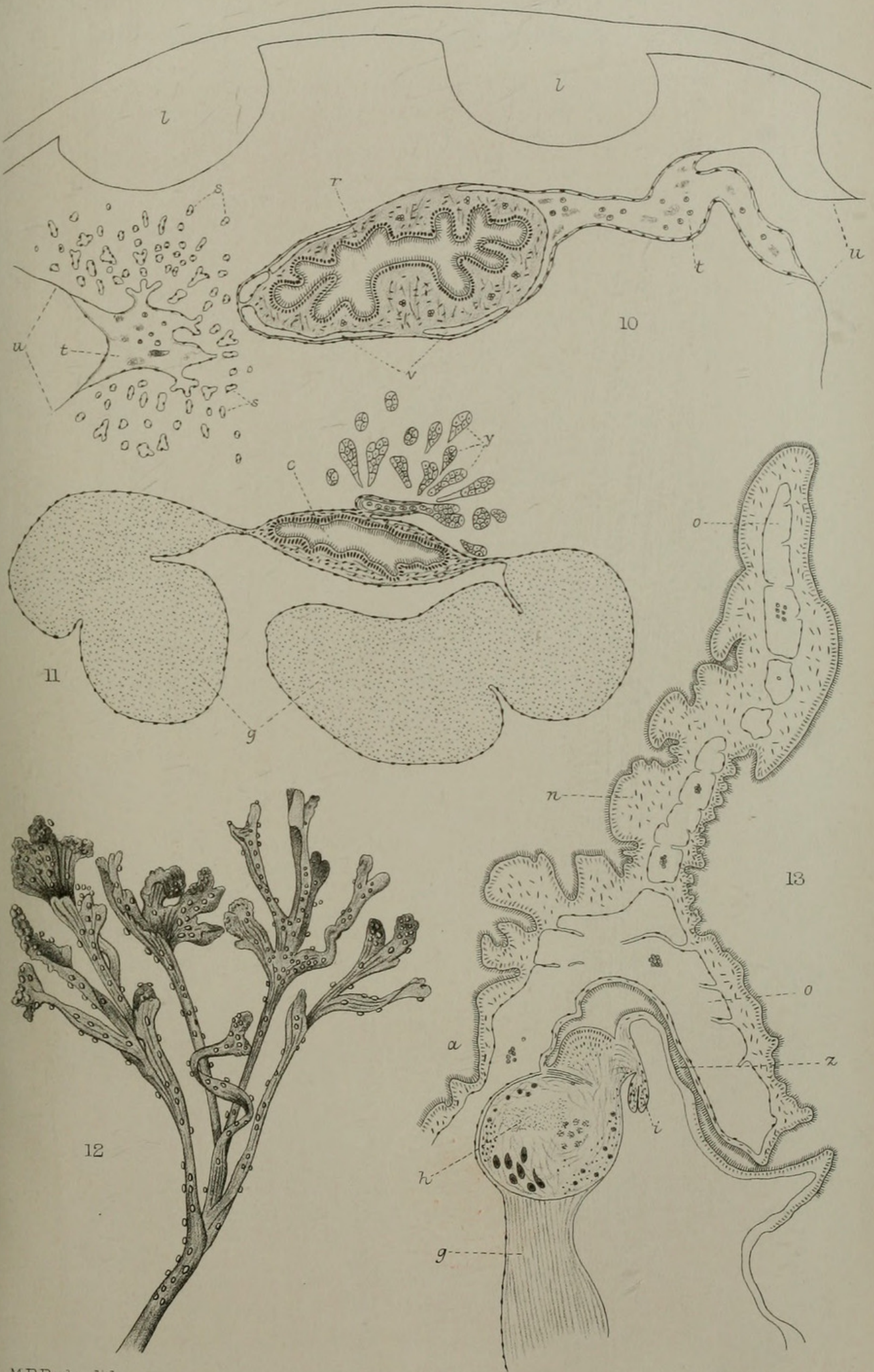
The head of the animal is followed by a short neck (the introvert) covered with scale-like papillæ (Plate XXVI. fig. 4); the rest of the body is very markedly ringed. The rings vary a good deal in their width, but as a rule they are about the same relative size as













those of the Common Earthworm, and their presence gives the *Sipunculus* a remarkable resemblance to that animal. The rings correspond with elevations of the cutis extending over several bundles of the circular muscles which lie just under the cutis. On looking at the skin with a hand-lens it is at once seen that each ring is composed of a number of rectangular oblong areas (Plate XXVI. fig. 4) side by side. Each of these oblong areas corresponds in width with one of the bundles of longitudinal muscles which lie within the circular muscles.

The mouth of *Sipunculus indicus* is situated in the centre of the anterior end of the body; it is slightly elongated transversely (Plate XXVI. fig. 4). Around the mouth lies a circular ring of tentacles, and between the mouth and the ring of tentacles a number (7 or 8) of ridges radiate; probably these correspond with certain vascular spaces which supply the tentacles.

Viewed from in front the mouth and tentacles are very much like those of *Stephanostoma* (*Phascolosoma*) *hanseni* as figured by Danielssen and Koren (4) in their monograph on the northern Gephyrea.

Owing to the fact that Sipunculids usually die with their introvert inverted, the arrangement of the parts of their head has been difficult to make out, and with the exception of the figure given by H. B. Ward (3) it does not seem to me that this part of the body has been adequately depicted. The genus *Sipunculus* differs from many other unarmed Gephyrea in having a ciliated web or membrane round the mouth, which web has not been broken up into discrete and independent tentacles. The arrangement of the web is very various even amongst members of the same species. The simplest form is that presented by *Sipunculus tessellatus* (Plate XXVI. fig. 7), in which the web cannot be said to be broken up into tentacles at all, although its free border is very irregular; it forms a complete ring around the mouth and is not incurved at any point. The inner surface of the web bears numerous ridges and intervening depressions which are lined by ciliated cells. In the specimen depicted in Plate XXVI. fig. 7, some of these ridges were especially marked and continued some way into the mouth. In *Sipunculus indicus* the membrane has been much more broken up into tentacles, which appear more or less aggregated into tufts, and there seems to be a certain relation between the tufts and the conspicuous radial ridges which run toward the mouth. In two of the four specimens which I received from Zanzibar the head was extended: one of them is depicted in Plate XXVI. fig. 4, and it will be noticed in this one that the tentacles are rather thicker on one side, the dorsal, than on the other; in the second specimen with extended head the tentacles were even more concentrated in this region, and showed a tendency to be incurved, so that the outline of their base took the form of a double horse-shoe.

In *Sipunculus nudus* the membrane has not broken up into tentacles, but remains as a web with a ciliated internal surface and

an irregular edge. The extent to which it is developed, however, varies remarkably; it may form but a simple ring (Plate XXVI. fig. 6) as in *S. tessellatus*, or it may be bent in, thus forming a double horse-shoe, open in the middle line dorsally, or finally it may be again bent out as shown in Plate XXVI. fig. 5. This is the most extreme case I have as yet met with in the arrangement of the ciliated membrane round the mouths of members of this genus.

In *Sipunculus indicus* the head is followed by a short neck, from $\frac{1}{3}$ to $\frac{1}{2}$ an inch long, which is covered by a number of flattened scale-like papillæ, which are bent back, and lie over one another like tiles on a roof (Plate XXVI. figs. 4 & 8). Behind the head the body is conspicuously ringed.

The skin presents the usual layers of tissue. Within it is clothed by a layer of peritoneal epithelium; then come the longitudinal bundles of muscle-fibres, 38 to 40 in number (Plate XXV. fig. 2, and Plate XXVI. fig. 8), but decreasing posteriorly by the fusion of neighbouring bundles. At the extreme hindermost end the bundles fuse into a ring, and in this region the cuticle is thickened and hardened. The circular muscles which lie outside the longitudinal are very strongly marked; several of them correspond with each of the rings which are so conspicuous on the body. Neither in the body nor in the neck do they ever fuse into a continuous sheet. Outside the circular muscle layer is a layer of connective tissue, which is limited externally by a columnar tailed epithelium, the epidermis; outside this is a more or less thick coating of cuticle. The connective tissue is a gelatinous-looking tissue with cells scattered through it: prolongations of the body-cavity make their way between the bundles of muscles into this layer and in the region of the neck extend into the scale-like processes (Plate XXVI. fig. 8); these prolongations are seen in the sections to be circular in outline, and to be lined with a layer of peritoneal epithelium; they contain cœlomic fluid, which doubtless serves to nourish the various parts of the skin.

The papillæ which are so characteristic of the skin of Sipunculids are especially common in the scales of the neck of this species. They are not indeed real papillæ, as even their mouths do not project above the ordinary level of the skin. They consist of two or three enormously enlarged cells, presumably epidermal in origin, which are crowded with deeply staining granules; these are apparently poured out from the apices of the cells which are aggregated together near the mouth of the papilla. The cutis is much thickened in the region of the neck and forms the substance of the scale-like projections; over the rest of the body it is thinner, and in places corresponding with the grooves between the rings it disappears almost entirely. It is covered by a uniformly thick cuticle, and numerous papillæ are scattered through it, though they are not so abundant as in the neck. The scale-like projections on the neck seem to be characteristic of the genus *Sipunculus*; no traces of hooks or of the extensile collar, described in *Phymosoma*,

are to be found. Each scale is covered externally by a thin layer of cuticle, and on the upper exposed surface of the scale is a thin granular layer, outside the cuticle. This also shows faint and very fine striations. The papillæ all open upon this surface and never upon the under surface, and it has occurred to me that this outermost layer, confined to the same region of the surface, may be formed by the excretion of the granular cells of the papillæ.

Plate XXV. fig. 1 represents the appearance of one of the four specimens of *S. indicus* laid open by an incision a little to the right of the median line. The alimentary canal is very slender; the mouth and œsophagus are lined by cilia; the anus is situated about the level of the junction of the anterior fifth with the posterior four-fifths of the total body length when fully extended. The descending loop of the intestine is much thicker than the ascending, anteriorly it is prolonged into several short loops. The coils of the two limbs of the intestine are very loose, and I did not detect any spindle muscle; the whole alimentary canal is, however, supported by numerous muscular strands given off from the longitudinal muscles.

There are two brown tubes, which open to the exterior near the posterior end of the introvert. Their internal ciliated frilled opening is at the same level. The diameter of the nephridia is very uniform, and each is attached closely to the body-wall throughout its length by a number of muscle-strands, so that the great inequality of size and position which is frequently noticed in these organs in other species is scarcely possible in *Sipunculus indicus*.

The heart does not extend very far down the œsophagus. It was difficult to make out its exact limit, as this part of the body was embedded in a caked coagulum of the coelomic fluid. I did not succeed in finding any of the branched diverticula of the dorsal vessel which are not uncommon in other unarmed Gephyrea. These diverticula are well shown in *Sipunculus cumaniensis*, and a section through the œsophagus of this form is drawn in Plate XXVII. fig. 11.

There are four retractor muscles which arise from about the same level, almost halfway between the mouth and the anus. The ventral nerve cord is conspicuous; it gives off very numerous paired nerves which pass into the skin. At the posterior end of the body it is swollen into a small lump. I was not able to detect any traces of generative ridges.

The Projections in the Brain.

The curious finger-like projections on the dorsal surface of the brain in the various species of *Sipunculus* have received but little attention on the part of zoologists. Andræ and Ward mention them, and the former states that they appear to be hollow; this is, however, not the case.

They are comparatively conspicuous objects, and are easily seen when the brain of a *Sipunculus* is examined through a lens: in

Sipunculus nudus they are finger-formed; in *Sipunculus tessellatus* they are fused into a membrane at their base and at their free ends are somewhat branched. In the last-named species they bear certain pigmented spots, which are shown in Plate XXV. fig. 3. They project into the body-cavity between the dorsal retractor muscles on the dorsal aspect of the brain.

Sections throw but little light on the nature of the structures. They are covered by a layer of cells continuous with those covering the brain, and they are not ciliated. They are solid and consist of a number of connective-tissue cells, and they are rather richly supplied with nerve-fibres. Beyond the fact that they receive a somewhat more abundant nervous supply than other organs there is nothing in their structure to suggest that they are sense-organs, and I am quite unable to surmise what their function may be.

Plate XXVII. fig. 13, which was drawn with the view of showing the position of these structures, is a section near the dorsal middle line of the fringe-like lophophore of *S. nudus*. It shows the relation of the brain to the dorsal blood-vessel, the ventral half of the central nervous system being bathed by the blood in this tube. The dorsal blood-vessel is continued on into the lophophore and breaks up into numerous lacunæ, which when charged with blood serve to extend these parts. The same figure shows the attachment of the retractor muscle to the base of the brain, the giant cells in the latter, and the area where the brain is continuous with the epidermis, and the ciliated pit leading to this. This latter has been very accurately and fully described by H. B. Ward under the name of the cerebral organ.

The Rectal Diverticula.

There are in most members of the genus *Sipunculus* two feathery structures attached to the rectum in the immediate neighbourhood of the anus. These, like the papillæ on the brain, project into the cœlom and are bathed on all sides by the cœlomic fluid. If a small piece of these bodies be examined under the microscope it is seen to have a very branching, frayed appearance, somewhat resembling a minute sea-weed (Plate XXVII. fig. 12). The terminal branches are somewhat swollen, and show no trace of any pore or opening, such as are found in the terminal branches of the anal cæca of *Bonellia* and some other armed Gephyrea.

The following description applies to these organs in the species *Sipunculus nudus* and *tessellatus*. In stained specimens the nuclei are very prominent; they are apt to stand out from the surface of the structures, and in some cases seem to have absolutely separated off from the body of their cells. Whether this is really the case or not I cannot say, as I have not been able to examine fresh material, and that which I had at my disposal was not well enough preserved to permit the determination of this point.

The branches gradually collect together and end in one main trunk, and this opens, not, as I expected to find, into the alimentary

canal, but into a well-developed system of lacunar spaces which lies in the thick walls of the rectum.

Section shows that the whole organ is hollow; the walls of the finer branches are one cell thick, and these cells seem to be shedding their nuclei into the surrounding medium. The lumen of the branches, and more especially of the main trunk, contains a granular coagulum in which numerous spherical granular corpuscles are embedded; these latter have very much the appearance of the nuclei described above as being given off from the cells of the branches, and it is quite possible that the latter are not all nuclei, but some of them may be bodies elaborated in the lumen of the organ and passing through the walls to the exterior, that is, into the coelomic fluid.

The lacunar spaces into which these organs open are well defined (Plate XXVII. fig. 10); they can be recognized without the aid of sections, for if the rectum be cut out and examined under a lens it becomes apparent that it consists of a thick inner tube surrounded by a thinner, looser tube, which is supported by four longitudinal mesenteries attached to the body-wall (Plate XXVI. fig. 9). The space between the outer and inner tubes is the space into which the rectal diverticula open, and its cavity contains a coagulum similar to, and continuous with, that in the cavity of the branching organ. The lacunar spaces do not extend any great distance along the intestine, but are confined to a short track about $\frac{1}{2}$ an inch long; they are split up by numerous strands of connective tissue which run between the outer and inner walls of the rectum.

Until I came to investigate minutely the structure of the anal tufts I had always regarded them as homologous with the anal cæca of *Bonellia*, &c. Both their appearance and position seemed to support this view. Closer study, however, shows that the structures in *Sipunculus* differ very considerably from those in *Bonellia*. In the first place, they do not open into the coelom: the ciliated funnels at the end of the branches in the anal cæca of armed Gephyrea are well known, nothing of the sort is found in *Sipunculus*. Secondly, they do not open into the lumen of the intestine but into a well-developed system of lacunar spaces in the wall of the rectum. These differences seem to throw much doubt on the view that any homology exists between these structures in the two groups.

If we may make any inference from the structure of the gland to its function, it appears probable that this branching gland has somewhat the same functions as the lymphatics and the numerous glands which in all classes of animals exercise some influence on the constituents of the circulating medium.

List of Papers referred to.

- (1) KEFERSTEIN, W.—“Beiträge zur anatomischen und systematischen Kenntniss der Sipunculiden.” *Zeitschr. f. wiss. Zool.* Bd. xv.

- (2) SELENKA, E.—Die Sipunculiden. Eine systematische Monographie. Reisen im Archipel der Philippinen, Bd. iv. Abth. 1.
- (3) WARD, H. B.—“On some Points in the Anatomy and Histology of *Sipunculus nudus*, L.” Bulletin of the Museum of Comparative Zoology at Harvard College, vol. xxi. No. 3.
- (4) DANIELSSEN and KOREN.—Gephyrea. Den Norske Nordhausexpedition. Part iii.

EXPLANATION OF THE PLATES.

List of Reference Letters.

<i>a.</i> Mouth.	<i>o.</i> Sinuses in the same.
<i>b.</i> Anus.	<i>p.</i> Scales on the introvert.
<i>c.</i> Œsophagus.	<i>q.</i> Papillæ on scales.
<i>d.</i> Intestine.	<i>r.</i> Rectum.
<i>f.</i> Nephridia.	<i>s.</i> Rectal tufts.
<i>g.</i> Retractor muscles.	<i>t.</i> Ducts of rectal tufts.
<i>h.</i> Brain.	<i>u.</i> Mesenteries supporting these ducts.
<i>i.</i> Digitate process of Brain.	<i>v.</i> Sinuses in wall of rectum.
<i>j.</i> Ventral nerve-cord.	<i>w.</i> Spindle muscle.
<i>k.</i> Dorsal blood-vessel.	<i>x.</i> Cæcum on intestine.
<i>l.</i> Longitudinal muscles.	<i>y.</i> Diverticula of dorsal vessel.
<i>m.</i> Circular muscles.	<i>z.</i> Ciliated pit leading to brain.
<i>n.</i> Tentacular fringe.	

PLATE XXV.

- Fig. 1. View of a *Sipunculus indicus* cut open by an incision a little to the right of the dorsal middle line. The introvert is extended and the viscera are exposed *in situ*. The drawing is $\frac{2}{3}$ the natural size.
2. A portion of the same in the region of the œsophagus, magnified two diameters, to show the numerous bands of longitudinal muscles.
3. Two views, magnified, of the brain of *Sipunculus tessellatus*. The fig. to the right shows its position above the œsophagus and between the dorsal retractors. The fig. to the left is more highly magnified, to show the character of the digitate processes.

PLATE XXVI.

- Fig. 4. A view of the head of *S. indicus*. The mouth is shown in the centre, and between it and the ring of tentacles run several vascular ridges. To the right are two sketches, more highly magnified, to show the characters of the scales on the introvert and the square areas in the trunk.
5. A dorsal view of the head of *S. nudus* with the tentacular fringe very much folded, $\times 4$. The mouth is away from the spectator and the depression leading to the brain is near him.
6. A ventral view of another specimen of *S. nudus*, in which the fringe is not at all folded, the wall of the œsophagus is bulged forward and obliterated the oral orifice.
7. An anterior view of the mouth of *S. tessellatus*.
8. A longitudinal section through the skin of the introvert of *S. indicus*, showing the structure of the scales, the prolongations of the body-cavity into them, and the ‘papillæ.’
9. A view of the rectum of *S. tessellatus*, showing the anal tufts, the enlargement of the alimentary canal to form the rectum, the spindle muscle, the muscular strands supporting the intestine, the cæcum opening into the latter, and the longitudinal and circular muscles of the skin.



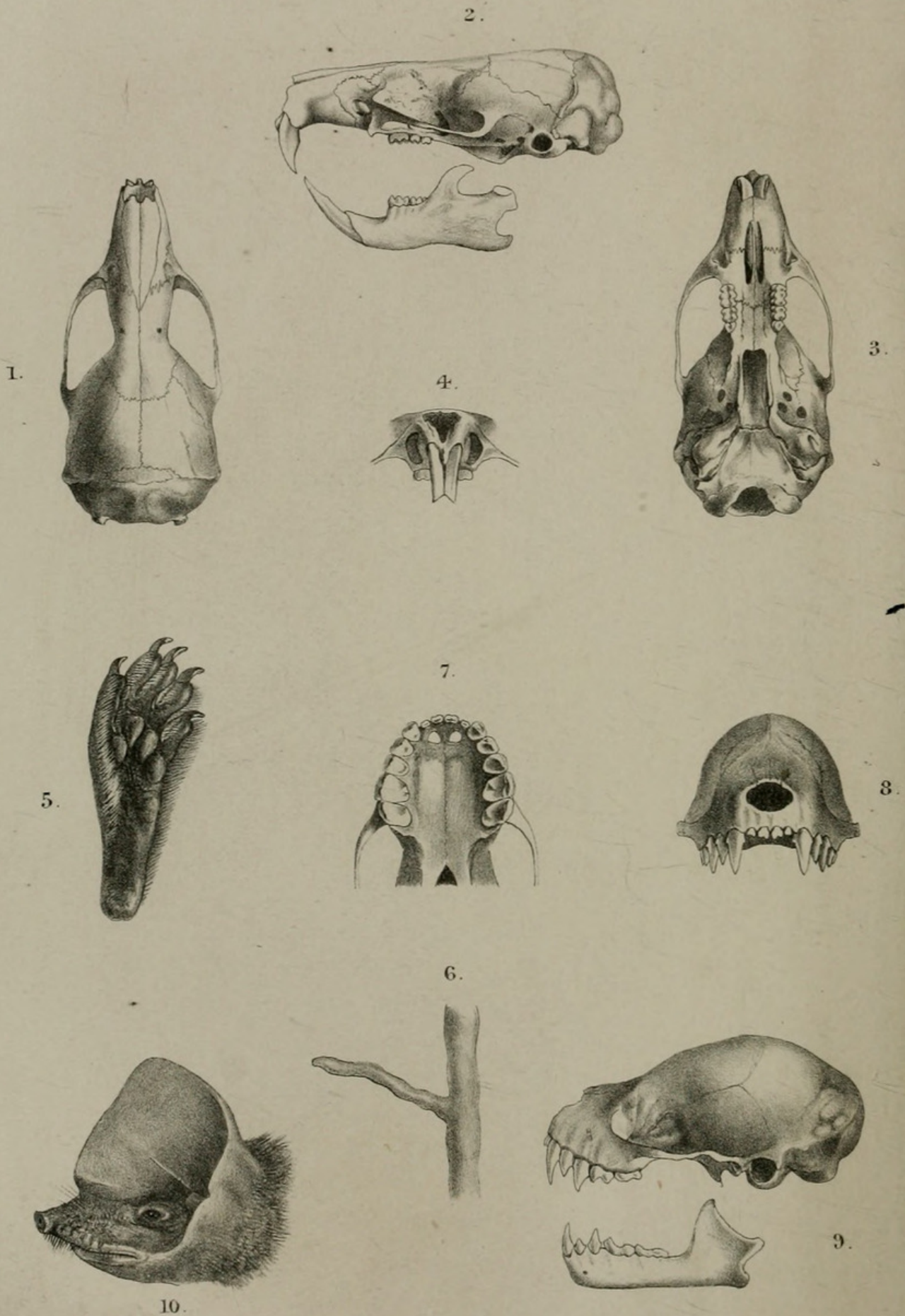


J. Smit del. et lith.

ICHTHYOMYS STOLZMANNI,

Mintern Bros., imp.





P. Smit del. et lith.

Mintern Bros. imp.

FIGS. 1 - 6. *ICHTHYOMYS STOLZMANNI*.
 „ 7 - 9. *ARTIBEUS GLAUCUS*.
 „ 10. *NYCTINOMUS KALINOWSKII*.

PLATE XXVII.

Fig. 10. A transverse section through the rectum of *S. tessellatus*, to show the arrangement of the rectal tufts. On the left are scattered portions of the tufts surrounding and opening into the main duct, which is supported by two mesenteries. The section is cut obliquely, and on the right it passes beyond the tufts but through the duct, and the communication of the latter with the lacunar spaces in the wall of rectum is shown. The outlines of the skin and of the longitudinal muscles in section are shown above.

11. A transverse section through the œsophagus of *S. cumanensis*. Above the œsophagus is seen the dorsal blood-vessel with diverticula opening into it, other diverticula crowded with blood-corpuscles are shown in various planes. The retractor muscles are seen at the side.
12. A branch of the rectal tufts of *S. nudus*, highly magnified.
13. A section taken through the tentacular fold and brain of *S. nudus*. The ciliated coating of the fold and the numerous blood spaces in its walls are shown. Below, the latter open into the dorsal blood-vessel which bathes the ventral surface of the brain. The ciliated pit leading to the anterior surface of the brain, which is continuous with the epidermis, is shown, and also the digitate processes which project into the cœlom. The mouth and œsophagus lie to the left.

2. On some Mammals from Central Peru.

By OLDFIELD THOMAS.

[Received April 7, 1893.]

(Plates XXVIII & XXIX.)

I owe to the kindness of Dr. Jean Stolzmann, the Director of the Branicki Museum, Warsaw, the opportunity of working out a small collection of Mammals obtained in Central Peru by Mons. J. Kalinowski, which contains examples of several species either new or of such interest as to deserve a record.

The locality at which most of the specimens were obtained is Chanchamayo, near Tarma, approximately in lat. $11^{\circ} 20' S.$, and long. $75^{\circ} 40' E.$; in fact in very nearly the same region as the specimens collected by Mons. C. Jelski and described by me in 1884¹. The altitude of Chanchamayo is about 3000 feet.

The most remarkable of the species to be described is the interesting fish-eating Rat, *Ichthyomys stolzmanni*, which I have named in honour of the distinguished Polish ornithologist and collector, to whom I owe the pleasure of working out the specimens. There are also two new Bats.

Mons. Kalinowski is much to be congratulated on the excellent manner in which he has collected the specimens, the care he has devoted to the preservation of the skulls, and on the interesting discoveries he has made in a region evidently very far from worked out.

Thanks to the kindness of Dr. Stolzmann, the British Museum has been permitted to acquire, by way of exchange, the majority of the specimens now described.

¹ P. Z. S. 1884, p. 447.

1. NYCTIPITHECUS TRIVIRGATUS.

a, b. Ad. sks. ♂ ♀. Chanchamayo. 5/9/90.

2. VESPERUS FUSCUS, P. de Beauv.

a. Ad. al. ♂. Chanchamayo.

3. SACCOPTERYX LEPTURA, Schr.

a. ♂ al. Chanchamayo.

4. SACCOPTERYX BILINEATA, Temm.

a, b. 2 ♂ al. Chanchamayo.

As Dobson has remarked, these two species of *Saccolpteryx* seem to be merely large and small races of a single form, exactly as in *Molossus rufus* and *M. obscurus*. The difference in size, however, is, in the one case as in the other, so great and so constant as to make it convenient to treat them all as distinct species so far as nomenclature is concerned.

5. MOLOSSUS OBSCURUS, Geoffr.

a-e. 5 in al. Central Peru.

6. NYCTINOMUS KALINOWSKII, sp. n. (Plate XXIX. fig. 10.)

Size very small, perhaps the smallest of the genus in the general bulk of the body. Lips slightly wrinkled. Ears not conjoined in front, but arising from the same point on the muzzle; their substance very thin and transparent; their inner margin evenly but faintly convex, without minute horny points; tip rounded off, but fairly defined, not lost in the general convexity, as is often the case; outer margin slightly convex for its upper, concave for its middle, and convex again for its lower third, but the curves are very slight and open, and there is practically no antitragus at all, the notch marking this lobe behind being almost obsolete; as a general result the line of the conch runs almost evenly from the tip to the insertion behind the angle of the mouth, a character, I believe, unique in the genus.

Keel of ear-conch very much reduced, and forming a mere narrow rim, barely a millimetre broad at its broadest point; its edge not thickened or bent round in any way. Tragus well developed, quadrangular, its upper nearly equal to its inner edge.

No trace of a gular sac, at least in the female.

Wing-membrane from the ankle. Fur very short and close, extending on the upper surface of the wing-membrane only as far outwards as a line drawn from the middle of the humerus to the middle of the femur; a few minute scattered hairs behind the forearm.

Colour pale fawn-grey, rather paler below than above; wing-membranes black, edged posteriorly with white. Membrane of ears whitish.

Teeth too much worn down in the type for proper description;

premolars only $\frac{1}{2}$, the anterior one above *perhaps* lost, and not really absent normally. Lower incisors 4.

Measurements of the type, an aged female in alcohol:—Forearm 34.5 mm. (= 1.35 in.); head and body 46; tail 28; head 18; ear from notch 14.5; both ears, tip to tip across head, 25.5; tragus 4; metacarpus of third finger 35, of fifth 22; lower leg 8; hind foot 7.

Hab. Central Peru.

This interesting little species differs widely from any of the previously known Neotropical *Nyctinomi*, and seems to approach some of the members of the group called *Mormopterus* by Peters, notably in the extreme reduction of the keel of the ear-conch, and in the absence of the upper anterior premolar; in fact, of all the known species, the Australian *N. norfolcensis*, Gray, appears to resemble it most nearly, although whether this resemblance really amounts to relationship, I am not at present prepared to say.

It is with great pleasure that I connect with this new Bat the name of its discoverer, M. Kalinowski, to whose labours we owe the valuable collection of small Mammals described in the present paper.

7. PHYLLOSTOMA HASTATUM, Pall.

a, b. 2 ad. al. ♂ ♀. Chanchamayo.

8. GLOSSOPHAGA SORICINA, Pall.

a-d. 4 in al. Central Peru.

9. ANURA GEOFFROYI, Gray.

Anoura geoffroyi, Gray, Mag. Zool. Bot. ii. p. 490 (1838) (excl. syn.).

Chaeronycteris peruana, Tschudi, Faun. Per., Mamm. p. 71 (1844).

Glossonycteris lasiopyga, Pet. MB. Ak. Berl. 1868, p. 365; Alston, Biol. Cent.-Am., Mamm. p. 45 (1879).

Glossonycteris geoffroyi, Dobs. Cat. Chir. B. M. p. 508 (1878).

a. Imm. al. Central Peru.

As the synonymy shows, Dobson and Alston have each thought it necessary to use a different name for this species, different both from each other and from that of the original describer, Gray. On reviewing the whole case, it appears to me that Dobson was right in considering the species named *geoffroyi* sufficiently characterized by the diagnosis given by Gray under the generic heading of "*Anoura*," *A. geoffroyi* being the only species. This being the case, it is also clear that *Anura* must be used for the genus, as the name had not been previously used in a generic sense in zoology. For both genus and species, therefore, I use the earliest name, verified as the identification is by the existence of Gray's type specimen.

The occurrence of this species in Peru confirms the reported identity of Tschudi's "*Chaeronycteris peruana*" with it.

10. *ARTIBEUS*¹ *GLAUCUS*, sp. n. (Plate XXIX. figs. 7-9.)a. ♀ al. Chanchamayo. *Type*.

Dentition as in the restricted subgenus *Artibeus*, of which the only known member is the large "*A. perspicillatus*," whether that is or is not subdivided into four or five local "species." Size as in the little *A. (Dermanura) cinereus*.

Anterior edge of nose-leaf free, its sides without extra lobes, its upright portion rather narrow and elongated. Ears rather short, their inner edge and tip broadly rounded, their outer edge with two slight concavities separated by a convexity. Wings to the end of the metatarsus. Interfemoral membrane emarginate to a point rather above the level of the middle of the tibia.

Fur above extending on to the proximal half of the foramen and base of antebrachial membrane, and there is a patch on the metatarsus of the thumb. The wings are covered as far as a line extending from the elbow to the knee, the interfemoral is thinly clothed on its basal half, and the legs are covered with fur right down to the claws. Below there is a sparse covering on the membrane near the body and on the base of the forearm, but the interfemoral membrane is almost naked.

Colour uniform cinereous grey, the lower surface scarcely lighter than the upper. Two faint whitish supraorbital streaks just distinguishable.

Skull in its general outline almost as elongated as that of *A. bilobatus*, and sharing with that species in the less abrupt rise of the brain-case above the level of the muzzle; but while in *A. bilobatus* it is the muzzle that is raised, in *A. glaucus* it is the brain-case which is depressed, so that there is no really close resemblance between the two. General palatal outline broader and shorter than in *A. bilobatus*, but not so much so as in *A. cinereus* and *quadrivittatus*.

Teeth. Upper inner incisors broad, vertical, spatulate, bicuspid, the inner cusps slightly longer than the outer. Outer incisors about half the height of the inner. Upper canines and premolars rather short and thick. No trace of \overline{m}^3 , although \overline{m}^2 has a slight and inconspicuous concavity in its posterior edge. Lower incisors equal, bicuspid; lower canine and posterior premolar attaining the same altitude; \overline{m}^2 of about the same horizontal length as \overline{m}^1 ; \overline{m}^3 rounded, minute, its size in cross section only about equal to that of one of the lower incisors.

Dimensions of the type, a slightly immature female² in spirit:—Forearm 43 mm.; head and body 51; ear from notch 15.5; nose-leaf, length 11.7, breadth of horizontal part 6.1, of upright part 4; length of thumb 9.3; tibia 15.2; foot 10; calcar 4.1; depth of interfemoral in centre 7.

¹ There appears to be no reason why this name should not be retained as originally formed by Leach, or why Agassiz's derivation of it from *ἀρου* and *βᾶω* should be rejected; Winge's proposed amendment of it to *Artobius* ('Bats of Lagoa Santa—E Mus. Lundii,' p. 38, 1892) is therefore unnecessary.

² Teeth all up and in use, but epiphyses of limb-bones not fully united.

Skull—basal length 17 ; greatest length 20·8 ; zygomatic breadth 12 ; intertemporal breadth 5·6 ; palate, length 9·5, breadth outside \overline{m}^1 8·6, inside \overline{m}^1 4·4 ; front of canine to back of \overline{m}^2 6·5 ; ditto in lower jaw 6·9 ; horizontal length of \overline{m}^1 2·0, \overline{m}^2 1·8, \overline{m}^3 0·4.

There is no necessity for any comparison of this species with its allies, as its dental formula distinguishes it at once from all except the *A. perspicillatus* group, of which the smallest member is of at least three or four times its bulk.

A. glaucus is perhaps Tschudi's "*Phyllostoma pusillum*, Natt."¹, but has clearly nothing to do with Natterer's species, which was placed by Dobson in the genus *Chiroderma*, and later on transferred by myself to *Vampyrops*².

11. *SCIURUS VARIABILIS*, Geoff.

a. Ad. sk. ♂. Chanchamayo.

12. *SCIURUS CHRYSURUS*, Puch.

a. Ad. sk. ♂. La Gloria, Chanchamayo.

13. *RHITHRODON PICTUS*, Thos.

a. Ad. sk. San Blas, Cordilleras, 18000 feet. 30/4/90.

14. *ICHTHYOMYS STOLZMANNI*, g. & sp. nn. (Plate XXVIII. and Plate XXIX. figs. 1-6.)

ICHTHYOMYS, g. n.

Form modified for an aquatic piscivorous life.

Head markedly depressed, so as to give its side view a resemblance to that of a snake. Eyes and ears small. Whiskers long, stout, and prominent. Fur short and close. Hind feet (Plate XXIX. fig. 5) very broad; toes partially webbed, broadly and closely ciliated on each side; their soles, naked, with five broad low pads. Tail long, cylindrical, but increased in height vertically by having its under surface clothed with short elongated bristles.

Cæcum (fig. 6) much reduced in volume, very short, and only of the same diameter as the rectum. Small intestine of medium length; colon and rectum proportionally short.

Skull (figs. 1-4) curiously like that of *Hydromys*, its dorsal outline concave over the orbits, flattened and depressed throughout. Supra-orbital edges smoothly rounded, without any trace of ridges; supra-orbital foramina proportionally large, not within the orbit, but upon the top of the interorbital space. Infraorbital foramen exactly as in *Hydromys*, as broad below as above; anterior zygoma-root very short horizontally, its anterior edge vertical, not projecting forwards. Zygomata extraordinarily weak, not properly ossified at the junction of the malar with the maxillary process. Palatine foramina of medium length.

Teeth. Incisors with their front surfaces so turned in towards

¹ Faun. Peruana, p. 63 (1844).

² Ann. Mag. N. H. (6) iv. p. 170 (1889).

each other that their faces form a **V** in horizontal section, and owing to this and to an apparently greater thickness of the enamel at their outer as compared to their inner margins, their cutting-edges also form a vertical reversed **A**, the outer corners projecting downwards as sharp divergent points, of obvious use in seizing fish. Molars somewhat of the *Habrothrix* type, but simpler, with high crowns, and opposite, not alternating, cusps, of which there are six in the first and four in the second molar both above and below, although the two most anterior below tend to fuse into one another. M^3 above and below subtriangular, of average proportional size.

Type: *I. stolzmanni*, described below. "*Habrothrix*" *hydrobates*, Winge, should also be included in the genus.

This remarkable new genus is one of very great and special interest, on account of the fact that its members are modified, not merely for an aquatic life, as are many other rodents, but actually for a predacious piscivorous one, almost unique within the order. This fact is fortunately proved without question by the discovery, in the stomach of the Peruvian specimen now before me, of both scales and fish-bones, which have been identified by my colleague, Mr. Boulenger, as those of *Tetragonopterus alosa*, Günth., a fish with an average length of about six inches.

That the habits of *Ichthyomys* were in some way very peculiar might have been inferred from the striking modification of the upper incisors, of which the sharp separated points would apparently be almost useless for the gnawing phytophagous life of most rodents, whether aquatic or not, while the extreme degree of specialization in the swimming characters would result in an activity and speed under water fully capable of rivalling that of fishes or batrachians, and very different from that of ordinary water-rats. *Fiber*, however, and *Hydromys*, of Myomorph rodents, are also both about equally endowed with swimming-powers, and although both are primarily plant-eaters, yet the former certainly occasionally captures and eats slow-swimming fishes¹, and perhaps the latter also will prove to do so, especially as it has a tendency towards the peculiar double-pointed character of the upper incisors present in *Ichthyomys*, and also a very decided resemblance to it in the general shape and structure of the skull. At the same time neither of these forms has the peculiar physiognomy of *Ichthyomys*, whose general expression bears a considerable resemblance to that of such exclusively fish-eating mammals as *Lutra*, *Myogale*, and *Potamogale*.

On the whole the balance of evidence appears to be in favour of *Ichthyomys* not being a plant-eater at all, but of its living entirely on fishes, batrachians, crustaceans, or other water animals.

Dr. Winge, in the description of his *Habrothrix hydrobates*, has entered into detailed comparisons of it with many water-mammals, but owing to his specimen having been a skin only, he was unable to make any investigation as to the character and contents of the intestines. But, nevertheless, his placing *I. hydrobates* in the

¹ See Merriam. Tr. L. Soc. New York, ii. p. 187 (1884).

genus or subgenus *Habrothrix* appears to me quite unaccountable, especially as he is one of the authors who consider that the majority of the different groups of what used to be called "*Hesperomys*" should rank as distinct genera. A short diagnosis of *Habrothrix*, based on the typical species, *H. longipilis*, is given in P. Z. S. 1884, p. 450, and it will be seen that *Ichthyomys stolzmanni* and *I. hydrobates* agree with that diagnosis in scarcely a single character of importance, even though it was not drawn up with the idea of any antithesis to such a specialized swimming form as the present.

The very noticeable resemblance in the structure of the anterior zygoma-root which *Ichthyomys* bears to *Hydromys* is a point well worthy of remark, for while this resemblance practically amounts to identity, yet there can be no suspicion that the two have a common origin, or can be other than a very remarkable case of parallelism. This case is the more remarkable as the structure of this region has been used by all the best authorities as a character of primary importance in dividing the Myomorph rodents into smaller groups, so that it will not be readily looked upon as one of little stability. Nevertheless, in the present instance we have two Murines, alike in their mode of life but derived from quite different ancestors, developing independently exactly similar infraorbital foramina¹. The presumed ancestor of each of the two highly specialized forms under consideration, *Xeromys* of *Hydromys*, and *Habrothrix* (or some ally) of *Ichthyomys*, both have typically murine infraorbital foramina.

ICHTHYOMYS STOLZMANNI, sp. n. (Plate XXVIII.)

Size and general proportions much as in the common Black Rat (*Mus rattus*). Whiskers long, strong, and numerous, silvery white with the exception of a few of the upper ones, which are brown. Ears very small and narrow, when laid forward they do not reach halfway towards the eye. Hands with the fingers quite free and unwebbed; pollex with a sort of elongated nail, not long enough to be called a claw; other digits with sharp curved claws; third and fourth fingers subequal, second reaching to the middle of the second phalanx of the third, fifth to the base of the same phalanx of the fourth; palm naked, with the usual five pads. Hind feet broad, fan-shaped; unwebbed part of toes broadly ciliated marginally; soles naked, with five large low rounded pads, the usual small postero-external pad absent. Tail about as long as the head and body, thick, cylindrical, its terminal half below with stiff elongate bristles. Palate-ridges 3—3. Mammæ doubtful, owing to part of the abdominal wall having been cut away, but there is one pair just behind the axillæ, and another near the vulva;

¹ Dr. Winge (*t. c.* p. 22) ingeniously suggests, as the reason of the enlargement in the lower part of the foramen, the increased size of the nerve which supplies the prominent whisker-bristles. Although no doubt true so far as it goes, this explanation does not appear to me quite to cover the case, especially as *Fiber*, similar in habits and with nearly equal whisker development, has a highly typical Murine foramen.

Dr. Winge says of *I. hydrobates*, that there are "at least one pair on the breast, and two on the belly."

Fur short, close, and thick, very similar in texture to that of *Holochilus apicalis* or *squamipes*. General colour above mouse-grey, strongly grizzled with fulvous; upper half of ear-margin brown, lower white. Chin, chest, and belly dirty white, the hairs grey basally, dull white terminally. Upper surface of hands and feet pure white, except that the metacarpals are slightly tinged with brown; cilia of hind feet also pure white. Tail abruptly bicolor, brown above, and pure white below throughout its whole length.

Skull apparently quite as in *I. hydrobates* (see figures 1-4, Plate XXIX.), except that the anterior palatine foramina seem to run further back, ending exactly opposite the most anterior point of m.

Dimensions of the *type*, an adult female in alcohol:—

Head and body 146 mm.; tail 148; hind foot 36; ear, from notch 9.1, breadth 6.2; forearm and hand 33.5.

Skull—basal length 30.5; greatest length 34; greatest breadth 16; nasals, length 11, greatest breadth 4.2; intertemporal breadth 5; interparietal length 2.5, breadth 7.1; palate, length 17.3, breadth outside m¹ 6.1, inside m¹ 3.1; diastema 8.9; palatine foramina, length 6.5; length of upper molar series 4.4; basi-facial length 19; basi-cranial length 11.5; lower jaw, condyle to incisor tips 22.

Hab. Chanchamayo.

This species differs from *I. hydrobates* in its rather larger size, its more elongated palatine foramina, and especially in its wholly bicolor tail, that member in the allied form being brown above and below, except just at the tip, which is whitish¹. *I. hydrobates* is a native of the Sierra de Merida, Venezuela, some thirteen or fourteen hundred miles north of the home of *I. stolzmanni*, but, speaking broadly, upon the same eastern slope of the great Andean chain.

I have great pleasure in connecting with this handsome animal the name of Dr. Jean Stolzmann, himself one of the best-known and most successful Peruvian collectors, the discoverer of many new Mammals², through whose kindness I am now enabled to describe the present interesting set of mammals.

15. LAGIDIUM PALLIPES, Benn.

a. Ad. sk. ♀. Incapirca, Zeziro, Junin. 8/5/90.

16. DASYPROCTA VARIEGATA, Tschudi.

a-c. Ad. ♀ and 2 yg. sk. Chanchamayo. 5/9/90.

17. CAVIA CUTLERI, Benn.

a. Ad. sk. ♀. Incapirca, Zeziro, Junin. 20/6/90.

¹ This coloration of the tail is again curiously suggestive of *Hydromys*.

² See P. Z. S. 1882, p. 98.





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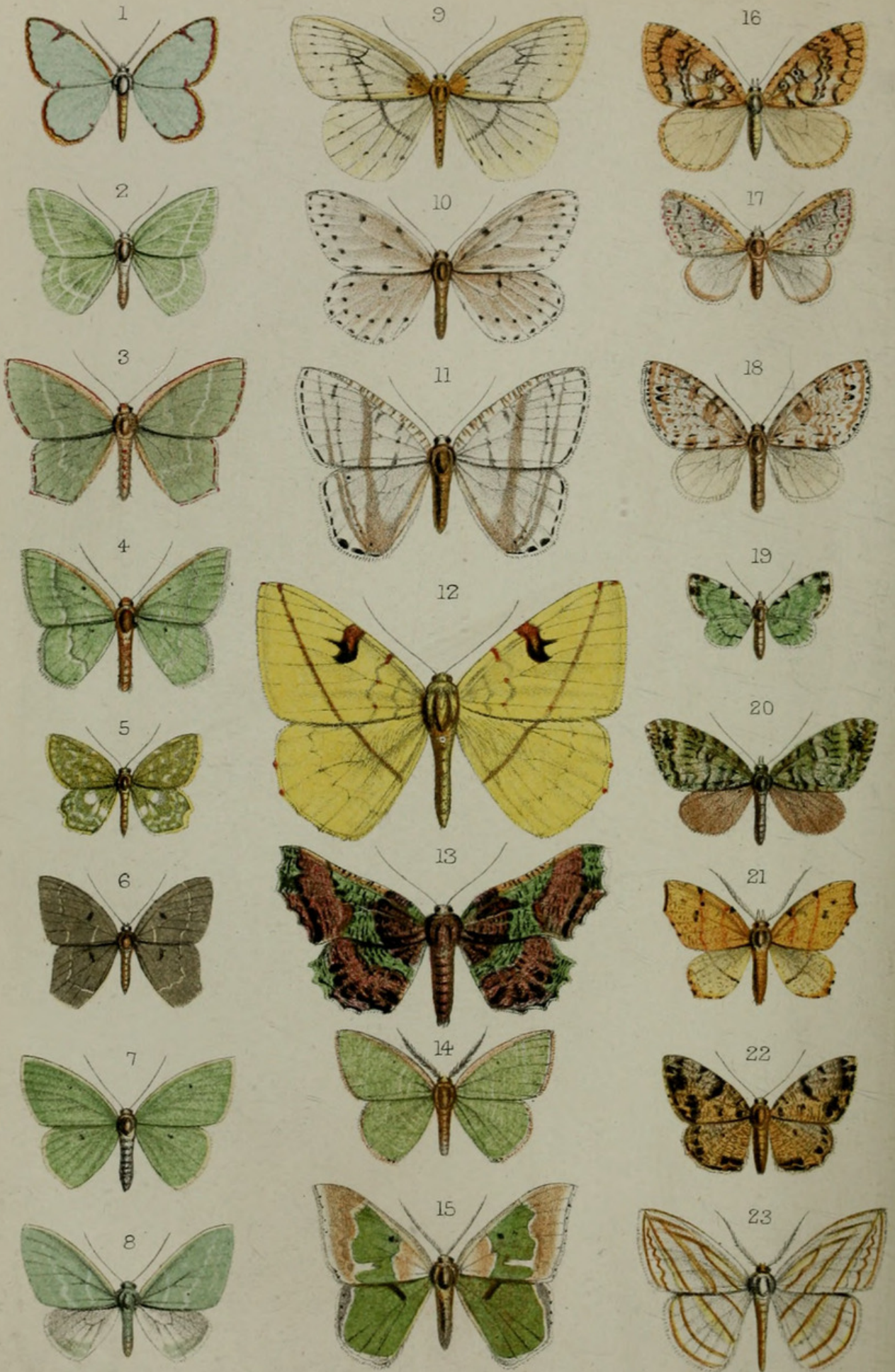


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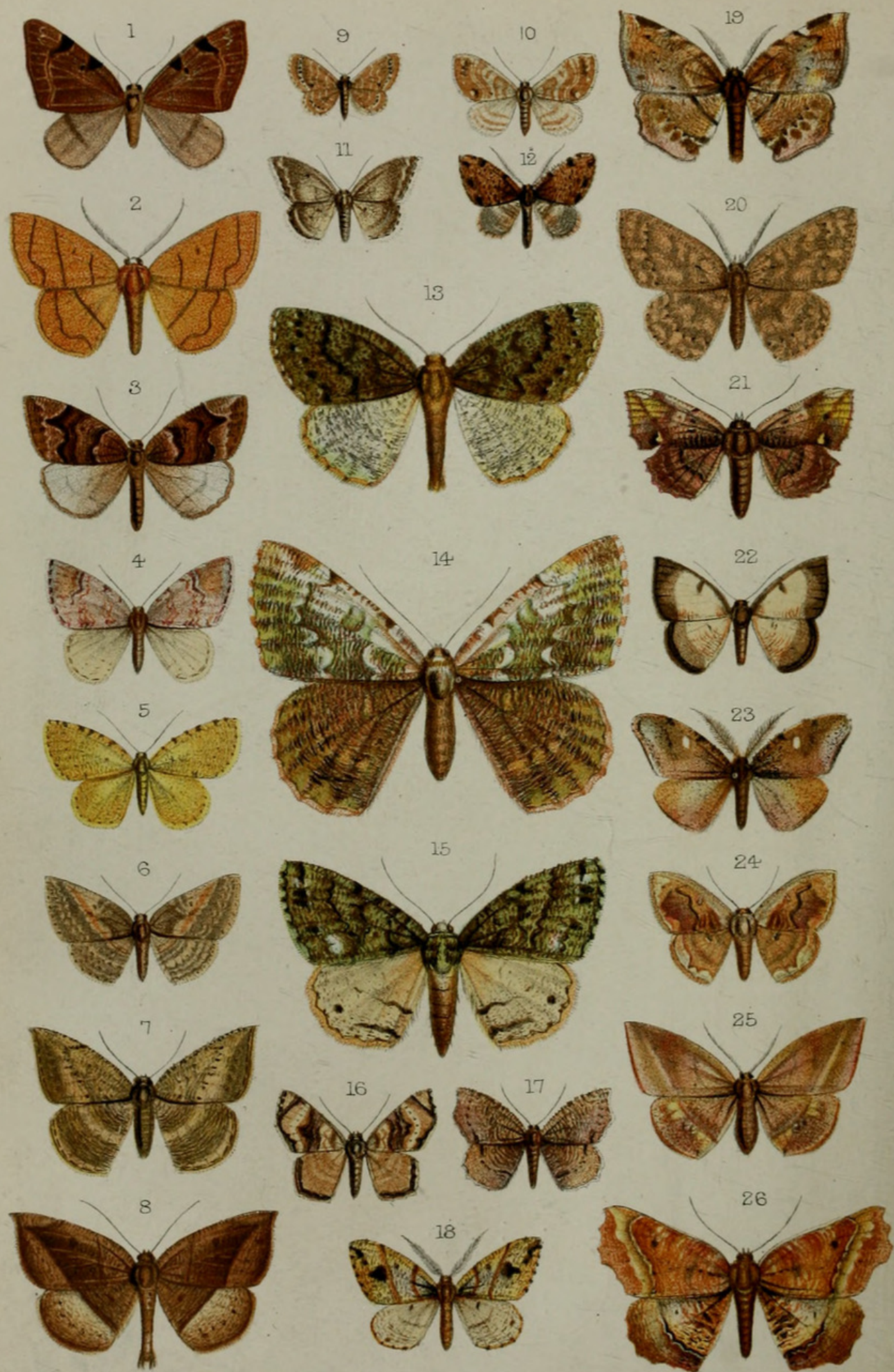
H.Knight del et lith.

West Newman chromo.









H.Knight del et lith.

West, Newman chromo.

New Indian Moths of the Family Geometridæ.

18. *CAVIA* (*KERODON*) *BOLIVIENSIS*, Waterh. (?).

a. Ad. sk.

19. *DIDELPHYS MARSUPIALIS*, L.

a. Imm. sk. ♀. La Gloria, Chanchamayo. 7/8/90.

20. *CHIRONECTES MINIMUS*, Zimm.

a. Yg. al. Chanchamayo.

EXPLANATION OF THE PLATES.

PLATE XXVIII.

Ichthyomys stolzmanni, natural size.

PLATE XXIX.

Figs. 1-4. *Ichthyomys stolzmanni*. Skull—upper, lateral, palatal, and anterior aspects.

5. ———. Sole of hind foot.

6. ———. Cæcum, natural size.

7-9. *Artibeus glaucus*. Skull—palatal, anterior, and lateral aspects; enlarged.

10. *Nyctinomus kalinowskii*. Head, enlarged.

3. On new Genera and Species of Moths of the Family *Geometridæ* from India, in the Collection of H. J. Elwes. By W. WARREN, M.A. With Notes by H. J. ELWES, F.Z.S.

[Received April 18, 1893.]

(Plates XXX.-XXXII.)

[The following descriptions have been written by Mr. Warren, from specimens selected from my Collection, whilst engaged in working out and arranging the insects of the family Geometridæ in the British Museum. They were intended to have been published as part of a paper on the Lepidoptera of Sikkim, of which two parts have already appeared; but as the total number of species is very large, and the whole of the Indian Heterocera are in course of revision by Mr. Hampson, and as many of these species of which specimens were collected by me in 1886 have remained so long undescribed, I have thought it best not to delay any longer descriptions of the new species.]

I may add that, as I have examined the whole of the large collection formed by the late Mr. Atkinson now in the possession of Dr. Staudinger, and as Mr. Warren has studied the whole of the Geometridæ in the collection of the British Museum and of Mr. F. Moore, there is good reason to believe that few or no synonyms will be now created.

The notes which I have added will give, as far as possible, the localities where these species have been taken, though of many of them, for which I am indebted to the late Otto Möller, Mr. Knyvett, and Mr. Doherty, we know but little at present.

I would refer those who wish to know more of the physical features of the localities in question to my Catalogue of the Butterflies of Sikkim, in the Transactions of the Entomological Society for 1888, and to my notes on Mr. Doherty's collections in the Society's 'Proceedings' for 1892.—*H. J. E.*]

Subfam. *ENOCHROMINÆ*.

XENOZANCLA, gen. nov.

Fore wings with costa gradually curved from base to apex, but somewhat flattened just before the middle; apex produced, blunt; hind margin strongly indented below apex, forming a prominent blunt projection at the end of the 2nd and 3rd median nervules, thence running very obliquely inwards; anal angle rather prominently defined. Hind wings with a small point at end of 2nd subcostal nervule, and a small indentation below it opposite the cell; anal angle squared. Antennæ simple, closely laminated, rather flattened; palpi short, smooth, horizontally porrect, 3rd joint not distinctly separable; tongue invisible (? absent); legs short, stout, hind tibiæ rather thick; spurs excessively short. Abdomen with slight, oblique dorsal tufts. Neuration:—Fore wings: 1st median nervule at $\frac{3}{4}$, 2nd and 3rd close together from lower end of cell; lower radial from a little above the centre of the discocellular; upper radial from upper end of cell; 5 subcostals on a common stem; the 5th starting halfway between end of cell and apex, and running into hind margin below apex; the 4th into costa before apex; 1st, 2nd, and 3rd at equal distances one after the other. Hind wing: costal approximated to subcostal briefly near base; 2 subcostals from upper end of cell; 1st median nervule shortly before end of cell; 2nd just before end; 3rd from lower angle; radial from a little above the centre of the discocellular.

Type, *Xenozancla versicolor*, sp. nov.

The radials both in fore and hind wings are situated much as in the *Geometrinæ* proper, rising above the centre of the discocellular, and not running parallel to the nervules on either side; but the genus appears to me referable with more propriety to the *Enochrominæ*, in which subfamily are other instances of similar position of the radial of the hind wings.

XENOZANCLA VERSICOLOR, sp. n. (Plate XXXII. fig. 17.)

♂. Fore wings, towards the base and along the costa, olive-ochreous, thickly dusted with transverse fuscous dots and strigæ; rest of the wing dull mouse-colour, with few irrorations; 1st line black, very indistinct, at $\frac{1}{3}$; basal area inside of it, more yellowish, less dusted with darker, like the apical costal space; 2nd line represented on costa and inner margin by a black line, curved outward, and between these by 4 black spots on the veins. Hind wings with the 2nd line exactly similar; the whole basal $\frac{2}{3}$ mouse-colour dappled with fuscous and reddish brown; the outer third less irrorated, and yellowish olive towards the inner angle; fringes

(damaged) mouse-colour with a pink tinge; face deep red-brown; head clear, pale ochreous; thorax and abdomen olive-ochreous mixed with darker; abdominal crests tinged with red. Underside dull mouse-colour, dusted with grey, and without distinct markings.

Expanse of wings 24 millim.

Hab. Naga Hills.

Subfam. ORTHOSTIXINÆ.

NAXA ORTHOSTIGIALIS, sp. n.

Fore wings dull whitish, semitransparent, with all the veins blackish, and the costa smoky grey; basal transverse line marked by 3 black, lengthened spots lying on the subcostal, median, and submedian veins; exterior and subterminal lines denoted by similar spots on all the veins; a larger dark oblong cell-spot, and dots on the veins below it. Hind wings like fore wings, but without the basal dots. Underside, with cell-spots and two outer rows of spots only distinct, but these more so than above.

Expanse of wings, ♀ 52 millim., ♂ 48 millim.

Hab. Sikkim; Bhotan.

[Taken by me at Darjiling in July.—*H. J. E.*]

PSILONAXA, gen. nov.

Orthostixis, Motsch. Bull. Mosc. 1866, p. 196.

Orthostixis, S. & W. Cat. 2241.

Zerene, de l'Orza, Cat. Lép. Jap. p. 48, no. 113 (1869).

The species of this genus agree with *Naxa*, Wlk., in the shape of the wings, the scaling, and all points of structure except the antennæ, and herein they agree with *Orthostixis*, Hüb., which likewise has simple antennæ in both sexes.

Type, *P. taicoumaria*, de l'Orza (*Zerene*).

PSILONAXA OBLITERATA, sp. n. (Plate XXXI. fig. 10.)

♀. Like *P. taicoumaria*, de l'Orza, but smaller and feebler; all the spots reduced to mere dark dots; the two lower ones of the basal row nearly absent.

Hab. Bhotan; Naga Hills.

Two worn specimens in Mr. Moore's collection marked *linteata*, M., may be the same; they are ♂ ♀ from Darjiling.

[This was taken at about 7000 feet by Doherty near Mao, Manipur, in August.—*H. J. E.*].

CRYPTOLOBA, gen. nov.

Larentia, Moore, P. Z. S. 1867, p. 654.

Lygranoa, Butler, Ann. & Mag. Nat. Hist. ser. 5. vi. p. 228 (1880).

Fore wings with costa convex, hind margin obliquely curved; hind wings rounded; both wings elongate; hind wing in ♂ with a peculiar chitinous lobe attached to the base of the abdominal margin. Antennæ rather long, strongly pectinated in the ♂,

shortly, but decidedly pectinated in the ♀; palpi long, porrected, both second and terminal joints ending in a rostriform point; legs long.

Type, *Cryptoloba ærata*, Moore (*Larentia*).

CRYPTOLOBA MINOR, sp. n.

♂ ♀. Resembles *C. ærata*, Moore, in general appearance, but *decidedly smaller*; the pale gilded tints of *ærata* are much less prominent; the broad blackish external shade is entire, and not interrupted by any pale subcostal streak, such as in *ærata* runs into the apex; the cell-dot, which in *ærata* is small and punctiform, is here enlarged and diffuse; the pale subterminal line consists of yellowish lunular markings, not confluent towards the anal angle, nor curved outwards as in *ærata*.

Hab. Sikkim.

This is altogether a duller and more insignificant-looking species than *ærata*, Moore, though undoubtedly closely allied.

[I hardly think that when a series of *C. ærata* is examined, this species can be distinguished. I have taken it at from 7000 to 10,000 feet in Sikkim.—*H. J. E.*]

CRYPTOLOBA SUBUSTA, sp. n.

♂. Fore wings pale grey with a slight olive tinge, glossy, without strigæ; basal $\frac{1}{3}$ slightly suffused with fulvous, more so externally, and bounded by the first line, which is represented by small black dots on the veins; 2nd line similar, and followed by a distinct olive-tawny fascia; both lines, as well as the fasciæ which accompany them, are bluntly angulated below the costa; a dark blotch with a paler centre in the middle of the hind margin, between the outer fascia and the fringes, which are grey; a small dark discal dot. Hind wings rather paler grey, with a dark discal dot and a faint, irregular submarginal darker fascia. Face olive-grey; thorax darker; abdomen cinereous.

Underside: fore wings dull cinereous; hind wings paler.

Expanse of wings 20 millim.

Hab. British Bhotan.

[I took this in very dense forest at about 9000 feet on the Rishilah, on Aug. 8th. It is a very distinct species.—*H. J. E.*]

CRYPTOLOBA TRINOTATA, sp. n. (Plate XXXII. fig. 12.)

♂. Fore wing with an ochreous-olive tinge, irregularly dusted with short black strigæ; the 2 cross lines broad, fulvous, indefinite; the first at $\frac{1}{3}$, vertically sinuous; the 2nd at $\frac{2}{3}$, curved outwards below costa, then running parallel to hind margin; each starts from a black blotch on the costa, the exterior the larger; beyond this, a third small costal black blotch; the inner line is slightly edged externally, and the outer line internally with black dots; basal area more or less suffused with fulvous; on the hind margin just below the apex is a small blackish spot, and a longer one at

the anal angle; fringe iron-grey chequered with pale olive. Hind wings dull whitish, speckled with grey at the base; the outer half, the inner margin, and a large discal spot dark grey. Head and thorax olive-ochreous; abdomen grey. Underside pale straw-colour, which in the fore wing is almost wholly suffused with iron-grey; patches along the costa, hind margin, and inner margin alone remaining pale. The hind wings have a broad dark marginal band and discal spot.

Expanse of wings 22 millim.

Hab. Sikkim.

[The type, which is unique, was taken by Möller's native collectors at about 7000 feet.—*H. J. E.*]

ISOLOBA, gen. nov.

Like *Cryptoloba*, Warr., but with the ♀ antennæ not plumose, but moniliform; the antennæ shorter, with finer and longer lateral branches; wings glossy, with two straight brown transverse lines, and without the silvery metallic spots and streaks that characterize *Cryptoloba*.

Type, *Isoloba bifasciata*, sp. n.

ISOLOBA BIFASCIATA, sp. n. (Plate XXXII. fig. 18.)

♂ ♀. Fore wings glossy straw-colour, finely and irregularly dusted with black atoms; 1st and 2nd lines at $\frac{1}{3}$ and $\frac{2}{3}$ respectively, thick, brown, nearly straight, being slightly recurved only towards the costa; the 1st immediately followed, in the centre of the wing, by a thicker cluster of black atoms; the 2nd by a still larger blackish blotch; 3 small oblique black dashes on the costa before apex, and 2 black flecks, in an oblique line, from the apex to the black blotch beyond the 2nd line; fringes straw-colour, broadly chequered with black at the ends of all the veins. Hind wings duller straw-colour, scarcely dusted with darker, with the dark chequering of the fringes much narrower and less conspicuous. Head, palpi, and thorax the same colour as the brown transverse lines; the abdomen mottled straw-colour and brown. Underside of both wings bright straw, mottled with dark atoms, and with a diffuse dark grey shade beyond each of the 2 lines on the front wing; the black chequering of the fringes visible also beneath.

Expanse of wings 26 millim.

Hab. Sikkim.

[Not rare from Tonglo to Sundukpho on the Nepal frontier, 10,000–12,000 feet.—*H. J. E.*]

LOBOGONIA, gen. nov.

Closely related to *Cryptoloba* and *Isoloba*, with which it agrees in neurulation and scaling, but characterized by the angulation in the hind margin of both wings.

Type, *Lobogonia ambusta*, sp. n.

LOBOGONIA AMBUSTA, sp. n. (Plate XXXI. fig. 21.)

♂. Fore wings pale yellowish ochreous, with a very few scattered fuscous strigæ; 2 transverse, straight, olive-brown lines, at $\frac{1}{3}$ and $\frac{2}{3}$ respectively, each starting from a darker costal blotch; costa itself finely speckled with black; subterminal line indicated by a small blackish costal spot, another on the inner margin, and a third opposite the cell; an oblong brownish blotch almost touching the 2nd line in the middle, just beyond it; fringes more reddish, edged with black from apex to elbow, and with 2 black spots below it. Hind wings like fore wings, but with a single dark line just in the centre, and the fringes less touched with black. Head, thorax, and abdomen ochreous; antennæ the same, but much dusted with darker. Underside fulvous-ochreous, much irrorated with transverse grey strigæ, which are massed into a blotch towards the base of the fore wings; both wings with distinct dark cell-spot, and central broad dark line; inner margin of fore wings clear ochreous, quite without markings.

Expanse of wings 30 millim.

Hab. Khasia Hills.

[Taken at light by me at about 5000 feet in Sept.—H. J. E.]

MYOSTOMA, gen. nov.

Fore wings with costa nearly straight, slightly curved only at base and before apex; apex produced, blunt; hind margin subfalcate below apex, with an elbow in the middle; the anal angle rather square; hind wings rather narrow, pear-shaped; antennæ ♀ simple, ♂ faintly pubescent; forehead rounded, smooth; palpi very short indeed, hardly perceptible; tongue weak. Neuration:—Fore wing: 1st median nervule at $\frac{2}{3}$; 2nd and 3rd from the end of cell; lower radial from the centre of the transverse vein; upper from the upper angle of cell; 1st subcostal free; 2nd and 3rd out of 4th shortly before apex, 5th out of 4th at $\frac{1}{3}$ from cell. Hind wings, ♀: costal and subcostal nervures strongly convex towards each other, approaching, but not touching, about middle of cell; 1st subcostal nervule rising just before end of cell; discocellular bluntly angulated, radial from the angulation; 1st median nervule at $\frac{2}{3}$, 2nd and 3rd from a point at lower end of cell.

Hind wings, ♂: with the costal and subcostal running more or less parallel to middle of cell; subcostal nervules from end of cell; discocellular angulated; the lower end of cell produced and rounded; 1st median nervule at $\frac{2}{3}$, 2nd and 3rd near each other from the rounded extremity of cell; radial at the same distance just beyond the 3rd.

Type, *M. straminea*.

This difference in the neuration in the two sexes is repeated in the next genus, where the abnormality of neuration in the ♂ is still more noticeable. In *Myostoma* the wings are longer and narrower in proportion in the ♂ than in the ♀. I have described

the ♂ separately, as it differs somewhat from the ♀, but I think it is safely referable here.

MYOSTOMA STRAMINEA, sp. n.

♂. Fore wings very pale straw-colour, shaded with pale olive-fulvous; the lines darker; 1st line at $\frac{1}{3}$ of the costa, runs outwards and is angulated below the costa, then runs obliquely inwards to the inner margin at $\frac{1}{4}$; exterior line at $\frac{3}{5}$, similar to the inner line; space beyond to hind margin darker than the rest of the wing; a dark oblique streak from apex to the angulation of the outer line; a slightly darker shade on the costa before apex; both transverse lines more strongly marked at their origin on costa; an irregular indistinct pale submarginal fascia; base of fringes brown; fringes themselves pale straw; base of wing and costal region shaded with fulvous. Hind wings pale straw, with cell-spot distinct and 2 very indistinct darker bands towards hind margin; underside the same, with the lines more distinct. Head, thorax, and abdomen straw dusted with fulvous.

Expanse of wings 26 millim.

♀. Wings dull straw-colour, finely dusted with fuscous; cross lines very indistinct, starting from dark brown costal flecks, and only visible at the veins; 1st irregularly vertical at $\frac{1}{3}$, 2nd at $\frac{2}{3}$, strongly angulated below the costa and then parallel to the hind margin; an indistinct dark costal spot before apex, and a stronger one on the hind margin below the apex; an indefinite dark discal spot; hind wings with the discal spot and a narrow submarginal band darker. Head, thorax, and abdomen dark greyish fulvous; underside dull ochreous, darker along costa of fore wing; discal spot of hind wing and subapical spot on fore wing both conspicuous.

Expanse of wings 24 millim.

Hab. Sikkim.

[Taken at light by me on Aug. 4th at Darjiling.—*H. J. E.*]

DYSETHIA, gen. nov.

Fore wings triangular; costa straight, convex just before apex, and faintly concave in the middle; hind margin obliquely curved, slightly bowed above the anal angle, which is distinctly marked; apex of the ♂ somewhat falcate. Hind wings of ♀ $\frac{2}{3}$ as wide as fore wings, with the hind margin rounded; of ♂ not more than half as broad as fore wings, with the hind margin straight. Antennæ rather thick, simple in ♀, rather strongly ciliated in the ♂; palpi short, horizontally porrect, laxly scaled, the 3rd joint very minute; tongue present, but weak. Hind tibiæ of ♂ not thickened, with two pairs of spurs. Neuration:—Fore wings: cell half the length of the wing; discocellular vertical; 1st median nervule from $\frac{1}{2}$ of the cell; 2nd and 3rd together from the lower end, the 3rd straight in the ♂, somewhat arched in the ♀; lower radial from the middle of the discocellular; upper radial from

upper angle of cell; 5th subcostal nervule close to the angle, curved upwards at first, so as nearly to touch the common stem of the other 4, then running nearly parallel to upper radial into the hind margin below the apex; common stem of the rest rising at $\frac{1}{2}$ of cell; 1st leaving it just beyond the point where the 5th is approximated to it; 2nd and 3rd both shortly before apex; 4th running into apex itself. Hind wings, ♀: with the discocellular vertical, costal and subcostal approximating at a point not far from base, the subcostal branches forking as usual from upper angle of cell, the lower subcostal reaching the hind margin at $\frac{1}{3}$ from interior angle; 1st median nervule only a little before lower angle of cell, 2nd and 3rd together from the angle; radial from the centre of the discocellular. ♂: With the cell much broadened, and somewhat distorted; 2nd subcostal curving strongly downwards away from the 1st, and reaching the hind margin well below the centre; discocellular running obliquely inwards from the curvature of the 2nd subcostal; 1st median just before, 2nd and 3rd from the lower end of cell; radial just above the origin of the last 2; inner margin fringed thickly with long hairs.

Type, *Dysethia bicommatata*, sp. n.

The difference in the neurulation of the hind wings of the sexes is somewhat analogous to that which occurs in the Larentiad genera *Anaitis*, &c.

DYSETHIA BICOMMATATA, sp. n. (Plate XXXII. fig. 1.)

♂ ♀. Fore wings deep fuscous-brown, sprinkled, especially towards costa and base, with pale lilac scales; lines blackish:—1st at $\frac{1}{4}$ runs obliquely outwards, and reaches the inner margin not much before its centre, forming a strongly marked angulation on the submedian; 2nd a little before the middle, forms an irregularly triangular mark on costa only, nearly touching the large oval blackish discal spot; 3rd at $\frac{3}{4}$ forms a curved, blackish, outwardly pointed costal spot, then a sinuous, pale-edged line to near the anal angle; submarginal line denticulate, formed of pale lilac scales, most distinct towards the costa, where it is preceded by a dark costal patch; fringe fuscous-brown; basal line of fringes and all the nervules beyond the middle of the wing yellowish. Hind wings of ♀ as the fore wings, with a dark brown submarginal curved line; of ♂ dull greyish ochreous, with a diffuse dark shade in place of the line which is visible in the ♀. Head, thorax, and abdomen concolorous with ground-colour of fore wings. Underside dull fuscous, with the exterior line and discal spots only darker; in the ♂, the underside is rather strongly tinged with tawny, especially along the costa; the ♀, if fresh, would probably show the same tint; in the ♂, owing to the displacement of the radial, the dark discal spot, which is very diffuse, is situate almost at the lower angle of the cell.

Expanse of wings, ♀ 38 millim., ♂ 34 millim.

Hab. Sikkim.

It is worthy of observation that the pale lilac scales, which are

sparsely scattered over the upper wings, soon wear off, so that the insect assumes a dingy appearance.

[Specimens from the Naga Hills taken by Doherty at 5000–7000 feet agree with those described.—*H. J. E.*]

Subfam. PSEUDOTERPNIINÆ.

DINDICA MÖLLERI, sp. n.

♂ ♀. Nearly allied to *D. crocina*, Butler; of the same size, but differing in the following respects:—The fore wings are much darker, being largely suffused with brown; the apical white patch is absent; the submarginal line is represented by a series of whitish spots. The hind wings have the abdominal half smoky green, which tint also extends over the thorax and abdomen; the hind margin of the hind wings is broadly blackish; and there are 3 distinct rounded black blotches besides the central one. Underside with all the black markings more prominent. Possibly a local form of *D. crocina*, Butler.

[I have a long series of this species taken at from 5500 to 8000 feet in Sikkim, where it seems to be much commoner than *D. crocina*, of which I have only two specimens taken by natives. It appears quite distinct.—*H. J. E.*]

TERPNA OPALINA, sp. n. (Plate XXXII. fig. 14.)

♀. Fore wing pale olive-green, thickly sprinkled with transverse purple strigæ, except in the subcostal region, where the ground-colour becomes pale greenish white; the two transverse lines purplish, the first forming two blunt teeth, and broadly edged internally with greenish white; the whole basal space nearly filled up with the same tint, except below the median vein, where there is a patch of mixed olive and purplish scales; 2nd line strongly dentate, describing an oblique outward curve below the costa, then a vertical curve beyond the cell-space, and approaching the 1st line on the submedian fold, where it is followed by a small, pure, pale greenish-white spot; a large dull purplish-grey, kidney-shaped spot at the end of the cell; the costal edge of the space between the two lines, and the whole width of the band below the median vein thickly strewn with purple strigæ; costa between the 2nd line and apex with a small patch of purplish and olive scales, surrounded with pale greenish white; rest of the submarginal space thickly strewn with the purplish strigæ, which towards the edge itself are clustered along the veins; submarginal line faintly indicated in greenish white. Hind wings entirely dull olive-green, thickly beset with purplish strigæ, with an oval, paler-centred purplish cell-spot; fringes mottled, greenish white and olive, with a fine dark-purple basal line. Head, face, and thorax pale greenish white; abdomen mottled with darker. Underside pale opal, tinged at the extreme base with yellow and along the disk with purple; the cell-spots purple and distinct.

Expanse of wings 50 millim.

[I have four specimens of this distinct species taken by native collectors on the Nepal frontier at 7000–8000 feet.—*H. J. E.*]

PERISSOLOPHIA, gen. nov.

Akin to *Terpna*, H.-S., in having the abdominal segments armed with erect tufts of hair, and with one dense and extraordinarily long one behind the thorax; differing from all allied genera in the shape of the wings; fore wings longer in proportion, not so triangular, with the hind margin curved and denticulated; hind wings not prolonged in the direction of the body, with rounded and denticulate hind margin; densely clothed with long hairs towards the base. Antennæ strongly pectinated nearly to the tip, the pectinations being longer than in *Terpna*; palpi with 2nd joint hairy beneath; 3rd joint, bluntly rounded, porrected in front; abdomen beneath and all femora hairy.

Type, *P. subrosea*, sp. n.

PERISSOLOPHIA SUBROSEA, sp. n.

♂. Fore wings dull olive-green, suffused with pink and speckled with purplish atoms; lines indistinct, purplish; 1st oblique, irregularly angular; 2nd running obliquely outwards towards the centre of the hind margin, then irregularly dentate, parallel to it; submarginal line faintly indicated by three white arrow-heads below the costa; an oblique blackish dash at the end of the cell. Hind wing towards the base pinkish ochreous; costal half wholly pink; hind margin greenish, both flecked with purple. Head and thorax dull olive-green, like the fore wing; abdomen more ochreous, like the hind wing. Underside shining ochreous, strongly suffused with pinkish, especially along the costa; abdomen beneath and femora of all the legs beset with thick ochreous hairs.

Expanse of wings 46 millim.

[Several specimens of this very distinct species were taken by native collectors in May and June in the interior of Sikkim.—*H. J. E.*]

ACTENOCHROMA, gen. nov.

Distinguished from *Hypochroma*, Guen., by the simple antennæ of the ♂.

Type, *A. muscicoloraria*, Wlk. (*Hypochroma*).

ACTENOCHROMA FARINOSA, sp. n.

♂. Resembles *A. viridaria*, Moore, but a little larger and longer-winged; dull cinereous green, varied with whitish and pale grey; all the markings much as in *viridaria*, but without the pink spots so conspicuous in that species. Underside with only a very faint indication of a darker submarginal band, but with a distinct, large blackish central spot on each wing.

[A single ♂ specimen taken in Lahoul, North-west Himalayas, at 12,300 feet, on Sept. 9, by Capt. Grahame Young. It seems a distinct species.—*H. J. E.*]

SPHAGNODELA, gen. nov.

Fore wings rather lengthened; the costa gradually curved throughout; hind margin evenly rounded. Hind wings with hind margin rounded, the inner angle rather prominent. Forehead shelving, slightly prominent; vertex with erect hairs; thorax and patagia hairy; abdomen with segmental crests; palpi not long, porrect, ascending, the third joint inconspicuous; tongue present; antennæ of ♂ pectinated, the pectinations short, curved, and directed slightly forward; legs and underside of thorax hairy. Neuration: cell half as long as wings; discocellular angulated; lower end of cell wedge-shaped; 1st submedian at $\frac{2}{3}$, 2nd at $\frac{5}{6}$, 3rd from end of cell; lower radial from above the angulation of discocellular; upper from the upper angle; 3rd, 4th, and 5th subcostals on a common stem; 1st and 2nd the same. Hind wings: costal running near subcostal for a short distance; two subcostals on a short stem; the rest as in fore wings.

Type, *S. lucida*, sp. n.

SPHAGNODELA LUCIDA, sp. n. (Plate XXXII. fig. 13.)

♂. Fore wings bright moss-green, varied with paler yellowish green and thickly dappled with coarse blackish dots; lines blackish, denticulate, first at $\frac{1}{4}$, vertical; second at $\frac{2}{3}$, sinuous, approaching the first line by a sinus above the inner margin; submarginal line composed of a curved series of black spots, each followed by some silvery-white scales; some irregularly scattered white scales also follow the second line, and are dusted over the disc; cell-spot large, dark; fringes olive-green, with black spots at the ends of the veins, and an indistinct dark festooning containing paler scales. Hind wings yellowish ochreous, tinged with green, especially towards the hind margin, and thickly mottled with black transverse strigæ; fringes yellowish green. Palpi dark brownish green; face and vertex pale yellowish green; thorax and abdomen olive-green; antennæ pale yellowish; with a white basal joint. Underside pale ochreous, dappled with fuscous cinereous, the fore wing almost entirely suffused with cinereous except along the hind margin.

Expanse of wings 48 millim.

Hab. Sikkim.

This species differs from *usneata*, Feld., not only in its smaller size but in the absence of any definite lines and markings on the hind wings; it is altogether a much brighter, gayer-looking insect.

[Not an uncommon species on the Nepal frontier of Sikkim, where I have taken it at from 10,000 to 13,000 feet in July.—*H. J. E.*]

Subfam. GEOMETRINÆ.

CHLORODONTOPERA, gen. nov.

Odontoptera, Moore, P. Z. S. 1867, p. 621.

Fore wings elongate; costa nearly straight; apex blunt; hind margin with 2 deep excavations beneath apex, with a prominent

tooth at end of the last subcostal and median nervules ; the upper half vertical ; the lower very oblique : hind wings broad, strongly crenulate, with a deeper excavation between the last subcostal and last median nervules opposite the cell : palpi porrect, extending beyond face ; antennæ of ♂ pectinated ; hind tibiæ of ♂ rather swollen, with 4 spurs.

Type, *C. chalybeata* (*Odontoptera*), Moore.

As the hind wings possess a distinct radial, this genus must be transferred to the *Geometrinæ*.

CHLORODONTOPERA ÆRUGINATA, sp. n.

♂. Fore wings olive-green, with very indistinct markings, which consist of a rusty discal spot and 2 transverse lines, indicated by a curved series of whitish spots ; the first curved at $\frac{1}{3}$, the second sinuous, from $\frac{5}{6}$ of the costa to $\frac{2}{3}$ of the inner margin ; the first is edged outwardly and the second internally by a very faint rusty shade ; fringes dull rusty ; hind wings the same ; head, thorax, and abdomen all dull olive-green. Underside much brighter olive-green, tinged with rusty yellow ; the 2 lines and the discal spot being rust-red, and the costa for $\frac{1}{3}$ from the base broadly dull red ; fringes brown-black.

Expanse of wings 28 millim.

Hab. Naga Hills.

Much smaller than, and different of aspect from, the typical species, but structurally congeneric.

[Four males, which agree perfectly, were taken by Doherty at 5000 to 7000 feet in the Naga Hills.—*H. J. E.*]

GELASMA, gen. nov.

Fore wing with the costa curved and short in proportion to the breadth of the wing ; apex distinct, but not aculeate ; hind margin curved. Hind wings with blunt and short tooth, the hind margin on each side of it curved. Antennæ of ♂ with short pectinations, which only extend to $\frac{1}{2}$ of the length of the shaft ; hind tibiæ thickened, with 4 short spurs.

Type, *G. thetydaria* (*Iodis*), Guen.

GELASMA CONCOLOR, sp. n.

♀. Fore wings dull grass-green ; the costa finely dark purple, minutely spotted with ochreous ; a fine dark line of the same tint along the base of the fringes, interrupted by a very minute pale dot at end of each vein ; a distinct and rather large black discal dot ; the usual lines paler ; the first indistinct, denoted by pale dots on the veins ; the second, parallel to the hind margin, is represented by linear dark dots on the veins, tipped externally with white, the white spot on the inner margin being much larger and more conspicuous than the rest. Hind wings like fore wings ; fringes of both wings concolorous. Head and thorax deep grass-green ; abdomen above olive-green ; antennæ and fillet distinctly pale

ochreous. Underside pale bluish white, with the discal dots visible; costa and basal fringe-line distinct, as on the upperside.

Expanse of wings 26 millim.

Hab. Sikkim.

GELASMA GRISEOVIRIDIS, sp. n. (Plate XXXI. fig. 6.)

♂. Fore wings dull sea-green, tinged with grey, with two whitish undulating lines, the first at $\frac{1}{4}$, oblique outwardly; the second at $\frac{3}{4}$, parallel to the hind margin; costa faintly and minutely speckled with yellow and purple; hind wings with the exterior line only; both wings with a darker green linear cell-spot: head and thorax green; abdomen ochreous (? faded). Underside pale silvery green.

Expanse of wings 24 millim.

Hab. Naga Hills.

[Taken by Doherty at 5000–7000 feet.—*H. J. E.*]

HEMITHEA RUBRIPICTA, sp. n.

♂. Fore wings pale yellowish green, most probably deeper green when fresh; costa brick-red, dotted with black; discal spot large, black; 1st line indistinct, partly represented by red spots on the veins; 2nd line, parallel to hind margin, represented by linear red spots on the veins, that on the inner margin swelling out into a more distinct spot. Hind wings the same; fringes of both wings concolorous, with no darker basal line. Vertex and thorax concolorous with ground-colour of wings; abdomen brown-red, with the 2 antepenultimate segments of the wing colour; face, palpi, and antennæ brick-red. Underside pale yellowish, rather glossy, with the costa reddish; discal dot of the fore wing alone visible; legs beneath washed with reddish.

Hab. Sikkim. Also in Mr. Moore's Collection unnamed.

HEMITHEA NIGROPUNCTATA, sp. n. (Plate XXXI. fig. 4.)

♂. Wings pale grass-green, thinly scaled, with two whitish lines, the exterior the more distinct and edged internally with dark green; a small *black* cell-spot in each wing; costa of fore wing ochreous, with dark dustings. Underside pale whitish green, without any markings.

Expanse of wings 30 millim.

Hab. East Pegu. [Taken in spring by Doherty.—*H. J. E.*]

HEMISTOLA, gen. nov.

Fore wings with costa weak and gradually curved; apex blunt; hind margin slightly oblique, hardly convex; anal angle squared. Hind wings kite-shaped, with a decided but not acute tooth in the centre of hind margin. Palpi short, ascending obliquely in front of forehead, which is slightly prominent; antennæ of ♂ distantly pectinated, the pectinations themselves curved, beginning and ending short; the apex filiform; hind tibiæ slightly thickened, with 4 short spurs; hind tarsi abbreviated; discocellular strongly

angulated, especially in fore wings, the radial starting well above the angulation; in the hind wings the 2 subcostal nervules and the last 2 median are shortly stalked. Scaling loose and thin, so that the wings appear semidiaphanous.

Type, *Hemistola rubrimargo*, sp. nov.

HEMISTOLA RUBRIMARGO, sp. n. (Plate XXXI. fig. 3.)

♂. Fore wings pale bluish green, with paler, somewhat ochreous costa, spotted with reddish, the extreme edge red; fringes white, with a distinct red basal line (entirely absent in 1 example), which is interrupted by a white dot at end of each vein, and with their apices reddish; transverse lines white, evenly denticulated, approaching each other on the inner margin. Hind wings like fore wings, but with the first line hardly expressed. Head, thorax, antennæ, abdomen, and legs dull ochreous (perhaps more bluish when fresh); middle segments of abdomen reddish above; patagia pale bluish. Underside pale bluish white, with the base of the costa reddish.

Expanse of wings 30 millim.

Hab. Sikkim.

A specimen in the Brit. Mus. Collection from Darjiling.

[Several specimens of this very pretty distinct species were taken by me on Tonglo at 10,000 feet in July.—H. J. E.]

MICROLOXIA, gen. nov.

Fore wings triangular; costa nearly straight; apex rather prominent, but blunt; hind margin well rounded, not very oblique. Hind wings with hind margin rounded. Forehead slightly prominent. Palpi short, porrect. Antennæ of ♀ subdentate; of ♂ pectinated for $\frac{3}{4}$ of the length. Neuration normal.

Type, *M. herbaria*, Hübn.

The genus runs parallel to *Nemoria*, but is distinguished by the pectinated antennæ of the male.

MICROLOXIA EFFORMATA. (Plate XXXI. fig. 2.)

♂. Fore wings pale apple-green, with a broadish white oblique streak from $\frac{3}{4}$ of the inner margin to $\frac{1}{5}$ of the costa; costa and all the veins picked out with white. Hind wings the same, with a white curved submarginal fascia. Head, thorax, and abdomen green. Underside duller paler green, with the veins whitish; the white streaks of the upperside only showing through; base of the costa blackish.

Expanse of wings 26 millim.

Hab. Sikkim.

This species may be distinguished at once by the obtusely produced inner angle of the hind wings.

COMOSTOLA CÆRULEA, sp. n. (Plate XXXI. fig. 1.)

♂. Fore wings very pale azure; costa yellow speckled with purple;

fringes and extreme hind margin yellow, preceded by a purple festoon, which runs in a short distance along the inner margin; at $\frac{3}{4}$ of the costa a funnel-shaped purple marking obliquely curved outwards to the radial, and reappearing on the inner margin before anal angle as a small cone-shaped spot. Hind wings similar; but without any costal markings. Head and palpi reddish; antennæ yellowish, touched with red; abdomen ochreous, with red dorsal markings; thorax azure. Underside paler azure, with costa of fore wings and fringes yellowish.

Expanse of wings 26 millim.

Hab. Sikkim.

[I have only seen two males of this very distinct species, both taken by natives.—*H. J. E.*]

ULIOCNEMIS, gen. nov.

Fore wings broad, triangular; costa gradually arched throughout; apex blunt; hind margin rounded, hardly oblique; anal angle well marked. Hind wings broad, with the interior angle rounded and the anal angle produced and square; hind margin variously rounded, sometimes cut off squarely. Palpi porrect, in ♂ quite short, in ♀ much longer. Antennæ of ♂ with long pectinations, which are themselves pubescent; in ♀ also pectinated, but much less strongly than in ♂. Fore tibiæ of ♂ with a tuft of hair underneath. Neuration normal. Scaling delicate, fine, and silky.

Type, *Uliocnemis cassidara*, Guen.

The tuft of hairs on the fore tibiæ of the male is often difficult to be made out, and is liable to be worn off.

ULIOCNEMIS ALBIMARGINATA, sp. n.

♀. Wings pale grass-green; fore wings with two white vertical transverse lines; the first slightly curved outwards at $\frac{1}{4}$; the second at $\frac{3}{4}$, sinuous from costa to the 3rd median nervule, then straight towards the anal angle, before reaching which it is diverted rectangularly inwards, including at the angle a small brown patch; an indistinct, irregularly sinuous, submarginal whitish line; the green space between the exterior and the submarginal line is interrupted below the costa by a suffused white patch; nervules towards the hind margin whitish; fringes whitish green, a minute black-brown dot at their base between the nervules; 2 larger ones at the anal angle beyond the brown patch; discal dot small, brown. Hind wings with the discal marking linear, brown; exterior line indistinctly white, starts from the costa level with the extremity of the exterior line of the fore wing, runs vertically to the lower subcostal, along which it goes nearly to the hind margin, then curves along the hind margin, widening in its course to above the anal angle; space between this line and the hind margin filled up with black-brown from the costa to the radial; thence white, more or less tinged with green in the middle. Head, thorax, and abdomen (probably) green; underside of abdomen white. Underside

of wings whitish green, with the dark discal spots and apical blotches showing through.

Expanse of wings 32 millim.

Hab. Sikkim.

Although the example is a ♀, there is no doubt about its being an *Uliocnemis*, from the great similarity to others of the genus, especially to a yet undescribed species from Japan in the B. M. Collection.

[Taken in June by O. Möller.—*H. J. E.*]

ULIOCNEMIS ALBIRADIATA, sp. n.

♀. Wings grass-green, with some very faint, paler, transverse undulations; costa broadly white, becoming greener at the base; a white basal blotch; first line at $\frac{1}{6}$, obliquely curved, delicate; the discocellular marked by a similar white curve, convex to the 1st line; all the veins neatly white; the green ground-colour is concisely bordered at $\frac{2}{3}$ by a broad whitish-ochreous patch, which occupies the rest of the wing except the apical third, where the green ground-colour reappears, traversed by the white veins, and transversely by an obliquely curved white line, starting from the costa before the apex, and disappearing where it joins the pale patch above the centre of the wing; fringes whitish, with darker dividing lines; some very minute dark dots between the veins below the apex, one larger in the middle of the hind margin, and a black line at the anal angle, before which there is a slight fuscous discoloration of the pale ochreous blotch. Hind wings like fore wings, but with the ground-colour restricted to a rhomboidal basal area, the ochreous pale patch running up along both the costa and abdominal margins; towards the 2 angles the fuscous discoloration of the fore wings is repeated to a still greater extent; 2 or 3 large dark dots before the fringe at the inner angle. Head, thorax, and abdomen green, underside of abdomen white. Underside of wings bluish green towards the base, with a broad white border containing a brown patch at the inner angle of the hind wings, and at the anal angle and in the centre of the hind margin of the fore wings.

Expanse of wings 36 millim.

Hab. Naga Hills.

[A very lovely and distinct species, taken by Doherty at 5000–7000 feet.—*H. J. E.*]

ULIOCNEMIS DELINEATA, sp. n. (Plate XXXI. fig. 14.)

♂ ♀. Fore wings pale yellowish green, covered with fine irregularly undulating yellowish strigæ; the costa broadly pale yellowish to the tip; all the veins yellowish; 1st line straight, oblique, whitish; 2nd line, starting at about $\frac{4}{5}$ of the costa, runs straight towards the anal angle, stopping short and turning abruptly basewards along the 1st median nervule, and then reaching the inner margin before the angle as a vertical broader blotch; discal dot

minute, dark ; fringe green, with pale yellowish basal line, and one or two minute dark dots above the anal angle. Hind wings similar, but the second line runs nearer the margin, as in *pictipennis*, Butler, forming a short indentation near the middle, and a deeper, more acute one near the anal angle, which is filled up with pale pink ; 2 small black dots at base of fringe above anal angle, and some black scales below the apex. Collar and thorax ochreous like the costa ; abdomen discoloured, probably greenish ; underside wholly pale.

Expanse of wings 26 millim.

Hab. Sikkim.

[I have only seen specimens from the interior.—*H. J. E.*]

ULIOCNEMIS ? SIGNIFERA, sp. n. (Plate XXXI. fig. 15.)

♀. Fore wings pale apple-green, finely dappled with whitish ; 1st line at $\frac{1}{3}$, sinuous, 2nd line at $\frac{2}{3}$, irregularly sinuous ; costa, basal and marginal areas whitish, the latter mixed with green just beyond the 2nd line ; along the submedian fold a white bidentate projection runs from the outer white area nearly to touch the basal portion ; cell-spot round, blackish ; fringes white. Hind wings much more largely green ; costa and extreme hind margin white, the former and the apical $\frac{1}{3}$ of the latter suffused with grey ; a dark blackish straight dash runs from the costal streak obliquely inwards for $\frac{1}{3}$ the breadth of the wing ; fringes of both wings with minute dark dots at base between the veins, and with 2 more distinct just above the anal angle. Face, antennæ, head, thorax, and abdomen all apparently white. Underside of fore wings wholly green except the inner margin, which is white tinged irregularly with fuscous ; 2nd line white, slender. Hind wings pure shining white, with a fine sinuous green line at $\frac{2}{3}$ and a dark fuscous cell-spot ; inner angle likewise fuscous-tinged. Legs and underside of abdomen white ; fore legs (apparently) tinged with fuscous.

Expanse of wings 36 millim.

Hab. Momeit, Burmah.

[Taken by Doherty in June 1890.—*H. J. E.*]

BERTA ALBIPLAGA, sp. n. (Plate XXXI. fig. 5.)

♀. Wings dull olive-green ; first line at $\frac{1}{3}$, represented by whitish dots on the veins, connected by a very fine white line ; second line at $\frac{2}{3}$, starts from a white costal spot, forms 2 regular bilobed outward sinuses, and one between them inward, and reaches the inner margin not far from the first line ; at each nervule the line forms a white spot ; subterminal line composed of a series of white spots ; a larger white spot on costa at the middle above the white and diffuse cell-spot ; fringe green, with white dots along the base. Hind wings like fore wings, but with the base and a broad central band white ; space between the white band and base wholly green ; marginal space green, with a repetition of the two outside lines of

the fore wings. Head, thorax, and abdomen concolorous with ground-colour. Underside whitish, without any markings.

Expanse of wings 22 millim.

Hab. Naga Hills.

[Taken at about 2000 feet by Doherty in Sept.—*H. J. E.*]

EUCHLORIS (?) *OVIFERA*, sp. n.

♀. Wings blue-green; fore wings with costa distinctly yellow; first line represented by 2 oval white spots, one on the median, the other on the submedian; exterior line represented by 6 similar oval white spots, on the 2 radials, the 3 median nervules, and the submedian nervure respectively, the lower 3 running obliquely outward in a straight line, the upper 3 more vertically; a round white cell-spot. Hind wings rather paler than fore wings, with faint indications of the exterior row of pale spots; fringes of both wings whitish yellow. Head, thorax, abdomen, and legs green; antennæ yellowish white; face red. Underside of the fore wings grey on the disk, streaked with green, green wholly only towards apex; hind wings wholly green.

Expanse of wings 26 millim.

Hab. Tonglo, Sikkim.

[Of this very delicate and, when fresh, beautiful species I took several specimens at 10,000 feet in July.—*H. J. E.*]

DYSPTERIS ASIATICA, sp. n. (Plate XXXI. fig. 8.)

♂. Fore wings rather dull bluish green, with 3 white oblique lines—the first at $\frac{2}{5}$, curved, and towards the inner margin irregularly sinuous; the second, irregularly dentate, runs obliquely from $\frac{2}{3}$ of the inner margin, where it is approximated to the first line, to the costa just before the apex; the submarginal line is finer, and more regularly dentate, close to the hind margin; a distinct white cell-spot. Hind wings white over the whole costal and basal areas, becoming green only towards the anal angle, where can be discerned the beginnings of 2 white lines corresponding in position and width to the exterior and submarginal of the fore wings; the veins all marked in green; fringe of both wings whitish green. Head and thorax dark blue-green; abdomen paler green. Underside like upper, but duller.

Expanse of wings 30 millim.

Hab. Sikkim.

[I took one on Aug. 4th at light at 7000 feet, and have others from the interior.—*H. J. E.*]

Subfam. *IDÆINÆ*.

PROBLEPSIS CONJUNCTIVA, sp. n.

♂. Fore wings white; ocellus round the outer rim olive-ochreous, spotted with metallic silver; the centre whitish, thickly dusted with reddish grey; the lower part between the 1st and

3rd median nervules filled up with black, the nervules themselves ochreous; a cloudy ochreous-brown oblique fascia from its lower end to the inner margin, and a small cloudy space on the costa above it; a sinuous, somewhat diffuse, ochreous exterior fascia, and a subterminal one consisting of interrupted dark grey cloudy spots; fringe white. Hind wings with a broad ochreous fuscous fascia, continued from the fore wings and almost obliterating the dark ocellus; exterior fascia greyer, broader and less sinuous than in fore wings. Underside with costa, ocelli, and exterior fascia all strongly marked, fuscous grey. Head, face, palpi, and vertex blackish; thorax and abdomen white; antennæ brownish. Differs from all other species by the dark markings of the underside.

Expanse of wings 44 millim.

Hab. Sikkim.

[Though the general aspect of this species might lead to its being mistaken for *P. deliaria*, it seems very distinct. I have one specimen only, from the interior.—*H. J. E.*]

SOMATINA LAPIDATA, sp. n. (Plate XXXII. fig. 7.)

♀. Fore wings pale stone-colour, suffused with darker, and irrorated with dark grey atoms and strigæ; a dull oblique basal line, and a thicker exterior line, bluntly angulated beneath the costa, can be traced; cell-spot small, dark; hind margin broadly dark olive-grey, with an aggregation of dark transverse strigæ. Hind wings with the basal third thickly dappled with dark grey atoms, the outer $\frac{2}{3}$ with dark grey transverse strigæ, leaving a narrow pale curved space between the two darker portions, corresponding to a like paler space on the fore wings between the exterior line and the submarginal shade; fringes of both wings dark grey, with two paler lines and a black basal line. Face, palpi, vertex, and collar dull olive-green; patagia and thorax whitish grey; abdomen stone-colour mottled with dark grey. Underside pale ochreous, the veins yellower, with all the markings by contrast darker; a distinct dark cell-spot in both wings.

Expanse of wings 34 millim.

Hab. Naga Hills (*Doherty*).

This species is smaller than, and has a slightly dissimilar facies from, the others of the genus.

LIPOMELIA, gen. nov.

Fore wings with costa straight from the base, and gradually convex towards apex, which is bluntly rounded; hind margin obliquely curved. Hind wings ample, with hind margin rounded and inner angle square. Antennæ of ♂ thick, shortly ciliated; head broad; forehead flattened; palpi short, porrect, or slightly upturned; tongue present; hind tibiæ of ♂ flattened and curved; hind tarsi reduced to a short, hardly perceptible point. Neuration normal. Scaling fine and smooth.

Type, *Lipomelia subusta*, sp. n.

LIPOMELIA SUBUSTA, sp. n. (Plate XXXII. fig. 24.)

♂. Fore wings olive-drab, much suffused with tawny and brown; the olive-drab ground-colour is limited to the base, the costa, the apex more broadly, and the hind margin; the basal portion is edged by an oblique tawny line, starting from the inner margin close to the base, and running parallel to hind margin, ending in the middle of the cell; second line red-brown, commencing below the costa, forms first a large conical projection hindwards, then a double curve, and a second conical projection above the inner margin; the space between the two lines filled up with tawny, except along the costa, with some paler vertical wavy streaks on the inner margin; subterminal line irregularly dentate, almost touching hind margin below the centre; space between it and 2nd line filled up, in the lower $\frac{2}{3}$, with mahogany-brown; fringes olive-drab, with a fine tawny dot at end of each vein; discal spot elongated, white, shining, somewhat raised. Hind wings wholly tawny, mottled with brown, from base to subterminal line, then olive-drab; fringes as in fore wings; discal spot constricted in centre, sometimes divided into two spots. Palpi, face, and antennæ dark brown; vertex and collar red-brown; thorax and patagia olive-drab; abdomen tawny olive. Underside dull olive with a pink tinge; the inner region of the fore wings and the upper of the hind wings being suffused irregularly with blackish.

Expanse of wings 28 millim.

Hab. Sikkim; Naga Hills.

RHODOSTROPHIA SUBFLAVIDA, sp. n.

♂. Fore wings pale cinereous, dusted with darker, and tinged with ochreous; basal area diffusely darker, costa and hind margin more distinctly so; parallel to hind margin, and separated from the darker streak by a narrow pale space, is another oblique dark fascia of equal width with the dark portion of the hind margin; cell-spot dark. Hind wings pale whitish ochreous, with a faint yellowish tint, tinged with grey towards the anal angle; fringes of both wings with a distinct darker basal line. Underside of both wings whitish grey, strongly suffused with yellowish.

Expanse of wings 38 millim.

Hab. Kashmir.

There are several examples, all males, in the B.M. Coll. from Afghanistan.

Near *P. borealis*, Swinhoe.

[The type, in my collection, was taken at Sonamurg in Kashmir by the late Mr. Atkinson.—*H. J. E.*]

TANAOTRICHIA, gen. nov.

Fore wings with costa nearly straight, more curved just before apex; hind margin curved, more obliquely towards anal angle; hind wings with hind margin rounded, anal angle rather marked. Antennæ of ♂ beset with long close ciliations; palpi horizontally porrect, hardly reaching beyond face; tongue present. Hind tibiæ

of ♂ beset with long pencil of hairs, concealing spurs, if present. Neuration :—Fore wing : cell barely half the length of wing ; disco-cellular obliquely curved ; 1st median nervule at $\frac{5}{6}$; 2nd and 3rd from end of cell ; lower radial from centre of discocellular ; upper from top end of cell ; areole double ; 4th and 5th subcostals from end of areole, widely diverging ; 2nd and 3rd shortly out of 4th. Hind wings with the two subcostal nervules very shortly stalked ; the rest as in fore wing.

Type, *Tanaotrichia trilineata*, sp. n.

TANAOTRICHIA TRILINEATA, sp. n. (Plate XXXII. fig. 2.)

♂. Fore wings reddish ochreous or reddish, dusted with fine deeper red atoms ; basal half of costa blackish ; 3 red-brown transverse lines ; the first fine, at $\frac{1}{4}$ bent beneath the costa, then vertical ; the second thicker, oblique, slightly wavy, from $\frac{2}{3}$ of the costa to $\frac{2}{3}$ of inner margin ; the third submarginal, straight at first from the costa and inclined slightly outwards, forms a sinus outwards towards the anal angle ; fringes concolorous with darker red base. Hind wings like fore wings, but without the basal line ; face and palpi red-brown ; vertex whitish ; collar reddish ; thorax, patagia, and abdomen concolorous with wings. Underside paler, without irrorations ; all the lines visible except the basal ; the cell-spot of the fore wings also shown.

Expanse of wings 38 millim.

Hab. Sikkim.

[Taken by Mr. Gammie at about 3000–5000 feet.—H. J. E.]

ANISODES ARGENTISPILA, sp. n.

♀. Fore wings dull brick-red, with faintly darker markings ; an indistinct fascia near base ; a similar dark discal ocellus, with a faintly darker shade beneath it ; a curved, slightly denticulate fascia at $\frac{2}{3}$; a subterminal one between the last and the hind margin, which appears as if interrupted below the middle ; a marginal series of minute black dots between the veins ; fringes concolorous. Hind wings like fore wings, but with a large irregular silvery-white discal spot, surrounded with dark grey ; palpi and face brick-red ; vertex whitish ; thorax and abdomen pale pinkish ochreous. Underside dull pink, without markings.

Expanse of wings 32 millim.

Hab. Naga Hills.

PERIXERA OBSCURATA, sp. n. (Plate XXXII. fig. 20.)

♂. Wings sandy ochreous, dusted with greyish ochreous and with all the markings grey ; inner, exterior, and subterminal line all irregularly dentate-sinuuous ; beyond the subterminal the wings are suffused with grey ; costa of fore wings dark grey ; discal spot present in both wings. Thorax, abdomen, and antennæ all sandy ochreous. Underside pale straw-colour, with all the markings dull rosy and a rosy blotch along the centre of the disk.

Expanse of wings 32 millim.

Hab. Sikkim.

IDŒA FALCIPENNIS, sp. n. (Plate XXXII. fig. 11.)

♀. Fore wings stone-colour, almost wholly suffused with cinereous, with a broadish, slightly sinuate subterminal fascia of the pale ground-colour, before and beyond which the grey suffusion is denser; a denticulate darker exterior line, a sinuous darker central shade, and a basal transverse line can just be traced; these are probably more distinct in other specimens; fringes pale grey, with the basal line black, interrupted by each nervule. Hind wings like fore wings, but with a distinct black cell-spot. Face, antennæ, and thorax stone-colour; abdomen the same, but dusted with grey. Underside paler, unsuffused, with the lines all distinct.

Hab. Sikkim.

This species may be distinguished by the shape of the wings; the fore wings having the costa strongly curved throughout, the apex bluntly falcate, and the hind margin obliquely straight. Hind wings with hind margin fully rounded, and somewhat broadly elbowed in the middle. The palpi are excessively minute. It is very probable that when more specimens, including the ♂, come to be examined, the species may have to form the type of a distinct genus.

[Two specimens of this distinct species, taken by O. Möller on Oct. 12, are in my collection.—*H. J. E.*]

IDŒA BUTYROSA, sp. n.

♂. Fore wings rather bright clay-yellow, with all the markings indistinctly deeper; a basal curved line, a central curved line just beyond a diffuse cell-blotch; an exterior, more denticulated line and a hardly paler subterminal space; fringes concolorous; a series of very minute dark dots at the base of fringes between the veins, most conspicuous towards the apex. Hind wings the same, with a minute dark cell-spot. Head, thorax, and abdomen all concolorous. Underside dull ochreous, with the lines only faintly visible, except the 3rd.

Expanse of wings 26 millim.

Hab. Sikkim.

[A single specimen was sent by Mr. Gammie from Mongpo, about 4000 feet.—*H. J. E.*]

Subfam. ASTHENINÆ.

AMATHIA NIGRONOTATA, sp. n. (Plate XXXI. fig. 18.)

♂. Fore wings white, crossed by a series of pale grey fasciæ, mixed with ochreous, traversed by finely darker sinuous lines, which towards the inner margin form black dashes on the veins; the fasciæ are 6 in number: two, narrow, near the base; a wider one before the middle; a still wider one beyond the middle; a narrow submarginal one, dotted with blackish and with two darker patches below the costa; and, lastly, a narrow marginal fascia; fringe spotted with blackish at the base. Hind wings pure white.

Head, thorax, and abdomen ochreous whitish. Underside dull white, with hardly any trace of markings.

Expanse of wings 34 millim.

Hab. Darjiling. Though taken at the same time and place as *A. rivularis*, this can hardly be the same species.

AMATHIA SANGUINIPUNCTATA, sp. n. (Plate XXXI. fig. 17.)

♀. Fore wings dull white; costa ochreous; basal patch, central fascia, and hind marginal area crossed by ochreous and fine dark lines, intermixed with blood-red spots. Hind wings dull white, without markings; the hind margin before the fringes being slightly greyer. Head and thorax ochreous. Underside dull greyish white.

Expanse of wings 28 millim.

Hab. Sikkim. From Jongri, at 13,000 feet.

AMATHIA RIVULARIS, sp. n. (Plate XXXI. fig. 16.)

♀. Fore wings pale yellowish ochreous, crossed by four irregular dark fasciæ, consisting of dark grey lines and streaks:—one basal, angulated exteriorly; the second before the middle, thickest in the costal half; the third beyond the middle; and the fourth sub-terminal; the first and second are twice bent before the inner margin; marginal space varied with grey; the veins blackish before the fringes. Hind wings ochreous whitish, with ochreous fringes. Head, thorax, and abdomen ochreous. Underside paler and duller, with the markings all dull grey.

Expanse of wings 34 millim.

Hab. Darjiling. Taken in May and June at an elevation of 7000 feet.

PTHONOLOBA OLIVACEA, sp. n. (Plate XXXI. fig. 20.)

♀. Fore wings dull greyish green with a slight olive tinge, with the basal patch and 4 fasciæ darker green, traversed by fine darker lines; an indistinct dark cell-spot; the grey interspaces between the fasciæ are each traversed by a faint, slightly darker grey line. Hind wings dull grey, without markings. Head, palpi, thorax, and abdomen dull olive-green. Underside of both wings cinereous, with scarcely any markings.

Expanse of wings 32 millim.

Hab. Darjiling.

ASTHENA FLAVILINEA, sp. n.

♀. Fore wings sandy ochreous, dusted with darker, and traversed throughout by a succession of fine, much undulating, rusty ochreous lines running parallel to the hind margin. Hind wings similar; fringes sandy ochreous; both wings with a small black cell-spot. Head, thorax, and abdomen concolorous. Underside duller, more whitish, with similar markings.

Expanse of wings 26 millim.

Hab. Tonglo.

[A single specimen taken by myself in July at light is the only one I have seen.—*H. J. E.*]

ASTHENA (?) *RUFIGRISEA*, sp. n. (Plate XXXII. fig. 6.)

♀. Fore wings dull ochreous, more or less entirely overrun with obliquely curved grey fasciæ; basal area entirely grey, crossed by some very faint paler lines; central area ochreous, oblique, twice as broad on costa as on inner margin, containing a small dark cell-spot, and margined externally by an ill-defined rust-coloured line; this is followed by a broad, dark grey fascia which is externally bluntly lobed; and this again by 2 or 3 grey sinuate lines which become confused and shadowy towards the anal angle; fringes with a black spot at end of all the veins. Hind wings like fore wings, but the basal grey patch much smaller. Head, face, and thorax ochreous, tinged with grey; abdomen darker. Under-side like upper, but much duller.

Expanse of wings 30 millim.

Hab. Sikkim.

ASTHENA *OCHRACEA*, Warr. P. Z. S. 1888, p. 321. (Plate XXXII. fig. 10, ♀.)

[Described as from the Punjab, but taken by me at Shillong on the Khasia Hills.—*H. J. E.*]

HYDRELIA *LILACINA*, sp. n. (Plate XXXII. fig. 4.)

♀. Fore wings dull pinkish grey, thickly dusted with vinous atoms, and crossed by indistinctly undulating vinous lines; 1st line at $\frac{2}{5}$, brownish purple, running slightly outwards for $\frac{1}{4}$, then inwards and slightly wavy; 2nd line at $\frac{2}{3}$, brownish purple, thickened towards costa, running parallel to hind margin, except in the middle, where it forms a bluntly angulated and indented projection outwards; fringes paler pink. Hind wings white, with only the fringes, the extreme hind and inner margin, and the commencement of a line on the latter vinous. Head, face, and abdomen like ground-colour; thorax itself brownish purple, like the lines of the fore wings. Underside of both wings glossy whitish (in the fore wings suffused with pinkish purple), with the exterior line distinctly pinkish on both wings.

Expanse of wings 34 millim.

Hab. Tonglo, Sikkim.

[The specimen described is larger, brighter, and has the angulated projection of the outer transverse lines less prominent than in another specimen also taken by me at about 12,000 feet on the Nepal frontier.—*H. J. E.*]

HYDRELIA *MARGINEFUNCTATA*, sp. n. (Plate XXXII. fig. 5.)

♀. Fore wings sandy yellow, with fine darker irrorations, the lines not denoted except along the costa, where can be counted 7 purplish-brown spots, the last 3 larger than the others; obliquely beyond the first 4 are 4 smaller dots on the subcostal; from the last 3 costal spots may be traced 3 transverse lines running parallel to the hind margin, and in places denoted by dots on the veins, the first 2 forming 2 short contiguous lines on the inner margin; fringes

sandy yellow, with no basal line, but with a series of purplish-black spots between the veins. Hind wings the same, but with no traces of any lines. Head, thorax, and abdomen concolorous. Underside pale straw-colour, with the marginal spots distinct; fore wings with the costa brownish, the costal spots prolonged into streaks, and a diffuse discal blotch; hind wings with a small discal dot, and a costal one above it, black.

Expanse of wings 30 millim.

Hab. Sikkim.

[Three specimens were taken by me, along with those of the last species, at 10,000 feet in July.—*H. J. E.*]

[I have examples of another species, perfectly distinct from both the last, which I took abundantly at Tonglo in July, and which Mr. Warren has also marked *lilacina* and for which I propose the name of

HYDRELIA SIKKIMENSIS, sp. n.

Fore wings dull pinkish grey, traversed by 5 distinct inner transverse lines, and 3 double darker outer ones, the two series separated by a broad pale band including a discal spot. Hind wing pale grey with a discal spot and three marginal and one internal darker transverse lines. Beneath dull pinkish grey, with discal spot on both wings, with one distinct transverse band and a marginal line of spots.—*H. J. E.*]

AUTALLACTA, gen. nov.

Fore wings broad; costa gradually arched throughout; apex distinct, minutely subfalcate; hind margin oblique, with a scarcely perceptible blunt elbow in the middle. Hind wings broad, with a distinct elbow in middle of hind margin. Palpi very short, not reaching beyond face; face rounded, protuberant; antennæ in ♀ simple, in ♂ subserrate. Neuration as in *Asthenia*.

Type, *A. subobliquaria* (*Timandra*), Moore.

AUTALLACTA LINEATA, sp. n.

♂. Fore wings pale straw-colour, with rust-coloured lines, 4 curved near the base, one straight oblique in the centre, and 3 slightly wavy and irregular towards the hind margin; fringe straw-colour, with a rusty basal line. Hind wings with only the central and 3 submarginal lines. Underside rather darker; the fore wings with the basal lines not represented; head, abdomen, and legs all straw-coloured.

Expanse of wings 28 millim.

Hab. Sikkim.

This can hardly be an aberrant form of *subobliquaria*. The fore wings are decidedly concave from apex to middle of hind margin.

[I have seen only one specimen of this insect, which is very distinct. Mr. Warren has included under the name of *A. subobliquaria* two other species which I took at much higher elevations and believe to be distinct, but I will not now describe them.—*H. J. E.*]

CHALYBOCLYDON, gen. nov.

Fore wings broad ; costa nearly straight, convex only just before apex, which is square ; hind margin almost imperceptibly crenulated, bluntly elbowed in the middle ; hind wings with hind margin similar. Neuration : cell of both wings very short, not more than $\frac{1}{3}$; discocellular very obliquely curved inwards ; fore wings with the 1st median nervule at $\frac{3}{4}$, 2nd close before, the 3rd at, the end ; lower radial from $\frac{2}{3}$ of the discocellular ; upper radial from end of cell, 5 subcostals on a common stem, the 5th rising not far from its base, the 4th running into the apex, 1st, 2nd, and 3rd close together, one after the other. Hind wings with the costal anastomosing with subcostal for $\frac{3}{4}$ of cell ; the two subcostals on a short footstalk ; radial from $\frac{2}{3}$ of the discocellular ; medians as in fore wing. Scaling close and smooth, with faintly metallic lines.

Type, *Chalyboclydon marginata*, sp. n.

CHALYBOCLYDON MARGINATA, sp. n. (Plate XXXII. fig. 16.)

♀. Fore wings pinkish drab, with a slight olive tinge ; the base to beyond the middle chocolate-brown ; across the centre of the wing a vertical thick angulated chocolate-brown line, diffusely bordered on either side with duller brown bands, the inner one expanding on the costa, both thickly sprinkled with fine lustrous lilac scales ; shortly before apex, a Y-shaped chocolate-brown line runs obliquely to the hind margin at the elbow, then bends inwards nearly at right angles to its former course to above the anal angle, then vertical ; space between hind margin and this line, and lower $\frac{1}{3}$ of the apical wedge, dull brown speckled with lilac atoms ; apical $\frac{2}{3}$ lilac-grey ; space between central and outer line traversed by a broad angulated fascia of lustrous lilac scales interspersed with a few darker ones ; fringe-line chocolate-brown ; fringes ochreous and fuscous mixed. Hind wings with the basal half wholly lilac-grey, containing a small black cell-spot, followed by 5 undulating fasciæ of the ground-colour, alternating with 4 lilac-grey fasciæ of exactly equal width ; a submarginal line running close to, but not touching, the fringe-line, chocolate-brown ; base of fringes chocolate-brown, but finer ; space between the two lines lustrous lilac-grey. Head, face, and fore parts of thorax dark chocolate-brown ; rest of thorax and abdomen ochreous drab. Underside silvery drab, with darker diffuse mottling and suffusion ; fore wings with one, hind wings with two, distinct angulated brownish lines ; cell-spot of hind wings distinct.

Expanse of wings 36 millim.

Hab. Sikkim ; Momeit, Burmah.

[Seems a very scarce species in Sikkim, where it has only been taken in the interior by Möller's collectors. There is a smaller species of the same genus from the Karen Hills of which I have only one specimen.—H. J. E.]

POMASIA MONILIATA, sp. n. (Plate XXXII. fig. 9.)

♀. Fore wings fawn-coloured, with all the lines fine, white, very sinuous, and geminated, the first near the base, the second just before, the third beyond the middle; the fourth, submarginal, consists of a series of white-edged black-centred beads, followed by a blackish shade, and preceded above the inner margin by an oval blackish spot; fringes with pale basal line. Hind wings like fore wings, but without the basal line, and with the second and third not geminated, and approaching each other; between the bead-like line and the hind margin is an additional irregular whitish curved band, which can be faintly traced on the fore wing also. Head, thorax, and abdomen pale fawn-colour. Underside dull greyish ochreous, with scarcely any markings.

Expanse of wings 16 millim.

Hab. Khasia Hills.

[A single specimen taken by myself at about 5500 feet in September.—*H. J. E.*]

POMASIA DENTICLATHRATA, sp. n.

♂. Fore wings pale ochreous yellow, traversed from base to margin by a series of closely placed, sinuous, denticulated, pale liver-coloured lines, the yellower interspaces being more manifest along the costa and inner margin; the darker suffusion running across the disk; 14 of these dark lines can be counted. Hind wings the same, but with only 9 lines. Head, thorax, and abdomen similarly mottled. Underside yellower, with the markings dim and fuscous.

Expanse of wings 22 millim.

Hab. Naga Hills.

[Taken by Doherty at about 3000 feet.—*H. J. E.*]

Subfam. HYDRIOMENINÆ.

GLAUOPTERYX STELLATA, sp. n.

♀. Fore wings fuscous olive, with the markings deeper fuscous, but indistinct; the paler interspaces starting as small yellowish spots on the costa, and being marked in their course across the wing by bluish-white linear dashes on all the veins, which are themselves dark fuscous; subterminal line, evenly undulating, delicate, bluish white; fringes with their basal half dark olive-grey, the outer half paler, preceded at their base by a thick black line, which is interrupted at the end of each nervule by a large white dot. Hind wings glossy grey, with an indistinct discal dot, and some undefined wavy grey lines towards the hind margin; fringe ochreous grey, preceded by a black line. Underside—fore wing almost wholly cinereous, the markings only showing towards the hind margin; hind wings showing a succession of alternate pale and dark undulating lines; veins towards the hind margin standing out still darker and lighter, where the lines cross them. Head, palpi, and thorax dark fuscous olive; abdomen paler.

Expanse of wings 42 millim.

Hab. Sikkim.

[Rare along the Nepal frontier at 11,000–13,000 feet, where it flies in July.—*H. J. E.*]

GLAUCOPTERYX PUNCTATISSIMA, sp. n.

♂. Fore wings dark ashy grey, with a slight ochreous tinge in places, with darker, almost blackish markings and suffusions; central fascia dark grey, its edges denoted by pale dots on the veins; a curved basal fascia and another indefinite beyond it; subterminal line a series of white spots, edged diffusely with blackish, and preceded by a darker shade; fringes grey, preceded at base by a broad black line, which is interrupted at end of each vein by a narrow white streak, and between the veins by a white squarish spot. In a second specimen the ground-colour is much paler, and the markings and suffusion blacker; the veins themselves black, picked out with white dots where the paler lines cross them, which also expand into pale grey blotches along the costa; discal spot black, distinct; hind wings dull grey, with dark discal spot, and dark line at base of fringes. Underside of both wings dull grey, with the markings indistinct; fringes pale, with distinct dark mottlings.

Expanse of wings 34 millim.

Hab. Sikkim.

[Commoner than the last in the same localities from 10,000–12,000 feet.—*H. J. E.*]

GLAUCOPTERYX VIRIDIS, sp. n.

♂. Fore wings dull green, crossed by darker green and fuscous wavy lines; basal patch with 3 curved dark fuscous lines and darker green lines between them; central fascia with its edges marked by darker bands of mingled green and fuscous; the centre, containing a small cell-spot, alone remaining paler; the fascia is followed by a series of pale dots on each vein; submarginal line regularly undulated, paler green, almost whitish; space between it and central fascia dull green, slightly tinged with pinkish, and with the veins marked with longitudinal black dots; on the costa are the commencements of 2 or 3 undulating dark lines; fringes dark green, preceded by a series of small double black dots. Hind wings dull fuscous, with faint traces of an undulating pale line before the margin. Head, thorax, and abdomen greenish. Underside greyish white, in fore wings much suffused with grey, with all the markings shown; hind wings with a central as well as submarginal dark band.

Expanse of wings 40 millim.

Hab. Sikkim.

[A single specimen only sent by Möller and taken in March, probably on the Nepal frontier.—*H. J. E.*]

PHOTOSCOTOSIA, Warr.

Trichopleura, Staud. (nom. præoc.).*Photoscotosia*, Warr. P. Z. S. 1888, p. 327.*Lasiogma*, Meyr. Tr. E. S. 1892, p. 70.Type, *P. miniosata*, Wlk. (*Scotosia*).

PHOTOSCOTOSIA ATROMARGINATA, sp. n. (Plate XXX. fig. 1.)

♂. Fore wing with the ground-colour a mixture of dull olive and bronzy violet; a dark, curved, broadish, pale-edged line near the base; central band dull bronzy red, with the two lines that bound it black; the first, broad at the costa, concave basewards, but forming a sharp tooth pointing inwards between the two concavities on the median nervure; the second is likewise darker at the costa, beneath which it forms two small projections, between which a small tooth of the paler exterior ground-colour runs in; it reaches the inner margin with 5 small rounded waves, and the band itself is 3 times as broad on the costa as on the inner margin; marginal third a mixture of olive and dull reddish; an indistinct oblique blackish apical dash; a distinct black line at base of fringes. Hind wings white, slightly grey along the inner margin, and with the inner half of the hind margin narrowly sooty black. Head, thorax, and abdomen dark fuscous, tinged with olive. Underside of wings glossy greyish white; the fore wings darker along the disk and with the fringes much darker; both wings with a central curved denticulated dark grey line; hind wings with a distinct blackish cell-spot.

Expanse of wings 36 millim.

Hab. Sikkim.

Distinguished at a glance, independently of its smaller size, by the white hind wings with their sooty blotch.

[I took a single specimen of this distinct species at about 12,000 feet on Sundukpho in July.—*H. J. E.*]

PHOTOSCOTOSIA MULTILINEA, sp. n. (Plate XXX. fig. 10.)

♂. Fore wings fawn-colour, varied with grey and reddish brown; extreme base reddish grey, followed by a reddish-brown fascia, succeeded by a mottled grey and white fascia, and this by reddish-brown lines, which deepen externally into a rich red-brown fascia, the edge of which is slightly sinuous, and distinctly contrasted with the paler central space; discal spot dark brown, linear, just beyond the line; exterior line preceded on costa by a red-brown patch, forms two sharp teeth below the costa, and crosses the wing as a series of denticulate sinuations; it is followed on the costa and inner margin by a pale grey space crossed by numerous sinuous dark lines; rest of the wing dull reddish brown or reddish grey; hind wings smoky fuscous, with costal region whitish. Underside paler, with dark central costal spot; tuft of hairs black, with base tawny; hind wings dull grey.

Expanse of wings 54 millim.

Hab. Sikkim.

[Taken by Möller's collectors in the interior.—*H. J. E.*]

PHOTOSCOTOSIA FULGURITIS, sp. n. (Plate XXX. fig. 11.)

♀. Fore wings dark fuscous, with a tawny undertone; 1st line at $\frac{1}{4}$, pale grey, forming a large bidentate process outwards on the median vein; the basal $\frac{1}{3}$ paler than the central, and crossed by darker lines shaped just like the pale first line, and by a straight pale line in the centre; exterior line at $\frac{2}{3}$, white, very slightly indented below the costa, very slightly wavy to below the median vein, where it forms a single blunt tooth, then turns inwards with two curves to the inner margin; an indistinct, interrupted pale subterminal line, and a white oblique streak from the apex, crossing it and all but reaching the exterior line; fringes fuscous, with darker base. Hind wings with the costal region broadly whitish; the rest of the wing smoky fuscous, darker towards the hind margin, where there are traces of sinuate pale fasciæ. Head, thorax, and abdomen all dark fuscous. Underside of fore wings whitish, with a thick black line from the costa beyond the middle, and a broad dark cloud beyond it; costa yellowish; apex white; tuft of hairs black; cell-spot dark, linear. Hind wings whitish, much mottled with cinereous, with dark cell-spot and fuscous median band.

Expanse of wings 48 millim.

Hab. Sikkim.

[Several specimens were taken by me at 10,000–12,000 feet on the Nepal frontier in July.—H. J. E.]

EUSTROMA, Hüb. Verz. p. 335.

Type, *E. reticulata*, Schiff.

Distinguished by the *long black* tuft of hairs along the underside of the inner margin of the fore wings of the ♂ from *Lygris*, Hüb., in which the tuft is short and pale yellow.

EUSTROMA VENIPICTA, sp. n.

♂ ♀. Fore wings fuscous, with paler, more reddish markings; basal patch and central fascia dark fuscous, the former with a paler line along its centre; the latter with a darker, paler-edged centre; the basal patch is edged with a double dull tawny line; the central fascia is edged internally by an angulated, irregular tawny fascia; the space between this and the edging of the basal patch being filled in with dark fuscous; the median nervure, the 3 median nervules, and the submedian all strongly tawny, interrupting the darker markings; the central fascia is edged externally with a fascia formed of 3 pale and 2 dark lines, followed by a series of fuscous blotches, which are broader and wedge-shaped towards the costa, but gradually decrease towards the inner margin, and are bordered by a sinuous fine whitish line, which becomes broad and white above the inner margin; a similar whitish oblique line from the apex separates a small costal fuscous blotch from a larger triangular subapical one along the hind margin; fringes fuscous, with

darker bases. Hind wings cinereous ochreous, with 2 wavy paler fasciæ towards the hind margin, and the costal region pale. Head, thorax, and abdomen dark fuscous. Underside glossy, ochreous tinged with cinereous; basal $\frac{2}{3}$ of fore wings darker; hind wings with large black cell-spot, and 3 sinuous fasciæ.

Expanse of wings 46 millim.

Hab. Sikkim.

PARALOPHIA, gen. nov.

Fore wings with costa slightly convex at base and before apex; scarcely visibly concave in middle, apex blunt; hind margin obliquely curved; hind wings rounded. Antennæ of ♂ subserrate, shortly ciliated; of ♀ simple; palpi quite short, pointed, hardly reaching beyond face; tongue developed; neuration normal; abdomen of ♂ lengthened, with a strong apical tuft, and 3 curved large lateral tufts on each side of the 3 preceding segments.

Type, *Paralophia pustulata*, sp. n.

PARALOPHIA PUSTULATA, sp. n. (Plate XXX. fig. 7.)

♂ ♀. Fore wings greyish fuscous; basal region and central fascia darker; basal patch edged with a pale line, which is denticulate on the subcostal and median veins; inner edge of central fascia also edged with paler, forming 3 acute teeth on the subcostal, in the middle of the cell, and on the submedian; space between basal patch and central fascia filled up with fuscous and ochreous; outer edge of central fascia forming 4 irregular lobes in its costal third, 3 broader prominent ones in the middle third, and 3 smaller blunter ones in the lower third; it is followed by a paler band, whitish ochreous towards the costa, which is itself traversed by 3 fine fuscous lines, which follow the windings of the edge of the fascia; this pale band and its lines is interrupted between the upper and middle third of the central fascia by a white blotch (less conspicuous in the ♀); subterminal line consisting of a series of whitish or ochreous spots edged on either side with black, preceded on the costa by 2 or 3 dark fuscous blotches, and interrupted below the costa by an oblique fuscous pale-edged streak from the apex; the veins beyond the central fascia to the hind margin yellowish; fringes fuscous, mottled with paler. Hind wings glossy grey, with a darker line at base of fringes. Underside—fore wing dull dark cinereous from base to outer edge of central fascia; beyond as on the upperside, but duller. Hind wings with all the markings of the fore wings reproduced distinctly, especially the central dark line. Head, thorax, and abdomen fuscous.

Expanse of wings, ♀ 28 millim., ♂ 32 millim.

Hab. Sikkim.

[Taken by myself at Darjiling and Tonglo, where it seems uncommon. I have other specimens from Möller and Knyvett which vary somewhat in the outer band.—H. J. E.]

AMŒBE, Hüb. Verz. p. 333.

Type, *A. bidentata*, Hufn.

AMŒBE (?) NIVEOPICTA, sp. n. (Plate XXX. fig. 5.)

♀. Fore wings fulvous-brown; the markings black, with silvery-white edgings; basal region fulvous-brown, whitish along the inner margin, tinged with black on the costa, followed at $\frac{1}{4}$ by a broadish black bent fascia, which emits a conical spur just below the middle; this fascia is edged internally by a narrow, and externally by a broader, silvery-white line, the internal white line being itself edged by a narrow black one; central fascia black, much broader on the costa than on inner margin; edged on both sides with silvery-white, more broadly towards the costa, each silvery-white line edged narrowly with black; the inner edge of the central fascia emits a blunt tooth towards that on the outer edge of the basal fascia, the 2 white edges uniting, so enclosing an almost round fulvous-brown subcostal spot, above which is a small costal spot of the same colour, and on the inner margin a long vertical oblong one; the outer edge of the central fascia forms an acute angle below the costa, and a bilobed projection below the median vein; in its centre, on the costa, are 2 small divergent silvery-white streaks; subterminal line fine, black, edged externally with silvery-white, forms first a large curve from the costa to below the acute angle of the central fascia, then 3 small curves, and lastly runs vertically to the inner margin just before the anal angle; an obliquely curved, white apical streak uniting with the curve of the subterminal line; above this streak the marginal area is fulvous-brown; below it to the elbow of the wing black; thence to the anal angle snowy white, with a few darker clouds above the angle; space between central fascia and subterminal line uninterruptedly fulvous-brown. Hind wings white, with a greyish-black border, broadest towards the apex, and with a faint denticulated central grey line; fringes of the hind wings white, chequered with black, of the fore wings white with a black basal line from the elbow to the anal angle, above the elbow blackish, mottled with fulvous and white. Palpi, base of patagia, 3 large spots on thorax, and most of abdomen blackish; top edge of palpi, face, front of thorax, terminal half of patagia, and base of abdomen white. Underside—fore wings much duller, but with the same markings; the costa narrowly fulvous, with the white markings showing yellow there. Hind wings white, thickly sprinkled all over with coarse blackish atoms, and with 3 somewhat indistinct blackish parallel lines.

Expanse of wings 38 millim.

Hab. Sikkim.

An exceedingly handsome and striking insect. I have placed it in *Amœbe* in consequence of its superficial resemblance to the European *A. bidentata*, Hufn. The discovery of the larva will alone prove whether this position is correct.

[I took one ♀ of this beautiful and distinct species at Tonglo, and have another which agrees.—H. J. E.]

POLYPHASIA, Stph. Ill. iii. p. 230.

Type, *P. truncata*, Hufn.

POLYPHASIA ALBISERIATA, sp. n.

♂ ♀. Fore wings velvety blackish, dusted, especially towards the hind margin, with very fine golden-yellow scales; lines irregularly zigzag, consisting of lilac-grey scales; 1st at $\frac{1}{6}$; 2nd, forming the inner edge of the central fascia, at $\frac{1}{3}$, running in just below the middle into the fascia; 3rd at $\frac{3}{4}$, limiting the central fascia externally, contains 2 more prominent denticulations, one subcostal, the other at the middle; down the centre of the central fascia, beginning at the costa, runs a series of contiguous oval white spots, which does not reach the inner margin; submarginal line slender, undulating, pale golden; fringes dark fuscous, with a deep black line at base, interrupted at the end of each vein by a lilac-grey wedge-shaped spot. Hind wings smooth, fuscous, with the inner angle including the fringes clear white; rest of the fringes dark fuscous, preceded by a deep black line; traces of an undulating submarginal line edged with paler are visible towards the costa. Head and thorax velvety blackish; abdomen blackish, dusted with paler scales between the segmental divisions. Underside of fore wings rather glossy grey, paler towards the costa in the disk, and with a white apical patch; the line bounding the central fascia on the outside, and the discal spot, darker. Hind wings glossy whitish for $\frac{2}{3}$ from base; a distinct dark grey exterior line, followed by a diffuse, blotched shade, and dark fuscous fringes; apex of the wings broadly white.

Expanse of wings 46 millim.

In the ♀ the series of white spots in the central fascia is reduced to 3, and the whole submarginal area of both wings on the underside is whitish.

Hab. Sikkim.

[This distinct species seems common on the Sundukpho range at about 11,000–12,000 feet. It varies in the size of the white spots on the fore wing, which are sometimes almost obsolete.—H. J. E.]

POLYPHASIA ALBIANGULATA, sp. n.

♂ ♀. Fore wings dark fuscous or blackish, interspersed with deep tawny, the latter tints forming a more or less distinctly expressed fascia on either side of the central fascia; basal patch dark, edged in its lower half, finely but obscurely, with whitish; central fascia edged with a very strongly-marked, acutely biangulated thick white line, which in its upper half is internally irregularly dentate, and which ends on the inner margin with an outward curve; from the costa, in the centre of the central fascia runs a thick white line parallel to the upper arm, and not quite reaching the lower arm of the

line which edges the fascia; hind margin blackish, traversed by a bluntly denticulate, fine, lilac-grey submarginal and subterminal line; fringes chequered tawny and dark fuscous. Hind wings dark grey, with tawny fringes, interrupted with darker. Underside dark grey, with the white markings indicated.

Expanse of wings 40 millim.

Hab. Sikkim.

This is a very striking form, and, so far as the white markings go, does not, in the specimens which have come under my notice, appear given to variation. Whether it should be treated as a distinct species, or only as one of the many varieties of the Indian branch of *P. russata*, I must leave to further experience to decide.

[Two specimens were taken by me on the Nepal frontier at 11,000 and 13,000 feet in August, and seem to be a very distinct species.—*H. J. E.*]

CIDARIA DENTISTRIGATA, sp. n. (Plate XXX. fig. 4.)

♂. Fore wings dark slate-colour, with a purplish tinge; basal patch dull rufous, followed by a pale lilac-grey fascia, the outer edge of which forms a blunt projection below the costa; this fascia is traversed by 3 fine parallel lines, the first of which is rufous and the other two purplish-slate colour; central fascia purplish-slate colour, its inner edge still darker; its outer half traversed by 3 dark much denticulated lines, followed by a paler slate-coloured fascia, down the centre of which runs a fine equally denticulated dark purple line; this again is succeeded by a rufous fascia, edged with darker and spots of lilac-grey; marginal area uniform rufous slate-colour, along with the fringes. Hind wings satiny white, smoky along the inner margin and the hind margin, and with 3 or 4 abbreviated wavy darker lines before the inner angle. Underside: fore wings wholly cinereous; hind wings whitish, with cinereous hind margin, both with only a discal spot and central line for markings. Head, thorax, and abdomen all dark fuscous.

Expanse of wings 32 millim.

Hab. Sikkim.

[Three males which do not vary were taken by me at 10,000 feet in July and are the only ones I have seen of this distinct species.—*H. J. E.*]

CIDARIA INTERTEXTA, sp. n. (Plate XXX. fig. 3.)

♂. Fore wings with the darker fasciæ dull olive-green, the paler intervals being pinky drab; basal patch dull green, with 2 largish teeth, the upper one near the costa the larger; it is traversed along its centre by a pale drab line; the outer edge runs obliquely outwards for its upper $\frac{1}{3}$, then obliquely inwards for the other $\frac{2}{3}$; between the basal patch and the central fascia is a similarly indented pale drab fascia, traversed by 3 dull chocolate sinuous lines, the space between the first 2 of these being filled up with similar coloured atoms; central fascia olive-green, with 2 pale drab lines,

and a chocolate mottled central space; its outer edge is marked by a pale, round lobed, and somewhat dentated line, and it is partially interrupted below the middle by pale mottlings along the median nervules; following the pale line come 3 or 4 dark fuscous lines separated by similar paler ones, then a denticulate pale subterminal line; hind margin wholly olive-green; fringes mottled. Hind wings dull fuscous, with faint traces of a darker central fascia. Head, thorax, and abdomen mixed with olive-green and drab.

Underside of fore wings dull cinereous, with the costa, a large ocelloid patch beyond the central fascia, and a chain of spots representing the subterminal line, yellowish. Hind wings yellowish white, dusted and suffused with fuscous, with traces of 2 dark lines and a cell-spot.

Expanse of wings 28 millim.

Hab. Sikkim.

CIDARIA EXQUISITA, sp. n. (Plate XXX. fig. 2.)

♂. Fore wings with the basal third and central fascia rich olive-brown; basal patch crossed by a bluish-silvery line and separated from the central fascia by a narrow rusty-ochreous space, edged externally by a zigzag bluish silvery line; central fascia edged externally by a similar line, and with 2 or 3 indistinct silvery lines down the middle from the costa; a bright fulvous patch beyond the centre of the central fascia; a costal subapical brown patch; an oblique bluish line from the apex; fringes olive-brown, chequered with bluish. Hind wings wholly dull grey, but with chequered fringes. Underside dull fuscous; the hind wings with bluish fasciæ and markings; all the fringes mottled with bluish.

Expanse of wings 30 millim.

Hab. Sikkim. Taken at Tonglo in July, at 10,000 feet.

EPIRRHOË, Hüb. Verz. p. 328.

Type, *E. biriviata*, Borkh.

Male antennæ scarcely pubescent.

EPIRRHOË (?) *LATIFASCIATA*, sp. n.

♀. Fore wings brownish fuscous, with a reddish tinge in certain lights; basal patch edged with 2 curved whitish lines close together, but separated by a brown line of same width; a similar single white line across its centre; central fascia broad, edged externally by an irregularly dentate white line which forms a rather large sinus inwards above the inner margin; marginal area fuscous, more mixed with white, so that the white submarginal line is not particularly distinct; the hind margin itself with 3 brown blotches—one apical, one just above the middle, the third above the anal angle; space on each side of the central one whitish; fringes brownish, with pale base and a blackish basal line; a rather large, bent, black cell-spot. Hind wings whitish grey towards base, fuscous beyond,

with the exterior and submarginal lines represented. Underside whitish, suffused and mottled with fuscous, with the cell-spots large and dark; the outer line in both wings dark, denticulate, and picked out with white; face, head, patagia, thorax, and extreme base of wings whitish; abdomen fuscous.

Expanse of wings 26 millim.

Hab. Sikkim.

Very much like *Epirrhoë minuta*, Butler, but larger and darker. The two form a group by themselves, being distinguished by the irregularly elbowed hind margin of both wings.

EPIRRHOË SUBFALCATA, sp. n.

♂. Fore wings whitish, dusted with fuscous, and with fuscous markings; basal patch fuscous, traversed by a narrow paler fascia, edged with a whitish line, which is angulated on the subcostal; central fascia edged internally with a similar white line, which forms a small sharp tooth on the median; space between the basal patch and central fascia whitish, thickly dusted with fuscous grey; central fascia nearly twice as broad on the costa as on the inner margin, traversed by two paler sinuous lines which form a more or less regular series of curves inwardly concave; space immediately beyond whitish, running in the form of small, sharp teeth along each vein; a dark blotch on costa before apex, consisting of 3 superposed blunt wedge-shaped spots; a dark cloud at the apex, and 3 dark triangular blotches beneath the apex along the hind margin; fringes fuscous, with blackish marks along the base. Hind wings white, tinged with grey, and with faint traces of 3 curved fasciæ before the hind margin and an indistinct cell-dot. Head, thorax, and abdomen all fuscous grey. Underside whitish, tinged with grey; the fore wings from base to outer edge of central fascia darker grey; cell-spot on both wings large, diffuse.

Expanse of wings 32 millim.

Hab. Kulu (*Grahame Young*).

Distinguished by the slightly produced apex and slightly falcate fore wings.

XANTHORRHOË, Hüb. Verz. p. 327.

Type, *X. montanata*, Schiff.

Male antennæ pectinated.

XANTHORRHOË OBFUSCATA, sp. n.

Fore wings pale grey, dusted with ochreous, and variously suffused with smoky fuscous; this smoky suffusion generally embraces the basal $\frac{1}{2}$ or $\frac{2}{3}$ along the costa, the apical region, and the anal angle; the exterior edge of the central fascia forms 2 rounded projections, each having 3 lobes, the first in the costal third, the second in the middle of the wing, the lower third of the central fascia running vertically waved; it is followed by a pale grey wavy fascia traversed by one or two darker lines, and a succession of wavy dark and lighter lines can be sometimes traced

through the basal patch; the middle of the hind margin is generally paler, thus separating the dark suffusion at the apex from that at the anal angle; fringes smoky fuscous, somewhat reddish tinged towards the anal angle. Hind wings entirely dark smoky fuscous. Head, thorax, and abdomen dark fuscous. Underside dull grey with some indistinctly waved shades.

Expanse of wings 24 millim.

Hab. Sikkim; Naga Hills.

This is a very indistinct looking and yet variable insect. Sometimes the suffusion only extends to the costal portion, leaving the inner margin of the wing pale; in others it embraces the greater part of the wing.

PERIZOMA, Hüb. Verz. p. 327.

Emmelesia, Stph. Ill. iii. p. 297.

Type, *P. albulata*.

PERIZOMA VARIABILIS, sp. n. (Plate XXX. fig. 17.)

Fore wings greyish fuscous, with very indistinct transverse markings; basal patch darker, divided in the middle by a paler band, which is itself traversed by a thread-like line; and followed by a similar pale band separating it from the central fascia, which varies in width, and is also followed by a pale band like the other two; marginal area irregularly darker, in which can be traced an indistinct submarginal line formed by a series of more or less distinct white dots or spots; sometimes 3 or 4 in a line from the costa, and 2 or 3 above the anal angle, but always one more clearly marked, in the middle, running in towards the base, and wedge-shaped; fringes unicolorous; the outline of the basal patch and central fascia varies, being sometimes curved, bluntly angulated, or acutely angulated; a distinct black cell-spot. In one varietal form the pale bands are decidedly greenish and more lustrous; in a second, the costal space beyond the central fascia is dull tawny; in a third, the submarginal spots are all distinct and the central one forms a large round white space. Hind wings of all the forms pearly-white, with a small dark cell-spot and a dark basal fringe line, and sometimes a fuscous or grey suffusion near the anal angle; some specimens have only faint traces of a central curved line, others have the line distinct. Underside of both wings glossy grey, darker or lighter, with the markings of varying intensity. Head, thorax, and abdomen fuscous; face sometimes paler.

Expanse of wings 22-26 millim.

Eight examples, 4 ♂, 4 ♀, all from Tonglo, Sikkim. This variable species is slightly smaller on the average than *P. affinis*, Moore, and may be at once distinguished by the smooth glossy scaling and the lustrous paler spaces, especially along the inner margin of the fore wings.

[A common species on the Nepal frontier from 10,000 to 13,000 feet in July.—*H. J. E.*]

PERIZOMA APICISTRIGATA, sp. n. (Plate XXX. fig. 19.)

♂ ♀. Fore wings with the dark spaces velvety, fuscous; the basal patch divided by a fine yellowish twice-curved line, and followed by an irregular yellowish, somewhat denticulated, nearly vertical, fascia traversed by a fine line; central fascia broadest in centre, where its outer edge forms two blunt lobes; followed by a pale fascia traversed by a fine dark line, the inner half being silvery white, the outer yellowish; marginal space occupied by a subquadrate velvety-fuscous patch throughout the costal half, and becoming more or less yellowish below, with a fuscous anal blotch, and two smaller ones above it; submarginal line composed of distinct white spots, 4 in a line from the costa, a larger one wedge-shaped in the middle, and 4 smaller ones beneath, one on each of the smaller fuscous blotches, and 2 on the anal blotch; an oblique silvery-white apical streak; fringes fuscous tinged with yellowish. Hind wings pearly white with a greyish tinge; a dark basal fringe-line, and traces of the beginning of two dark lines at the anal angle. Face yellow; head, thorax, and abdomen fuscous. Hind wings dark grey, mottled with paler, with the submarginal white spots reproduced.

Expanse of wings 24 millim.

Hab. Sikkim.

Although so very distinct in appearance, it is quite possible that this example may be only a remarkable variety of the variable *P. variabilis*, above described.

[As I have four specimens all agreeing and no intermediate forms among my long series of *P. variabilis*, I look on this as a perfectly good species. It occurs with the last at 10,000–13,000 feet, but seems much less common.—*H. J. E.*]

PERIZOMA LACTEIGUTTATA, sp. n. (Plate XXX. fig. 16.)

♂ ♀. Fore wings bronzy fuscous, with the ordinary lines and markings represented by a series of snow-white spots, one in the centre near the base of the wing; a curved series of 5, representing the pale fascia which usually divides the basal patch; a similarly curved series of 7, representing the outer edge of the basal patch; an indistinct series of 7, the two costal ones the largest, forms the inner edge of the central fascia; a more distinct and curved series of 9 forming its outer edge, the first, third, and ninth being much larger than the rest; an irregular submarginal series of spots; and lastly a series of distinct roundish dots at base of fringes, the 2nd being pear-shaped, the 5th and 6th connected by a quadrate blotch; the 8th enlarged upwards into an irregular blotch; through the space representing the central fascia runs a series of white dots of which the 3 top ones alone are distinct; in the disk a large irregularly trilobed white spot, with a still larger one below it; the costal and inner marginal spots of all the series are the largest; fringes brown, chequered with white between the marginal white spots. The spots are not symmetrical on the right and left wings;

the right having the large trilobed discal spot represented only by 3 small unconnected white dots, and the lower blotch by 2 semi-detached oblong ones; in the right wing the 3rd costal spot from the base is reduced in size and farther from the base; while in the left wing a small additional double spot has crept in between the 4th and 5th, which is scarcely perceptible on the right wing. Hind wings dull grey, with traces of 4 curved whitish fasciæ, most distinct on the inner margin, and a marginal row of white spots. Head, antennæ, and thorax bronzy fuscous; vertex with a snow-white spot; thorax with a pair of white spots in front, and probably three more behind; abdomen grey like the hind wings, with an indistinct row of pale dots along the back. Underside dull bronzy fuscous, with every one of the white markings of the upper-side exactly reproduced.

Expanse of wings 26 millim.

Hab. Sikkim. A very distinct looking insect, though the markings follow the pattern of the other allied species of *Perizoma*.

[Rare on Tonglo in July. I also have two from Möller dated October.—*H. J. E.*]

PERIZOMA BICOLOR, sp. n.

♂. Fore wings glossy umber with a reddish tinge; central fascia, the edges of which are irregularly dentate, and which occupies just one third of the wing, blackish fuscous; the whole wing also with a slight olive tinge; a dark line visible close to the base; a dark linear cell-spot, and a darker sinuate central shade along the middle of the central fascia; hind margin deeper tinged; submarginal line composed of a series of slight whitish spots; fringe concolorous with black basal line. Hind wings glossy white, tinged with grey along the hind margin; fringes rufous. Head, thorax, and abdomen concolorous. Underside of fore wings cinereous, fuscous-tinged, whiter towards hind margin; with the submarginal series of spots whitish; hind wing whitish, dappled with grey, with no distinct lines.

Expanse of wings 26 millim.

Hab. Sikkim.

[A single specimen taken by myself at light at about 12,000 feet.—*H. J. E.*]

PERIZOMA FASCIATA, sp. n. (Plate XXX. fig. 20.)

♂ ♀. Fore wings bronzy fuscous-brown; the central fascia bounded on either side by a sinuous white fascia, each of which is traversed by a darker line; these two fasciæ are most distinct towards the costa, and the inner is irregularly denticulate outwards in the middle; a single sinuate white line across the centre of the basal patch; submarginal line indicated by a row of varying-shaped white spots; followed by a similar series of white spots, but smaller, before the base of the fringes, which is black; the marginal area is interrupted in the middle by a roundish white blotch; fringes rufous and grey. Hind wings glossy white, darker

towards the hind margin; fringes yellowish. Head, thorax, and abdomen concolorous with fore wings. Underside of fore wings cinereous, with the 2 outermost series of spots and the costal portion of the exterior fascia white; hind wing glossy white, with the basal area fuscous, and 5 denticulated curved fasciæ, of which the 2nd and 4th are thickest.

Expanse of wings 24 millim.

Hab. Sikkim.

[A common species along the Nepal frontier in July, from 10,000 to 12,000 feet.—*H. J. E.*]

PERIZOMA INTERRUPTA, sp. n. (Plate XXX. fig. 18.)

♀. Fore wings fuscous with slight tawny shades; the central fascia bounded on either side by a broadish pale fascia, each traversed by a dark line; the fascia itself traversed by two or three paler lines; basal patch traversed by a narrower pale fascia, also divided by a darker line; marginal area darker fuscous; submarginal line composed of the usual series of white spots; marginal area interrupted below the middle by a subquadrate pale whitish blotch; the exterior fascia being likewise interrupted at the same place by a dull greyish-fuscous cloud; fringes fuscous, chequered with paler, with the basal line broad, black, interrupted by a small pale dot on each vein. Hind wings whitish grey, with fringe and basal line as in fore wings. Head, thorax, and abdomen fuscous. Underside of fore wings cinereous, with the submarginal series of spots and costal end of exterior band whitish; hind wings whitish, with a dark discal spot, and 5 more or less distinct denticulated curved bands, of which the 2nd and 4th are thickest.

Expanse of wings 28 millim.

Hab. Sikkim.

Near *P. seriata*, Moore, and of the same size.

PERIZOMA (?) *ALBIDIVISA*, sp. n.

♂. Fore wings dull brownish; basal patch bounded by a pair of very fine, parallel, white thread-like lines, curved a little below the costa, the outer of the two emitting a small tooth outwards in the cell and in the space between the median and submedian; basal patch itself subdivided in the centre by a single fine thread-like line; central fascia thrice as broad on costa as on inner margin, its outer edge bluntly elbowed in the middle; followed by a pair of fine white lines, the inner of which emits 2 teeth inwardly towards the corresponding teeth of the line between the basal patch and central fascia; these two lines are followed immediately by a single, more irregular, whitish line; subterminal whitish, consisting of a series of small curves; the four whitish lines forming an indistinctly expressed whitish patch below the centre of hind margin; space above and below this patch, between the subterminal and exterior lines, distinctly brown on costa and inner margin; fringe brown, preceded by indistinct series of dark spots. Hind wings cinereous fuscous, with markings visible only at anal

angle. Head, face, thorax, and abdomen fuscous. Underside cinereous, tinged with luteous, with the markings faint.

Expanse of wings 18 millim.

Hab. Naga Hills.

[Several specimens taken by Doherty in July agree with the type.—*H. J. E.*]

PERIZOMA CONJUNCTA, sp. n.

♂ ♀. Fore wings white; the edge of the basal patch represented by a curved dark brown-black fascia, the costa itself from the base being suffused with fuscous; central fascia indicated by very fine grey lines, each marked by a minute black dot on the veins; discal dot large, black, touching a brown-black quadrate patch, which occupies the costal portion of the fascia, and contains a tawny line along the subcostal; the outer edge of the central fascia has a small angulation below the costa and a bilobed projection below the middle, beneath which it is suddenly contracted in width; hind marginal space a mixture of fuscous tawny, grey, and white; the subterminal line appearing as a series of regular white undulations, preceded immediately by a narrow tawny fascia; fringes mottled grey and white, preceded by an irregular series of black lozenge-shaped spots; between the basal patch and central fascia and beyond the latter a broad pale band, each traversed by a fine thread-like line; the lower part of the central fascia is slightly darkened with grey, and contains two grey transverse lines, dotted with black on the veins. Hind wings dull fuscous, with the margin and discal dot darker. The above description applies to the ♀; in the only ♂ examined, the *whole* of the central fascia is filled up with brown-black. Face, vertex, collar, and patagia snow-white; thorax itself brown-black, as are the palpi; abdomen greyish ochreous. Underside glossy grey, dusted with darker, and with all the dark markings of the upperside denoted.

Expanse of wings 20 millim.

Hab. East Pegu.

[Taken at 4500 feet in the Karen Hills by Doherty in April.—*H. J. E.*]

GAGITODES, gen. nov.

Anticlea, Moore, Lep. Coll. Atk. p. 273.

Fore wings elongate triangular, bluntly subfalcate; costa straight, except at extreme base and apex, where it is curved; hind margin faintly indented below apex, and showing a slight elbow at end of third median nervule; hind wing rounded. Palpi rough, shortly porrect; antennæ simple, somewhat thickened and flattened in ♀. Thorax with a double crest of short erect scales behind. Scaling smooth and fine. Neuration:—1st median nervule at about half the length of cell; 2nd and 3rd from lower angle; lower radial from middle of the discocellular; upper radial from below the upper angle; last 4 subcostal nervules from

a common stem from the upper angle of cell, the 5th starting half-way; the 2nd, 3rd, and 4th, one after the other, in the order named. Hind wings with the cell broad and the discocellular angulated; the subcostal nervules on a common stem.

Type, *G. schistacea*, Moore (*Anticlea*).

GAGITODES OLIVACEA, sp. n. (Plate XXX. fig. 6.)

♀. Fore wings olive, suffused with darker; basal patch small, velvety black, finely edged with white, not reaching the inner margin; central fascia interrupted in the middle; costal portion shaped something like an hour-glass, velvety black, edged with white; lower portion short, of the ground-colour, toad-stool shaped, edged with whitish; submarginal line sinuous, irregular, white, twice interrupted; fringes olive, with darker dots at end of veins. Hind wings and fringes dull whitish, with black dots at end of veins. Head, thorax, and abdomen olive. Underside ashy, with the basal half of both wings darker.

Expanse of wings 28 millim.

Hab. Sikkim.

[A pair of this distinct species are all I have seen. I collected them on Sundukpho at about 12,000 feet in July.—*H. J. E.*]

EURYPEPLODES, gen. nov.

Fore wings ample, with costa curved throughout, and with an indistinct bulge about $\frac{1}{3}$ from the base; apex blunt; hind margin evenly and strongly curved. Hind wings broad, rounded; hind margin slightly elbowed below the middle. Antennæ, ♀, simple, slender; forehead decidedly projecting; tongue present; palpi as in *Iramba*, long, rostriform, loosely scaled beneath. Neuration:—Fore wing: cell half the length of the wing; discocellular curved and oblique; 1st median nervule at $\frac{2}{3}$; 2nd shortly before end; 3rd from the end; the median nervure between the 2nd and 3rd inclined upwards; lower radial from a little above the centre of the discocellular; areole simple but large; upper radial from just above its lower angle; 5th subcostal from just below its upper angle; 1st subcostal also just before the upper end; 4th from the upper angle; 2nd and 3rd out of 4th at $\frac{1}{5}$ and $\frac{2}{5}$ respectively. Hind wings: cell unusually broad, somewhat contorted; costal anastomosing with subcostal to near the end of cell; 2 subcostals on a common stem; discocellular subangulated; radial from the angulation; median nervules as in fore wings.

Type, *Eurypeplodes irambata*, sp. n.

The genus seems intermediate between *Hydrelia* and *Eupithecia*, having the shape and markings of the former, with the raised cell-spot of the latter, and the palpi of *Iramba*. I have not seen a ♂.

EURYPEPLODES IRAMBATA, sp. n. (Plate XXX. fig. 8.)

♂. Fore wings pinkish testaceous, with a succession of darker, slightly wavy lines, angulated on the subcostal, and darker thence to the costa; those forming the edges of the central fascia show as small

brown streaks on the costa; subterminal line indicated by a series of whitish dots on the veins; fringe concolorous; discal spot small, black, consisting of raised scales. Hind wings like fore wings, but with the base and costal region pale and less marked with lines; face, thorax, and abdomen concolorous; vertex paler; palpi dark brownish. Underside duller, almost without markings; both wings with cell-spots dark.

Expanse of wings 30 millim.

Hab. Sikkim.

[One ♀ was taken by myself at about 10,000 feet, and two more by my collector on the Nepal frontier.—*H. J. E.*]

CALLUGA MODESTA, sp. n.

♂. Fore wings sandy, more or less suffused with greyish; more grey towards the hind margin; margin of basal patch and inner edge of central fascia indistinctly defined and angulated; external edge of central fascia denticulated near the costa, where it runs outwards, then deeply indented, and undulating towards the inner margin; it is finely margined throughout with whitish, which forms a wedge-shaped blotch at the indentation; submarginal line distinct, finely denticulated, fringes paler at their apices, with a fine blackish basal line. Hind wings sandy grey, less grey at the extreme base; basal $\frac{2}{3}$ traversed by 3 or 4 indistinctly expressed, undulating, darker lines; marginal grey area traversed by a fine undulating paler line, a pale fascia, with a fine darker central line, between the grey basal $\frac{2}{3}$ and the marginal area. Head, thorax, and abdomen sandy ochreous. Underside dull straw-colour, with the markings grey.

Hab. Darjiling.

[Taken by me at light, the only one I have seen from Sikkim, but two from East Pegu appear to be the same species.—*H. J. E.*]

IRAMBA SPISSIDENTATA, sp. n.

Fore wings fuscous with an olive tint, with very indistinct markings; an inner, outer, and subterminal pale fascia, each edged and traversed by a very much denticulated dark line; cell-spot large, dark. Hind wings the same. Head and thorax concolorous. Underside dull ashy, with the basal $\frac{2}{3}$ rather darker.

Expanse of wings 16 millim.

Hab. Sikkim.

A very obscure-looking species.

EUPITHECIA COSTIPICTA, sp. n. (Plate XXX. fig. 21.)

♀. Fore wings pale whitish grey, with the lines forming on the costa 4 dark and darker-edged spots, each preceded by a single small dot; all the lines are angulated below the costa, and then run parallel to hind margin; marginal space beyond the subterminal line slightly darker; fringes concolorous with dark basal line. Hind wings pale grey, with many wavy indistinct lines, which, as usual, are plainer along the inner margin. Head and

thorax grey; abdomen darker, tinged with reddish. Underside pale, with the lines indistinct, but the cell-spots in both wings expressed.

Expanse of wings 26 millim.

Hab. Sikkim.

[A single specimen only, in perfect condition, taken by one of my native collectors at about 8000 feet.—*H. J. E.*]

EUPITHECIA RUBRINOTATA, sp. n. (Plate XXX. fig. 22.)

♀. Fore wings dull ochreous green (probably, when fresh, brighter green), with a basal, angulated second, and curved exterior line, all blackish and marked more distinctly on the veins; between the 2nd and 3rd on the costa lies an irregularly triangular brick-red blotch. Hind wings with a blackish cell-spot and the 2nd and 3rd lines represented. Head, thorax, and abdomen concolorous; the latter with a broad black band and black dorsal and lateral dots. Underside paler, with the base of the costa, the cell-spots, and outer line all broadly black.

Expanse of wings 24 millim.

Hab. Sikkim.

The specimen above described is not in very good condition.

EUPITHECIA ATROVIRIDIS, sp. n. (Plate XXXI. fig. 19.)

♂. Fore wings apple-green, paler at the base and along the costa; basal line denoted by 3 black spots, one on costa and inner margin, the central one on the median vein; costa brown-black from base to the first spot; 2nd line starts as a blackish triangle on the costa, and, like the basal, is denoted by a small dark spot on the median, and a longer oblique one on the inner margin; exterior line starts as a small triangle on the costa, and is denoted by a curved series of black dots on the nervules; a blackish, square, apical and subapical blotch, and a smaller one at the anal angle; subterminal line pale and sinuous; fringes green. Hind wings green, with the 2nd and 3rd lines only represented. Head, face, and thorax pale ochreous flesh-colour; abdomen the same, with a black ring near the base. Underside glossy, pale, with the markings darker, the exterior line especially in both wings being broad, blackish, and elbowed.

Expanse of wings 18 millim.

Hab. Naga Hills.

[Doherty, 7000 feet.—*H. J. E.*]

EUPITHECIA ALBISPUMATA, sp. n. (Plate XXX. fig. 23.)

♀. Fore wings elongated, reddish fawn-colour, crossed by numerous alternate dark and light transverse lines, running parallel to hind margin, but angulated towards the costa; discal spot large, black, vertical, preceded by a mixture of grey and whitish scales, and followed by whitish scales, which stretch along the veins beyond the cell towards the hind margin; submarginal line fine, pale; fringes dark grey. Hind wings dull greyish white, much peppered

with dark grey and blackish along the inner margin. Head and thorax fawn-colour; abdomen more mixed with grey. Underside pale grey, slightly glossy, with alternate light and dark grey bands; both wings with black cell-spot.

Expanse of wings 26 millim.

Hab. Khasia Hills.

Subfam. ORTHOLITHINÆ.

ORTHOLITHA DUPLICATA, sp. n.

♂. Fore wings pale cream-colour; the costa broadly and suffusedly greyish fuscous; basal patch also greyish fuscous, its outer edge oblique, darker, not nearly reaching the costa; inner edge of central fascia represented by a long, curved, dark brown tooth, not quite reaching the cell-spot, which is linear and dark brown; outer edge, by a similar but longer and more curved fascia-form marking, reaching only to the subcostal; space between them pure cream-colour; the narrow pale space between the basal patch and central fascia traversed by a grey line, thickening upwards; beyond the central fascia a pale curved fascia of the same width as the dark exterior margin of the central fascia, traversed by 2 somewhat geminated brownish lines; hind margin brownish, the inner half the darker, with a pale line down the middle; fringes fuscous. Hind wings creamy white, slightly darker towards the fringes. Head, thorax, and antennæ greyish fuscous; abdomen lighter. Underside ochreous, almost entirely suffused with pinkish grey, with the upper markings showing through.

Expanse of wings 38 millim.

Hab. Chumbi.

[My native collectors brought a few examples of this distinct species from the Tibet frontier in 1883, and I have since had one from Möller; I believe it occurs at great elevations.—*H. J. E.*]

Subfam. URAPTERYGINÆ.

SIRINOPTERYX RUFILINEATA, sp. n.

♂ ♀. Larger and brighter than *rufivinctata*, Wlk., and with the 2 transverse lines also reddish like the costa and fringes.

Hab. Khasia and Naga Hills; Sikkim.

[The type specimen of this, which I took in September in the Khasia Hills, and which agrees with a Naga Hill specimen, is distinct enough, but some other Naga and Sikkim specimens show that the characters on which Mr. Warren has relied are not very constant, and I am unable at present to confirm his opinion.—*H. J. E.*]

SIRINOPTERYX UNDULIFERA, sp. n.

♂. Fore wings pale canary-yellow, more or less thickly strewn with coarse rusty, or rusty-brown, atoms, which are finer and denser along the costa, the base of which is brownish; 2 oblique rusty-brown lines, one from $\frac{1}{3}$ of the inner margin to the costa beyond

the middle, the other, consisting of a series of small curves, from $\frac{2}{3}$ of inner margin into the apex; cell-spot distinct brown; fringes rusty, deepest at their base. Hind wings with brown cell-spot, and one central transverse rusty-brown line. Face, vertex, collar, thorax, and abdomen yellow; palpi, upper part of face, and front of thorax rusty-brown. Underside paler.

Expanse of wings 46 millim.

Hab. Sikkim.

[Four examples of this species were taken in March by Mr. Knyvett's native collectors, and agree with a fifth sent by Möller. It seems a distinct species.—*H. J. E.*]

Subfam. DEILINIINÆ.

APLOCHLORA, gen. nov.

Iodis?, Wlk. xxii. p. 544.

Fore wings with costa evenly arched from base to apex; hind margin simply and obliquely curved; hind wings rounded, with a scarcely perceptible elbow in the centre of hind margin. Palpi extremely short; antennæ in ♂ simple; hind tibiæ with 4 long spurs. Neuration as in *Bapta*. Although the green coloration of the species suggests an affinity with the Geometrinæ, this is merely superficial; the hind wings are without a radial.

Type, *Aplochloa vivilaca*, Wlk. (*Iodis*).

APLOCHLORA VIRIDIS, sp. n. (Plate XXXI. fig. 7.)

♂. Fore wings pale green, without markings; a small black discal dot; costa broadly yellowish ochreous; fringes yellowish ochreous. Hind wings with dark discal dot and yellowish fringes. Underside whitish. Head, thorax, and abdomen glossy whitish.

Expanse of wings 26 millim.

Hab. Sikkim.

[The only specimens I have seen were taken by Möller's collectors in the interior.—*H. J. E.*]

BAPTA GRISEOLA, sp. n.

♂. Fore wings iridescent white, thickly dusted with dark grey scales, with 2 dark grey transverse lines, one at $\frac{1}{3}$ outwardly curved and running vertically to the inner margin; the other at $\frac{2}{3}$, also outwardly curved, and slightly indented above the inner margin; extreme costa and fringes yellowish; a large black cell-spot. Hind wings the same, but without the first line. Head, face, and thorax white; abdomen white, freckled with grey. Underside dull iridescent white, without suffusion or markings of any kind.

Expanse of wings 36 millim.

Hab. Sikkim.

[Taken at Darjiling in August by me and by Mr. Knyvett in May.—*H. J. E.*]

ORTHOCABERA BRUNNEICEPS, sp. n. (Plate XXXI. fig. 23.)

♂ ♀. Resembles *O. sericea*, Butler, from Japan, but larger, with all the markings much more strongly expressed; head, face, and palpi all brown.

Hab. Sikkim.

[I have this from Messrs. Gammie and Knyvett, taken in spring, and one from Mr. Dudgeon marked February. Mr. Doherty took it in the Karen Hills in March. It seems to occur at about 5000–7000 feet. It is a very distinct, well-marked species.—*H. J. E.*]

MICRONIDIA (?) SUBPUNCTATA, sp. n. (Plate XXXI. fig. 11.)

♀. Fore wings silky white; costa speckled with brown striæ; 4 transverse pale olive lines; the second, as usual, the broadest, in the middle of the wing beyond the cell-spot, which is a distinct blackish dash; 4th line olive, parallel to hind margin, broader and more distinct than in *simpliciata*; 1st and 3rd very slender, the olive tints much interrupted, but marked on each vein by a black dot; the basal line preceded by 2 or 3 transverse dark striæ; a strong black basal line before the fringes, distinctly interrupted on the veins; fringes tinged with olive. Hind wings the same, but without the 1st line; the other 3 meet towards the anal angle, before which are 2 large black spots; inner margin also pale olive. Head and thorax white, tinged with pale olive; abdomen entirely pale olive. Underside white, with the costal striæ and cell-spot darker, the other markings showing through.

Hab. Sikkim. In these examples the antennæ are subserrate and ciliated; it is therefore probable that those of the ♂ will be found to be pectinated.

[I took one specimen myself at Tonglo and have two others from the interior, all females.—*H. J. E.*]

MICRONIDIA UNIPUNCTA, sp. n.

♀. Fore wings pure creamy white, with 4 straight pale olive-ochreous streaks. Costa with a few irregularly disposed dark striæ. The first line is nearer the base than in *simpliciata*, Moore; the second, the broadest, is *before* the middle of the wing, and includes the cell-spot, which is very faint and lies on the outside edge of the fascia; the 3rd is straight like the 2nd and not waved as in *simpliciata*; all these three run parallel to one another, slightly inclined outwards; the 4th band is narrower and parallel to the hind margin, therefore inclined at a slight angle to the 3rd; none of the 4 lines touches the costa; a fine black line at base of fringes, attenuated at the end of each vein. Hind wings without 1st line; 2nd and 3rd as in fore wings; 4th, edged distinctly with brown externally, runs from the *extreme* apex to before the anal angle; space beyond it to the hind margin whiter, containing only 1 black spot above anal angle; fringe-line very fine and interrupted. Head, face, thorax, and abdomen silky white. Underside all white, but with the markings of the upperside showing through.

1 ♀ from Darjiling the same size as the ♂ of *simpliciata*, Moore, which is smaller than the ♀.

[The only specimen I have seen was collected by Mr. Knyvett.—*H. J. E.*]

PLUTODES TRIANGULARIS, sp. n.

♂. Very closely allied to *P. costatus*, Butler, but larger; the yellow costal streak decidedly broader, with a much enlarged triangular central tooth; patch at the anal angle much broader; basal line brown at $\frac{1}{4}$, and vanishing in the yellow costal streak *before* the first small yellow tooth. (In *costatus* this line is at $\frac{1}{3}$ and runs up to the same yellow tooth.) In the hind wing the yellow patch at the inner angle is separated from the brown ground-colour by a nearly straight line, while in *costatus* the same is manifestly sinuous. Underside of both wings *yellow*, with a vinous tinge; an irregular purplish blotch towards the apex of both wings; the fore wings with an oblique purplish bar in the middle. The basal half of the patagia, as well as the collar, *yellow*.

Expanse of wings 46 millim.

Hab. Sikkim; Naga Hills.

[Seems rare in Sikkim, where I took one myself at 2300 feet in May, but is commoner in the Naga Hills.—*H. J. E.*]

ZAMARADA (?) *MARGINATA*, sp. n. (Plate XXXII. fig. 22.)

♂. Fore wings ochreous, with many fine transverse brown or greenish striæ; base of fore wing, costa, apex, and hind margin black-brown, with some chalybeous reflections; the costal streak is traversed by pale irregular striæ; a discal, dark-edged, somewhat sinuous ocellus, darker above, where it touches the costal streak; the dark marginal region is bounded by a very indistinct thickish 2nd line, which, starting from the costa at about $\frac{3}{4}$, forms a large outward curve, nearly touching the hind margin, and an obtuse projection at anal angle. Hind wings more thickly striated than fore wings, with a small, dark, discal spot, and the submarginal line running close to and parallel with the hind margin, the space between them being black-brown, with the chalybeous reflections stronger than in fore wings. Head, thorax, and base of abdomen black-brown, rest of abdomen ochreous. Underside pale greenish yellow, with a vitreous appearance; both wings with a broad black-brown marginal band. The discal spots on both wings distinct; the marginal band shows through on the upperside as a brownish smudge along the inner edge of the narrow dark border.

Expanse of wings 28 millim.

Hab. Naga Hills.

[Doherty sent one specimen only, taken at about 3000 feet in Sept.—*H. J. E.*]

Subfam. ABRAXINÆ.

OBEIDIA, Wlk. xxiv. p. 1139.

Type, *O. vagipardata*, Wlk.

OBEIDIA MILLEPUNCTATA, sp. n.

♂. Fore wings white, yellowish towards the base, with irregular clusters of small brown-black spots along the first half of the costa, at the apex, and along the hind margin; extreme apex and fringes wholly brown-black; at the middle of the costa is a large squarish patch, with 4 oblong smaller blotches below it, one on the median vein, the other 3 on the 3 median nervules, just beyond the origin of each; below these, on the inner margin, are 2 irregular brown-black patches. Hind wings white, with the apex and hind margin irregularly blotched and dotted; an interrupted central fascia, consisting of a quadrate dark blotch on the costa, and 4 smaller oval ones, on the submedian and 3 median nervules respectively, the 2 upper ones being contiguous. Underside the same. Head, thorax, and abdomen yellow, with the usual black spots.

Expanse of wings 48 millim.

Hab. Sikkim.

[Males of this species were taken by Möller's native collectors in the interior, but I have never seen the insect myself alive.—*H. J. E.*]

OBEIDIA FUMOSA, sp. n.

♂ ♀. Resembles *O. libellulalis* in size and shape; the costa varied with yellow for $\frac{2}{3}$ from the base; a series of irregular roundish costal spots, an interrupted submarginal row of spots, the discal spot, and another between it and the base, the hind margin broadly, and the inner margin more irregularly, smoky grey; hind wings the same, but without the basal spot; the spots on the fore wing often irregularly confluent. Underside the same as upper; abdomen yellow, with black dots. Distinguished from *O. libellulalis* by the absence of the yellow hind margins of the wings and the duller grey ground-colour of the markings.

Expanse of wings 70 millim.

Hab. Naga Hills.

[Seems not uncommon at 5000–6000 feet, where Doherty took several specimens.—*H. J. E.*]

PARICTERODES, gen. nov.

Abraxas?, Moore, P. Z. S. 1867, p. 653.

This new genus is necessary for the reception of *Abraxas* (?) *tenebraria*, Moore, and 3 or 4 other species. It resembles *Icterodes*, Butler, superficially, but is distinguished by the structure of the palpi and the coloration of the abdomen. The latter, instead of being yellow with black spots, as in the normal *Abraxinæ*, is concolorous with the hind wings. The palpi are porrected

forwards, slightly decumbent, with the 3rd joint distinct and pointed, whereas in *Icterodes* they are stout, short, and inclined upwards.

Type, *Paricterodes tenebraria*, Moore (*Abraaxas*?).

PARICTERODES COMMIXTA, sp. n.

♂ ♀. Fore wings bronzy olive; if carefully examined, however, the ground-colour will be seen to be dull whitish, so thickly overlaid with ochreous and dull olive spots and strigæ, interspersed with blackish spots and shades, as to be itself almost obliterated. If viewed obliquely, the direction of the transverse lines and lighter spots becomes plainer. The basal $\frac{2}{3}$ of the wing is more or less overspread with blackish, especially towards the costa; in the outer $\frac{1}{3}$ can be seen 3 curved rows of black spots between the veins, running parallel to the hind margin, and between them, but fainter, similar rows of pale, slightly shining spots. These are much plainer in the ♂, especially along the submarginal line; fringe chequered, light ochreous and dark olive, with a basal row of black spots between the veins. Hind wings dull glossy grey, densely irrorated with darker grey, with a dull central spot and 2 indistinct dark curved lines; fringes dull ochreous, not chequered. Underside: fore wings blurred cinereous, darker along the costa, variegated with ochreous towards the hind margin and along the costa; hind wings of ♂ clear pale ochreous, thickly dusted with dark grey atoms, with the dark central spot and central fascia distinct; in the ♀ dull ochreous white, with the same markings indistinct. Head, antennæ, and thorax dark bronzy olive, like fore wings; abdomen ochreous, mixed with cinereous as in the hind wings.

Expanse of wings 56 millim.

Hab. Sikkim.

[This fine species is not uncommon at high elevations in the interior. I took it at Sundukpho about 12,000 feet, and my native plant-collector brought it from Jongri at 13,000–15,000 feet. It flies in July and August.—*H. J. E.*]

PARICTERODES LUCIGUTTATA, sp. n.

♂ ♀. Fore wings white, almost entirely suffused with olive-ochreous, which tint is especially thick along the veins towards the hind margin; 4 dark brown-black irregular fasciæ can be traced across the wings running parallel to the hind margin; the space between is dotted with minute white atoms of the ground-colour, the submarginal being followed by a more distinct and regular series; when viewed obliquely, all these white patches appear silvery bluish; costa between the dark lines ochreous, dotted with black; fringes chequered, light and dark olive-ochreous. Hind wings greyish ochreous, minutely dusted with dark atoms, with an indistinct dark central spot and 2 faint dark curved fasciæ; fringes chequered, but only darker at end of veins. Underside dull cinereous ochreous along the costa and hind margin. Hind

wings clear ochreous or ochreous white, with larger flecks of darker and with the central spot and middle band plain. Head, thorax, and abdomen concolorous with fore wings. Underside of abdomen like hind wings.

Expanse of wings, ♀ 52 millim., ♂ 48 millim.

Hab. Sikkim.

A smaller and paler species than *commixta*, distinguished by having the fringes of the hind wings chequered as in the fore wings, and by the silvery lustre of the pale spots.

[Not uncommon on the Nepal frontier from 10,000 to 12,000 feet, where I took it in June and July.—*H. J. E.*]

PARICTERODES (?) VIOLACEA, sp. n. (Plate XXX. fig. 12.)

♀. Fore wings olive-tawny, thickly dusted with dark brown atoms, with 4 transverse black-brown bands, all more or less geminated, the 1st and 3rd evidently so; the second includes the dark central spot; the 4th or submarginal consists of dark wedge-shaped blotches lying between the veins, each followed by a brighter, pale spot; a dark apical and subapical blotch beyond; fringes chequered brown or pale tawny, the dark spaces twice as broad as the lighter; a row of roundish black spots before the basal line. The transverse dark fasciæ are interrupted across the 3 submedian nervules, along which a distinctly clearer tawny patch runs from near the base to the hind margin. When viewed obliquely, the intervals between the lines and the paler spaces which divide their geminations are seen to be purplish violet. Hind wings dirty grey, with only a faint trace of central spot, and still fainter of a curved fascia. Underside: fore wings blurred cinereous, with only the extreme costa ochreous, spotted with darker; hind wings clear pale ochreous, thickly dusted with cinereous, with distinct blackish central spot and central fascia, this latter decidedly *angulated* in the middle. Head, thorax, and abdomen dark, mottled brown and tawny; the abdomen with less mixture of dark than the head.

Expanse of wings 38 millim.

Hab. Sikkim.

Possibly the ♀ of *Micrabraxas subolivacea* described later on.

[Two specimens taken at Sundukpho at about 12,000 feet by me in July; others from native collectors.—*H. J. E.*]

PERCNIA SUBMISSA, sp. n.

♂. Wings greyish white, with a slight pinkish tinge; spots as in *belluaria*, but reduced in size, and rounder, more dot-like; in the submarginal row the 3rd and 4th from the costa are nearer each other than each is to the one above and below; underside the same; abdomen white, with two black spots on each segment.

Expanse of wings 44 millim.

B. M., Dharmsala.

Hab. Sikkim.

[Not uncommon in April and May in the valleys of the interior.—*H. J. E.*]

PERCNA INTERFUSA, sp. n.

♂. Fore wings greyish white, suffused at base, along the costa and the hind margin, with dark smoky grey; the spots all elongated; the first 3 costal spots enlarged into quadrangular blotches. Between the discal and submarginal row of spots is a row of grey wedge-shaped blotches, ending on the inner margin with 2 larger contiguous darker grey blotches; another and more suffused series of similar blotches before the hind margin; fringes grey. Hind wings purer white; the intermediate series of grey blotches much reduced in intensity; fringes white. Thorax and abdomen dark smoky grey, with 2 black spots on each segment; thorax, head, and base of fore wings tinged with dull ochreous olive. Underside like upper, but with less grey suffusion, except along costa and hind margin of fore wing, the latter of which is wholly dark grey.

Expanse of wings 60 millim.

Hab. Naga Hills.

[I have only seen the type of this, which was taken by Doherty at about 6000 feet in Sept.—*H. J. E.*]

METABRAXAS REGULARIS, sp. n.

♂. Fore wings dull white, traversed except on the disk by a succession of series of brown-grey spots and blotches; basal patch consisting of 3 interrupted lines of grey blotches, tinged with dull ochreous, followed by a 4th still more interrupted; cell-spot large, oval, leaden grey; followed by 6 sinuous series of grey blotches, more or less parallel to the hind margin; the 1st, 3rd, and 5th consisting of smaller, more detached spots, lying on the veins; the 2nd, 4th, and 6th of larger, more confluent blotches, lying between the veins; the 2nd forming a dark double spot on the inner margin. Hind wings whiter; the spots smaller; the 2nd series beyond the cell-spot absent. Underside like the upper. Head, thorax, and abdomen dull yellowish grey, with the usual spots black.

Expanse of wings 74 millim.

Hab. Naga Hills.

ABRAXAS METAMORPHA, sp. n.

♂. Wings white; fore wings with basal area yellow, more or less overrun with cinereous spots, followed at $\frac{1}{3}$ of the wing by a brownish fascia of irregular width and shape, but generally apocopated below the median; a central irregular, brownish fascia, running nearly parallel to hind margin, composed of confusedly confluent spots, almost touching on the inner margin the sinuous submarginal fascia, along the centre of which can be traced for $\frac{2}{3}$ of the distance from the inner margin a pale yellow line; the submarginal band is recurved backwards just before the costa, and followed on the costa by an irregular-shaped, somewhat triangular blotch, which at times unites with it a row of round black spots along the extreme hind margin, the space between these and

the submarginal band sometimes with only 1 or 2 round spots, sometimes with several more or less confluent ones. Hind wing with a central round spot; a row of spots along the abdominal margin, a fascia-form row of spots beyond the centre, and a series of spots along the hind margin itself. Head, thorax, and abdomen yellow, spotted with black.

The distinctness of the markings seems to vary much, more particularly in the hind wings; it might well be considered a fixed form of the common *A. grossulariata*, but the sinuous submarginal fascia with its central yellow streak will well distinguish it.

Hab. Sikkim.

This form, I believe, occurs also in Japan. In Mr. Elwes's collection is a single ♀, rather larger than the Sikkim specimens, and with the sinuous submarginal band entirely interrupted for a short distance just above the centre by the pale ground-colour, which interruption gives the specimen a decidedly different appearance, but the central yellow line is present as in the Sikkim insect.

ABRAXAS DIAPHANA, sp. n.

♂. Fore wings dull pale or dark fuscous, with darker irrorations, very faintly tinged with yellowish towards the base; an indistinct dark line near the base, forming in part or wholly the margin of a basal patch; a small dark cell-spot and an oblique dark fuscous line beyond, parallel in the main to the hind margin, but with a slight bend above the middle. Hind wings the same, but a little paler. Underside like the upper; abdomen concolorous. Head and thorax tinged with dull yellowish.

In the Atkinson Collection placed as a variety of *irrorata*, Moore.

Hab. Sikkim.

[It is possible that this is only an extreme alpine form of *A. irrorata*, Moore, occurring at high elevations. I have 6 specimens, varying considerably in tint, which were taken by my native plant-collector, Phoolsing, at Jongri, about 13,000 feet, whilst *A. irrorata* occurs at about 10,000 feet.—*H. J. E.*]

ABRAXAS SEMILUGENS, sp. n.

♀. Fore wings white, with a few yellow scales near the base; the whole wing densely suffused with dark fuscous dots and shading, which are thickest at the edge of the basal patch and beyond the 2nd line; cell-spot black and distinct. Hind wings rather less thickly speckled, especially towards the base. Head, thorax, and abdomen pale yellow, with black markings; the segments of the abdomen marked with black triangles. Underside like upper, but still darker in the fore wings; cell-spot of hind wings prominent.

Expanse of wings 35 millim.

Hab. Sikkim.

[I think that this may be a small dark variety of *A. picaria*,

Moore, though it certainly looks distinct. The latter species varies considerably, and some of the forms are intermediate between it and *A. semilugens*. The type was taken in September.—*H. J. E.*]

ABRAXAS ALPESTRIS, sp. n. (Plate XXX. fig. 15.)

♂. Fore wings straw-yellow, slightly deeper yellow at the extreme base, and paler in the centre; the whole ground-colour almost obliterated by the density of the fuscous-brown irrorations, which form two darker shades, one indicating the outside edge of the basal patch, the other the ordinary 2nd line; touching the latter is a large round dark cell-spot; fringe chequered brown and yellowish. Hind wings white, for $\frac{2}{3}$ from the base, sparsely sprinkled with dark dots, and with a central spot; outer third dusted like the fore wings, and separated from the whiter basal field by a thick dark fuscous curved line. Abdomen fuscous mixed with yellowish. Underside like upper, the dark markings more prominent.

Expanse of wings 28 millim.

[Four males of this distinct species were brought from Sundukpho, on the Nepal frontier of Sikkim, by one of my native collectors.—*H. J. E.*]

ABRAXAS NIGRIVENA, sp. n.

♂. Wings shining white, with all the veins delicately traced in black; fore wings with the extreme costa from base to middle black; extreme base orange, with a single black dot at the base, and 3 on the outside of the orange patch, situated on the subcostal, median, and submedian veins respectively; fringes white, short; top of head and thorax orange; the latter with a small black dot on each side near the base of the wing and (probably) 4 black dots on the top. Abdomen pale yellow, with a dorsal and two lateral rows of black spots, one on each segment; the underside with an elongate black dash on each segment, nearly touching the lateral spots; antennæ blackish. Underside of wings white; in the fore wing, with the subcostal and discal areas blackish.

Expanse of wings 30 millim.

Hab. Sikkim; also in Mr. Moore's collection.

[Taken by me at Tonglo and on the Nepal frontier from 10,000 to 12,000 feet in July.—*H. J. E.*]

ABRAXAS TRISERIATA, sp. n. (Plate XXXI. fig. 9.)

♂ ♀. Wings shining white, but with an ochreous tint; in the ♀, towards the costa and base, dull greyish; all the veins clearly delineated in black; costa of fore wing narrowly black to beyond the middle; basal patch pale yellow, with a black spot close to the base itself, and the outer edge marked with an irregular, discontinuous black curved line, preceded by a less distinctly expressed similar line in the patch; just beyond the middle a curved blackish shade, and halfway between it and the margin a fine curved line, both parallel to the hind margin; the outer of the

2 lines marked, where it crosses each vein, by a black dot. Hind wings the same, but without the yellow basal patch; fringes white, short. Head and thorax yellow; the latter with black spots. Abdomen straw-yellow, with dorsal, lateral, and ventral row of black spots. Antennæ blackish. Underside white, with the cell-spots conspicuously black, but without the transverse fasciæ; fore wing with costal and subcostal areas blackish. The markings in the ♀ are darker than in the ♂.

Expanse of wings 36 millim.

Hab. Sikkim.

[Taken in the interior by Möller's collectors, probably at a high elevation.—*H. J. E.*]

Subfam. ENNOMINÆ.

PANISALA OLIVESCENS, sp. n.

♀. Ground-colour pale hoary grey, finely dusted with olive-brown atoms; a fine oblique straight basal line, parallel to the hind margin; median line parallel to it, from before the middle of the costa to before the middle of the inner margin, followed by a diffuse, olivescient shade, which fades into the ground-colour before the 3rd line, which starts from the costa halfway between the 2nd and the apex, is curved outwards, not inangulated, near its origin, and then runs back nearly straight, so as almost to touch the 2nd line on the inner margin; space beyond to the hind margin olivescient-brown, except below the costa, with a faintly paler submarginal fascia-form space. Hind wing like fore wing, but with no basal line, and with the 2nd and 3rd lines not nearly touching each other on the inner margin. Underside dull yellowish grey, lighter in the hind wings. Head, thorax, and abdomen pale whitish grey.

Hab. Sikkim.

Slightly larger than *P. truncataria*, Moore.

[Though the colour of this species is very different from that of *P. truncataria*, the pattern is the same. I have a male taken by Knyvett in April which matches the type female in colour. All my specimens of *P. truncataria* which are dated were taken in July and August, so this may be the early brood of it.—*H. J. E.*]

HOLOLOMA, gen. nov.

Distinguished from *Panisala*, Moore, by the structure of the ♂ antennæ. In *Panisala* the lateral branches forming the pectination are simple, thin, long, and projected obliquely forwards; in *Hololoma* they are short and blunt, and stand out nearly at right angles with the shaft, each having 2 fine short cilia at the apex, and finely ciliated laterally, these ciliations giving a filmy appearance to the whole pectination. The apex of the hind wing is either plainly rounded off or very faintly incurved, without the deep excavation that occurs in *Panisala*.

HOLOLOMA LUCENS, sp. n.

♂ ♀. Ground-colour pale shining grey, sparsely sprinkled with short transverse brownish strigæ; a red-brown, slightly curved, basal line; a thick, straight, red-brown median line, starting just from the middle of the costa, and reaching the inner margin before the middle, running exactly parallel to the hind margin; 3rd line, starting from costa at $\frac{3}{4}$, is strongly curved outwards opposite the cell, and then runs straight obliquely inwards, becoming thicker as it nears the inner margin, where it nearly touches the median line; marginal region smoky grey, with a dark submarginal line, consisting of fine lunules between each vein. Hind wing without basal line, but with the thick red-brown median line, as in the fore wing, and 2 other red-brown lines beyond the middle, which are nearer one another at the apex than on the inner margin; a distinct dark cell-spot on both wings; fringes reddish brown. Underside bright ochreous, with deeper red-brown strigæ and lines; the costa itself pale grey. Head, thorax, and abdomen above pale grey; underside of abdomen broadly bright reddish ochreous, as in *patularia*, Wlk. The hind wings are slightly excised below the apex. Distinguished from *patularia*, by the larger size, paler ground-colour, distinct cell-spots, and the presence of 3 dark lines, instead of 2, in the hind wings.

Hab. Sikkim.

[Taken by Möller's collectors in June, but I do not know the exact locality.—*H. J. E.*]

DALIMA INTRICATA, sp. n.

♂. Fore wing pale ochreous, sparsely dusted with very minute black atoms, the extreme base and base of costa slightly yellowish; 1st line brown, angulated below the costa, then running obliquely to the inner margin, rather nearer the base than usual; central line brown, straight, parallel to hind margin, thickened a little at its costal end; this line stands just before the middle of the wing; beyond it is the small blackish cell-dot; exterior line brown, thicker on costa, forming an acute angle towards the apex, then curved inwards to the inner margin at $\frac{2}{3}$, where there are 3 black spots on its inner side, and 2 smaller beyond it; a black-brown oblique apical streak nearly touches the angle of the exterior line, is obsolete for a short distance, and then curves away much more indistinct to the inner margin before the anal angle; an indistinct denticulated subterminal line runs across this; beneath the oblique apical streak are 2 or 3 small brown lunules before the base of the fringes, which are themselves deep brown; the whole hind margin is slightly discoloured with pale olive. Hind wings coloured like the fore wings, with a straight brown line before the middle, followed by the small cell-dot, then a fine line, consisting of 3 curves convex inwards, and still another indistinct line, which is straight only before the costa; apex produced in a sort of tail; at the base of the fringes above it is one, and below it 2, small

dark lunules; fringes pale to below the tail, then brownish. Head, thorax, and abdomen all ochreous. Underside brighter ochreous, with coarser mottlings, and all the markings rather plainer, the 3 black spots being merged in one large one.

Expanse of wings 50 millim.

Hab. Bhotan.

[Besides the type, which was taken by Möller's collectors in August, I have three specimens from Bernardmyo, Burmah, taken by Doherty in May at about 6000 feet. They agree perfectly.—*H. J. E.*]

LEPTOSTICHIA, gen. nov.

Fore wings with costa very gradually curved till near apex, where it becomes strongly convex; apex bluntly produced; hind margin incurved just below apex, then oblique and straight to anal angle. Hind wings ample, with very round hind margins. Antennæ, ♂, beset with fascicles of fine cilia. Palpi short, thick, blunt, the 3rd joint very minute; tongue present. Legs long and weak; hind tibiæ with 2 pairs of spurs. Neuration:—Fore wings: 1st median nervule at $\frac{1}{2}$, 2nd at $\frac{7}{8}$, 3rd from lower end of cell, the median nervule between the 2nd and 3rd being inclined upwards; discocellular curved, starting from the upper radial at a short distance beyond the point where that nervule leaves the subcostal; lower radial from centre of discocellular; 1st subcostal nervule from the same point as the upper radial; 2nd a little beyond 1st; 4th and 5th at a similar distance beyond 2nd; 5th running straight to hind margin below apex; 4th curving into the apex itself; 3rd out of 4th shortly before apex. Hind wings: 2 subcostal nervules separating just before end of cell, so that the discocellular rises from the 2nd subcostal, as in the fore wings from the upper radial; median nervules as in fore wings.

Type, *Leptostichia latitans*, sp. n.

LEPTOSTICHIA LATITANS, sp. n.

♂. Fore wings liver-colour, suffused with dull olive, and tinged in parts with lilac-grey; 1st line indistinct dull olive, slightly darkened on costa and inner margin, where it is preceded by a few pale lilac scales; 2nd line at $\frac{4}{5}$, darker on costa, dull olive, edged indistinctly with grey, runs first outward, then obliquely inwards, to a little beyond the centre of the inner margin, where it is preceded by a round black blotch; to the inside of this blotch a central olive shade can be faintly traced from a darker spot in the middle of the costa; marginal area wholly dull olive, except a narrow grey space immediately before the fringes; space between the 2 lines overlaid with slightly paler grey scales. Hind wings redder, with a curved line at $\frac{2}{3}$, answering to the exterior line of the fore wings, and between that and the base a broad, straight, blackish shade. Head, thorax, antennæ, and abdomen all concolorous. Underside dull tawny-orange, sparsely flecked with rather coarse fuscous dots, with a larger discal spot in the fore

wings, and a blackish shade from the inner margin of the hind wings running $\frac{2}{3}$ across the wing. Fringes of both wings, above and below, chestnut.

Expanse of wings 60 millim.

Hab. Darjiling.

It is more than probable that the black spot on the inner margin of the fore wings is variable.

[This species, of which I have only the type specimen sent me by Mr. Knyvett and taken in March, is wonderfully like *D. patnaria*, Moore, in colour, but very different in the shape of the hind wings.—*H. J. E.*]

GONODONTIS, Hüb. Verz. p. 287.

Type, *G. clelia*, Cram.

GONODONTIS VINOSA, sp. n. (Plate XXXII. fig. 21.)

♀. Fore wings vinous-grey, tinged with fulvous towards the hind margin, and with many small dark brown transverse striae, especially along the costa; 1st line dark red-brown, angulated below the costa, then running obliquely to inner margin; 2nd line double, thick, indistinct, parallel to the 1st; subterminal line dark brown-black, starting from the costa at the origin of the 2nd, running out towards the hind margin below the apex, and then obliquely to the inner margin, where it again meets the 2nd line; costal region generally greyer than the rest of the wing, especially before the apex; subapical region diffusely overrun with fulvous. Hind wings darker, more generally reddish; central line swollen in the middle, with a narrow lunular spot at end of cell, *without scales*. Hind margin still deeper red, with no fulvous suffusion. Head and thorax ashy grey; abdomen mixed with red. Underside pale ashy grey, with darker flecks; the 2nd line of the fore wings and the central one of the hind wings very distinct, red-brown as is the *lower* half of the inner line on the fore wings; the marginal area of the hind wings and the lower half of that of the fore wings clouded with reddish grey or brown; 2 small black blotches below the apex of the fore wings.

Expanse of wings 28 millim.

Hab. Sikkim.

Smaller than the other species of the genus, but with the characteristic excavation in the costa of the hind wings, and sinuosity in the inner margin of the fore wings.

[Sent by Möller's collectors without exact indication of locality. Evidently a rare species.—*H. J. E.*]

HYPOSIDRA ALBIPUNCTATA, sp. n.

♂ ♀. Fore wing dull purplish cinereous, with a slight olive tinge; 1st and 2nd lines and median shade all slightly curved, darker, and resembling shades, not lines; subterminal area paler grey, edged by the irregularly sinuous subterminal line; hind wings like fore wings with 2 darker bands; origin of lines on the costa of fore

wings and end on the inner margin of hind wings marked by minute white dots, the latter always conspicuous; hind margin of fore wing below apex occupied by a diffuse bronzy olive suffusion. Underside purplish grey, with the middle and 2nd lines, the discal spots, and a shade following darker.

Expanse of wings, ♀ 56 millim., ♂ 48 millim.

The largest species of the genus.

Hab. Sikkim.

[Taken by Möller in March and May, in the low valleys, where it seems a rare species.—*H. J. E.*]

FASCELLINA INORNATA, sp. n.

♂. Fore wings dull olive-brown, shaded with dark brown beyond the 3rd line, and dusted sparsely with dark brown striæ towards the base and inner margin; 1st line dark brown, obliquely sinuous, with some pearly silvery scales, which are plainest on the inner margin and on the veins; 2nd line thick, sinuous, running in the main parallel to the 1st line, and to the hind margin; an indistinct, oblique brown blotch from the costa beyond the origin of the 1st line runs to meet the 2nd line below the costa; 3rd line brown, sinuous, apparently double, with a pearly silvery thread up the centre, consisting of a series of curves, concave basewards between the veins; the line forms a sinus inwards at the centre, and outwards below the costa, before which it is recurved again basewards, and is followed on the costa by a silvery blotch; the line is followed on the inner margin by a patch of silvery scales, and some indistinct teeth of the same colour can be made out in the dark submarginal space; costal space between 2nd and 3rd lines dull tawny. Hind wings thickly beset with dark transverse striæ at the base, with a nearly straight double brown silvery-centred middle line, and a less distinct denticulated submarginal line. Head, thorax, and abdomen above dark olive-brown. Underside bright fulvous; the basal half of the costa paler; the hind margin cinereous; 2nd line deep fulvous from costa halfway across the wing; 3rd line marked by a diffuse edging of pearly scales in the upper half, by a fine silvery line in the lower. Hind wings with 2 curved red-brown lines, which do not approximate. Underside of abdomen and thorax fulvous.

Expanse of wings 36 millim.

Hab. Sikkim.

Akin to *F. chromataria*, distinguished by the absence of white spots, and the presence of the dull tawny patch below the costa towards the apex. The antennæ are much more densely and lengthily ciliated than they usually are in this genus.

[This type is from the Atkinson Collection. I have another like it from Möller; it is evidently a rare species.—*H. J. E.*]

FASCELLINA SUBSIGNATA, sp. n.

♂. Fore wings ashy grey, much suffused with dull olivaceous, and chequered with a few darker striæ; 1st line, dark olive, forms an

acute angle outwards, then runs sinuously inwards parallel to the hind margin, a pale grey triangular costal space beyond it; 2nd line, dark olive with a slightly paler edging externally, leaves the costa at $\frac{2}{3}$, forms a large blunt curve nearly touching the hind margin in the centre, and then runs inward to the inner margin at $\frac{2}{3}$; the costal space beyond it is paler grey; the whole central area between the 2nd line and the 1st line (except a narrow paler space just beyond this last) is dark olivaceous, as is the hind margin. Hind wings with basal half pale grey, flecked with short dark-olive striæ; central line straight, dark olive, followed by a pale slightly yellowish one; rest of the wing deep olive; fringes dark olive. Head, face, and thorax dark olive; abdomen and apex of the patagia paler. Underside: fore wings silvery grey, towards the inner margin yellowish, the dark olive space between the outer line and the central shade (which latter is not discernible above) represents very accurately the head and neck of a bird; the hind margin, a triangular costal blotch before the apex, and a large irregularly rounded blotch above the anal angle, are also olive-brown; the latter contains a yellow triangle at the anal angle, and the top of the bird's head is yellowish. Hind wings dull canary-yellow, freckled with black; a strong, thickly-scaled, double, brown central line, followed by a very slender curved one. Underside of abdomen and thorax dull yellow.

Expanse of wings 34 millim.

Hab. Sikkim.

Nearest to *F. plagiata*, Wlk. = *viridis*, Moore.

[This also seems a rare species, of which I have only two specimens without exact indication of locality.—*H. J. E.*]

GAREUS DISCOLOR, sp. n. (Plate XXXII. fig. 19.)

♂. Fore wings pale fawn-grey, finely dusted with darker atoms, and tinged in places with dark fulvous; 1st line scarcely darker, angulated below the costa, and preceded by a slightly paler space; a small black dot on the median and submedian veins; central shade diffuse, brownish, angulated below the costa, as in the case of the 1st line; a small blackish cell-spot at the extremity of the angulation; exterior line starting from an oblique brown costal blotch, followed by a clear white one, angulated like the others, and dusted below the angulation by a row of black dots on the veins; subterminal line very indistinct, starting from a whitish subapical blotch and followed in the centre by a small dark blotch. Hind wings paler, with similar markings, the central shade being reproduced as a thickish black basal line, and the 2nd line appearing denticulate, followed by a darker shade, which renders the subterminal line more conspicuous; on the abdominal margin the 2nd line is broadly black edged with white. Underside silvery grey with the lines dark; with the base, the disk, and the hind margin of the fore wings and the hind margin only of the hind wings suffused with olive-fuscous. Head, thorax, and abdomen like the ground-colour; face and palpi brownish (? with grease).

Expanse of wings 28 millim.

Hab. Naga Hills.

[The type is unique, and was taken by Doherty at about 8000 feet in July.—*H. J. E.*]

ISCHALIS, Wlk. xxvi. p. 1749.

Type, *I. incaria*, Guen. (*Epione*).

ISCHALIS COLORATA, sp. n. (Plate XXXII. fig. 26.)

♂. Fore wings pinkish ochreous, but the ground-colour is almost wholly overrun by a suffusion of tawny, the pale interspaces being likewise dappled with spots of the same tint; no 1st line; exterior line at $\frac{5}{6}$ pale silvery lilac, nearly parallel on the whole to the hind margin, forming a small sinus outward below the costa, and a similar one inwards above the inner margin; this line is followed immediately by a dull olive-green fascia, which is succeeded by a paler, narrower, somewhat interrupted fascia of the ground-colour, beyond which the whole marginal area is tawny; the nervules beyond the exterior line are themselves marked with the same tint of silvery lilac, dotted in places with dark brown; the whole basal $\frac{1}{3}$ is dark tawny, divided on the costa by a small paler space; a narrow tawny blotch lies on the costa in the middle; cell-spot diffuse, roundish, dark brown. Hind wings like fore wings, but the basal area only dappled sparsely with tawny spots, with the commencement on the inner margin of an irregular rust-coloured line. Head, thorax, and abdomen ochreous suffused with tawny. Underside like upper, but more brightly coloured—the tints of ochreous, tawny, and green much more brightly contrasted.

Expanse of wings 48 millim.

Hab. Sikkim.

[Brought by my native plant-collector from Jongri in the interior, where he took it at 13,000 feet in September. I have seen one other specimen only.—*H. J. E.*]

PRIONODONTA, gen. nov.

Fore wings with costa slightly convex at base and before apex, slightly concave between; apex subacute; hind margin subdentate, with a decided elbow in the middle, beneath which it is oblique; anal angle distinctly expressed; inner margin visibly incurved just before it. Hind wings with costa outlined as in fore wings, shouldered before apex; hind margin dentate, the teeth at the end of the 2 subcostals and 3rd median most prominent. Forehead slightly protuberant; palpi horizontally porrect; 2nd joint broad, loosely scaled, 3rd much shorter, smooth, subconical; tongue present. Antennæ of ♂ more than half as long as fore wings, bipectinate, the pectinations themselves short and stout, pubescent, becoming gradually smaller, so that the apex is subdentate only. Fore tibiæ short, with a tuft of hairs beneath;

hind tibiæ longer, not thickened, with 2 pairs of short, stout, blunt spurs. Neurulation:—Fore wings with cell half the length of wing; discocellular oblique, the lower half more so than the upper; 1st median nervule at $\frac{4}{5}$, 2nd just before lower angle of cell, 3rd from the angle; lower radial from the middle, upper radial from near the top of the discocellular; 3rd, 4th, and 5th subcostals on a common stem from upper angle of cell; 5th leaving at $\frac{1}{3}$, 3rd at $\frac{2}{3}$, 4th into apex; 1st and 2nd subcostals free. Hind wings with upper half of discocellular vertical, lower oblique; 1st median at $\frac{3}{5}$, 2nd at $\frac{4}{5}$, 3rd from lower end of cell, which is wedge-shaped; 2 subcostals branching just before the discocellular; costal and subcostal veins near the base, running for a short distance, closely approximate.

Type, *Prionodonta amethystina*, sp. n.

PRIONODONTA AMETHYSTINA, sp. n. (Plate XXXI. fig. 13.)

♂. Fore wings pale green and dull amethyst, with darker transverse flecks; basal patch dark brownish amethyst, its outer edge distinctly angulated in middle and edged with darker; the extreme base of the costa green; central space pale green, broadening along the costa and inner margin, constricted in middle opposite the angle of the basal patch, containing between the veins sundry small, irregular, semitransparent whitish patches; marginal area dull amethyst, edged internally by an irregularly dentate darker shade, which represents the 2nd line and curves outwards towards the anal angle, and containing a thick blackish oblique line from the anal angle to the greenish spot which occupies the apical region; all the veins, where they traverse the green spaces, deeper green. Hind wings similar, but with the central green space restricted and not reaching the inner margin; fringes concolorous with the green and amethyst sections of the wing. Head, face, and collar greenish; thorax and abdomen mixed fuscous and amethyst; antennæ, anal tuft, tibiæ, and tarsi ochreous, dotted with darker; femora and underside of abdomen mottled with fuscous and amethyst. Underside of wings the counterpart of upper.

Expanse of wings 42 millim.

Hab. Darjiling.

[I took two males of this fine species at Darjiling in July.—*H. J. E.*]

SPILOPERA, gen. nov.

Fore wings ample, costa gradually curved from base to apex; apex bluntly rounded; hind margin with slight elbow above middle at end of 3rd submedian, vertically straight above, obliquely below. Hind wings with rounded hind margins, with a scarcely perceptible projection at end of 3rd median. Palpi porrect, upcurved, reaching well in front of face; tongue present; antennæ laminated, thickened in ♂; hind tibiæ of ♂ not thickened, with two pairs of strong spurs.

Type, *Spilopera debilis*, Butler.

SPILOPERA UMBRATA, sp. n.

♂. Ground-colour pale straw, dusted with dark atoms; an irregular, curved, basal line, only distinct towards the costa, and not reaching the inner margin; a blackish costal blotch just beyond the middle; 2nd line starts just before the apex as a red-brown spot, forms another smaller one just below, and is just discernible as a faint curved brownish-grey shade, which vanishes before the inner margin; it is followed by another similar submarginal shade; fringe from apex to the central angle dark brown, preceded by a red-brown patch; a minute blackish cell-spot; hind wing with dark cell-spot, and 2 faint greyish parallel fasciæ beyond centre. Underside brighter straw-colour, with larger, stronger, reddish-brown freckles; distinct black cell-spots and strong submarginal fasciæ, the inner of the two broadly bright reddish brown. Abdomen straw-colour; face darker; collar and base of costa pale brownish.

Expanse of wings 32 millim.

[A single male taken at Margarita in Upper Assam by Doherty in May.—*H. J. E.*]

OPISTHOGRAPTIS MÖLLERI, sp. n. (Plate XXXI. fig. 12.)

♂. Wings straw-yellow, with a pale brownish line from before the apex of fore wing to the middle of the inner margin of the hind wing; on the costa itself this is dark brown, and is followed by a small brown spot at the extreme apex itself; a large semicircular chestnut-brown blotch on the discocellular, dark-edged internally on the convex edge, and externally emitting a fine brown spike along the radial; a red-brown quadrate costal blotch above it touching the top; 3 small brown dots on the costa near the base; a small brown dot at the end of the 2nd and 3rd median and 2nd subcostal nervules. Head, thorax, abdomen, and fringes all straw-yellow. Underside rather duller, with the markings reproduced; the hind wings with traces of a second dentate line towards the hind margin.

Expanse of wings 54 millim.

Hab. Sikkim.

The palpi in this species and in *O. ablunata*, Guen., are shorter than in the rest, and these insects will perhaps have to be removed to a separate genus.

[I have only seen two males of this fine and very distinct species, which my collectors brought from the interior.—*H. J. E.*]

OPISTHOGRAPTIS LONGIPENNIS, sp. n.

♂. Fore wings canary-yellow, faintly suffused with tawny, and with 2 oblique, parallel, reddish-tawny lines, one from $\frac{1}{3}$ of the inner margin to $\frac{3}{4}$ of the costa, the other from $\frac{2}{3}$ of the inner margin to the apex; fringes yellow. Hind wings very pale lemon-yellow, with a small dark cell-spot and faint traces of a curved submarginal fascia. Head and thorax canary-yellow; face and abdomen lemon. Underside yellowish straw-colour, mottled with tawny-brown spots; costal region of fore wings at base and 2nd line

rusty brown. In the hind wings the fascia is more distinct, and forms a single larger dark brown spot.

Expanse of wings 42 millim.

Hab. Sikkim.

The species is somewhat abnormal in appearance, and comes nearest to *O. ablunata*, Guen.

[A single specimen only, taken at a high elevation in the interior.—*H. J. E.*]

XENOGRAPHIA, gen. nov.

Fore wing with costa uniformly convex from base to apex; apex prominent, but not acute; hind margin curved; anal angle rounded; hind wings well rounded. Antennæ of ♀ filiform, of ♂ laminated, laterally flattened; palpi stout, short, upcurved in front of face; scaling smooth and fine.

Type, *X. lignataria*, sp. nov.

XENOGRAPHIA LIGNATARIA, sp. n.

♂ ♀. Fore wings straw-colour, with very fine darker freckles, the basal and submarginal areas suffused with pale brownish; 1st line brown, curved; a small dark cell-spot; exterior line dark brown, doubled, the inner running obliquely straight, the outer in a series of curves, concave outwards; towards the costa the two diverge, but are both recurved basewards to the costa; a broad oblique blackish-brown or brown streak from the apex, indistinctly produced as a finer line to the inner margin just beyond the other 2; a row of distinct round spots between the veins some distance before the hind margin. Hind wings straw-colour, with a dark cell-spot; 2 parallel, brown, slightly curved central lines; a row of spots as in fore wings; and a faint submarginal curved line before them. Underside straw-colour, much peppered with brownish, with all the lines distinct. Head, thorax, and abdomen all pale straw-colour.

Expanse of wings, ♂ 28, ♀ 36 millim.

Hab. Sikkim.

[Taken by myself at Tonglo and at other places by Möller's collectors from June to October.—*H. J. E.*]

AUZEODES, gen. nov.

Fore wings broad, triangular; costa convex in basal half, and again before apex, concave between; apex produced, bluntly falcate; hind margin gibbous, indented just below apex; anal angle square. Hind wings triangular, with the anal angle square, the inner angle rounded; hind margin almost straight. Palpi smooth, subascending; third joint very small, not reaching vertex; tongue present; antennæ (♂) setaceous, simple. Neuration:—Fore wing with cell *broad*; median nervules rising at $\frac{2}{5}$, $\frac{4}{5}$, and from the end of cell respectively; lower radial from the centre of the discocellular, upper radial from the upper angle of cell, whence also the 5th subcostal, which runs at first upwards close to the

common stem of the other 4 for $\frac{1}{3}$ of its length, then runs parallel to the upper radial to the hind margin some distance below the apex; the 4th, from just before the end of the cell, runs into the apex itself, the other 3 leaving it one after the other shortly before apex. Hind wings with ordinary neurulation.

Type, *Auzeodes nigroseriata*, sp. n.

The only species of the genus strongly resembles, both in shape and scaling, the species of *Auzea*, Wlk.; but the absence of the radial to the hind wings distinguishes it from the *Cenochrominae*.

AUZEODES NIGROSERIATA, sp. n.

♂. Fore wings shining wood-colour, thickly dusted with dull rusty scales, more especially along the inner and hind margins; costa slightly dotted with blackish; the only visible markings are an exterior series of 4 black spots, arranged in a slight curve from the centre to the inner margin at $\frac{4}{5}$, having above them (towards the costa) 2 more, pale grey, with darker centres, very indistinctly visible; immediately before the apex an irregular oblique black dash from the costa, with some pale grey scales on either side. Hind wings the same. Head, thorax, and abdomen all unicolorous. Underside without markings, entirely suffused with smoky brown.

Expanse of wings 40 millim.

Hab. Pegu.

HETEROMIZA, gen. nov.

Cimicodes, Moore, P. Z. S. 1867, p. 616.

Pseudomiza, Butler, Ill. Lep. Het. vii. p. 100.

Fore wings with costa gradually curved; apex produced shortly and pointed; hind margin concave just below apex, then broadly convex. Hind wings rounded, at the anal angle nearly square. Palpi not upcurved as in *Omiza*, but with the 2nd joint rising; the 3rd porrected forward, in a plane with the forehead, which is produced in front. Antennæ simple in both sexes. Hind tibiae of ♂ thickened, and armed with expansible tufts of hairs.

Type, *H. castanearia*, Moore (*Cimicodes*).

HETEROMIZA CERVINA, sp. n. (Plate XXXII. fig. 8.)

♂. Fore wings fawn-colour with an olive tinge, with the costa and the space beyond the acutely-angled 2nd line paler and somewhat silvery; the rest rather tinged with brown; the whole wing finely dusted with dark atoms; 1st line fine, brown, internally pale-edged, subangulated below the costa, then running straight to the inner margin; a large, round, black-brown central spot; 2nd line fine, brown, starting from $\frac{2}{3}$ of inner margin, running straight towards the apex and nearly touching the hind margin below it, thence, at a very acute angle, running back straight to the costa at $\frac{2}{3}$: this line is externally edged finely with paler; subterminal line indicated only by some small blackish dots on the veins; fringes dark brown like the central field. Hind wings like fore

wings, but without the basal line. Underside ochreous-grey, with a reddish tinge, dusted with dark grey, and with the central spots and lines indistinctly darker. Head, thorax, and abdomen fawn-coloured.

Expanse of wings 30–34 millim.

Hab. Sikkim.

Very much like *H. castanearia*, Moore, but smaller and paler.

[One ♂ taken by Mr. Gammie near Mongpo, and a much larger female by Mr. Knyvett in June; evidently a rare species.—*H. J. E.*]

LEPTOMIZA, gen. nov.

Fore wing: costa convex; apex slightly falcate; hind margin elbowed at the end of the 3rd median nervule, the lower half straight, oblique; the upper simply concave or with an intermediate tooth. Hind wings rounded with an elbow, as in fore wings. *Male antennæ simple*; palpi *porrect*, the terminal joint conical, drooping. Neuration normal. Hind tibiæ of ♂ *not* thickened.

Type, *Leptomiza calcearia*, Wlk. (*Hyperythra*).

LEPTOMIZA (?) ANOMALA, sp. n.

♀. Fore wings dark ashy grey, tinged with chocolate and dusted with irregular dark atoms; basal line indistinct, consisting of several black dots, forming an angulated line; 2nd line brown-black, starts from $\frac{3}{4}$ of the inner margin, runs straight towards the apex, before which it forms a *blunt* angle, and is recurved on to the costa; throughout its course it is finely edged with paler; above the inner margin it is preceded by a roundish and followed by an irregular-shaped blackish-brown blotch; a dark-edged, whitish-centred ocellus at end of the cell, and a dark spot on the costa *beyond* it; submarginal space, from apex to elbow, chocolate-tinged; below, ashy; above anal angle, an indistinct fulvous patch. Hind wings like fore wings; the cell-spot smaller, and the pale edging of the 2nd line paler. Underside of both wings fulvous, towards the inner margin whitish, coarsely variegated with black striæ; central spots large; lines indistinct, but the subterminal line shown by a row of black dots. Head, thorax, and abdomen concolorous, the latter paler beneath.

Expanse of wings 32 millim.

Hab. East Pegu, 4500 feet, April (*Doherty*).

LEPTOMIZA STRAMINEA, sp. n.

♀. Fore wings pale yellowish, dusted irregularly with tawny and fuscous atoms; 1st line very indistinct, brownish, running obliquely outwards to the subcostal, where it is angulated obliquely, then inwards to inner margin, forming a small brown dot on each vein; 2nd line from $\frac{4}{5}$ of inner margin, double, runs obliquely to apex; the outer edge nearly straight to just before apex, where it is acutely deflexed to costa; inner edge, more irregular, forms a slight tooth on the 2nd and 3rd median nervules, opposite which the

included space is broader; likewise deflected to the costa before the outer arm, the inner deflection being twice as long as the outer; a brown-edged round ocellus in the disk; the 2 edges of the 2nd line are dark brown, and the included space deep tawny; hind margin shaded with fulvous. Hind wings like fore wings, with a straight, brown-edged, tawny band, broader, and with its outer edge angulated towards the costa. Underside more thickly and coarsely dusted with fuscous dots, and showing on both wings an irregularly zigzag submarginal row of black dots on the veins, which towards the costa of the fore wings develop into a sinuous submarginal line. Head, thorax, and abdomen sandy yellow.

Expanse of wings 36 millim.

Hab. Sikkim; Bhotan.

The ♂ being at present unknown, the reference of the species to *Leptomiza* is only doubtful.

[A male taken by myself at Cherra Punji in the Khasias in September, and another from the Karen Hills, show that Mr. Warren's generic determination is correct. The species, though so wide-ranging, seems rare in all localities.—*H. J. E.*]

LEPTOMIZA FUSCOMARGINATA, sp. n.

♀. Fore wings rather bright yellowish ochreous, irrorated with coarse fuscous atoms; basal line dark brown, bent on the subcostal, thence vertical; cell-spot round, diffuse, brown, with a minute pale centre; 2nd line black-brown from close to apex to before the anal angle, finely edged externally with lilac-white, and preceded by a dark-brown shade, the inner edge of which is irregularly scalloped; 2 small dark brown costal spots before it; marginal area wholly blackish-brown, with a slightly paler patch below the elbow; fringes brown-black, with faintly paler interspaces. Hind wings like fore wings, but with no basal line. Head, thorax, and abdomen yellowish straw-colour, dusted with darker; the segments of the abdomen with pairs of dark dots. Underside duller throughout, the lilac outer line dotted with blackish on the veins.

Expanse of wings 32 millim.

Hab. Darjiling.

[Taken in July by myself at 7000 feet.—*H. J. E.*]

OMIZA MUSCICOLOR, sp. n. (Plate XXXII. fig. 25.)

♀. Fore wings pale mouse-colour, slightly tinged with ochreous olive; no actual lines, their places being taken by mere change of tint; 1st very indistinct at $\frac{1}{3}$, parallel to hind margin to just before the costa, where it is recurved basewards; 2nd, from $\frac{2}{3}$ of inner margin, runs obliquely and slightly wavy towards apex, before which it appears to be, like the 1st, retracted basewards; space between the lines filled up with ochreous olive, and with a darker, slightly tawny shade beyond the discoidal spot, which is paler; space beyond 2nd line paler, somewhat pinkish, with an olive shade down the centre; fringes also olive. Hind wings a little paler than fore wings, and sparsely sprinkled with black

atoms; a darker fascia across the middle of the wing, olive-ochreous, followed by a paler space edged with pinkish and black. Underside pinky ochreous, speckled with black atoms; the inner margin of the fore wings, the apex, and the edge of the 2nd line pinky grey. Hind wings rather richer ochreous, with a yellowish fascia beyond the centre, which between the 1st and 2nd and 2nd and 3rd median nervules contains a semitransparent oval white ocellus strongly edged with deep brown. Head, antennæ, thorax, and abdomen all pinky mouse-coloured.

Expanse of wings 32 millim.

[A single ♀ from the Karen Hills, taken by Doherty in April at about 4500 feet.—*H. J. E.*]

AMORPHOZANCLE, gen. nov.

Fore wings with costa rather strongly arched throughout; apex rounded, blunt; hind margin below the broadly rounded apex oblique and slightly concave, anal angle well marked. Hind wings triangular, with both angles bluntly rounded off and hind margin nearly straight. Palpi minute, slender, not projecting beyond face; tongue present; antennæ of ♂ broadly pectinated. Neuration:—Discocellular of fore wing angulated; radial from the angulation; last subcostal from upper end of the cell (one of the subcostals appears to be missing).

Type, *A. discata*, sp. n.

AMORPHOZANCLE DISCATA, sp. n. (Plate XXXII. fig. 23.)

Fore wing pale liver-colour, darker at base and along costa, with sparingly scattered black scales, which form a black costal blotch at about $\frac{1}{3}$; an oblong-oval whitish discal blotch, beyond which there comes a trace of a faintly darker shade; fringe short, vinous. Hind wings yellow ochreous, with black dusting. Head, thorax, and abdomen liver-colour, with darker atoms. Underside with all the tints brighter and more distinct.

Expanse of wings 28 millim.

One male from Naga Hills.

PLAGODIS RETICULATA, sp. n.

♀. Fore wings pale ochreous, traversed from base to hind margin by fine, interlacing, vertical, brown lines; costa brown from base to middle; a linear brown vertical cell-spot; inner margin rather paler, but dusted sparsely with rather large black shining scales. Hind wings with the costa pale, unstreaked; the anal angle darker, otherwise like the fore wings; no trace of lines or shades. Head, thorax, and abdomen straw-colour, with browner mottlings. Underside like upper, with both cell-spots clearer.

Expanse of wings 34 millim.

Hab. Sikkim. Also in Mr. Moore's collection.

[Taken by Möller in October at about 7500 feet, and by Knyvett in June. It seems, however, a local species in Sikkim, as I have never seen it myself.—*H. J. E.*]

ACHROSIS QUADRARIA, sp. n.

♀. Fore wings yellowish ochreous, tinged with fulvous; towards the base and apex with traces of 2 blackish transverse lines, which are each represented by a blackish blotch on the costa, and 2 round blackish spots on the inner margin placed obliquely one over the other; below the first costal blotch is a smaller blackish dot. Hind wings tawny yellow, with a composite blackish blotch at the anal angle and a blackish spot in the angle of the hind margin. Head absent; thorax and abdomen concolorous. Underside fulvous yellow, without markings.

Expanse of wings 36 millim.

Hab. Bhotan.

[A very fresh ♂ from Sikkim, sent by Möller, agrees exactly in the markings, but has the colour of fore wings brighter.—*H. J. E.*]

PRIONIA OBLIQUILINEATA, sp. n.

♂. Fore wings pale liver-colour, tinged with olive towards the base and irrorated throughout with reddish-brown atoms; 1st line at $\frac{1}{3}$ starts from the costa as a reddish-brown, outwardly oblique, short blotch, then runs obliquely inwards with an irregularly sinuous course; 2nd line, also red-brown, runs straight from the inner margin, shortly before anal angle, to the apex, just before reaching which it is deflected and forms a curved, oblique, costal blotch; extreme apex with a small blackish blotch and another shortly before it on the costa. Hind wings as in *squalidaria*, Hüb. Head, thorax, abdomen, and antennæ concolorous. Underside wholly dull orange-tawny, with a small blackish costal dash before the apex of both wings, and a distinct blackish cell-spot on the fore wings.

Expanse of wings 28 millim.

Hab. Naga Hills. Distinguished from its allies by the straight, distinct, second line.

[Doherty sent only one male of this, which was taken at about 4000 feet.—*H. J. E.*]

EURYTAPHRIA, gen. nov.

Fore wings ample; costa curved at base and before apex, which is distinct; hind margin entire, obliquely curved. Hind wings ample, with well-rounded hind margin, faintly indented opposite the cell. Palpi shortly rostriform; tongue present. Antennæ of ♀ simple, of ♂ pectinated; the pectinations fine, distant, and nearly at right angles with the shaft; legs moderate, hind tibiæ not thickened, with two pairs of spurs. Neuration:—Fore wing: first subcostal nervule anastomosing with the costal; the other 4 subcostal nervules on a common stem, which starts at $\frac{3}{4}$ of the cell, at which point the subcostal itself is bluntly angulated; the 4th subcostal nervule runs into the apex, the 2nd and 3rd being given off from it at $\frac{1}{2}$ and $\frac{3}{4}$ respectively, the 5th at $\frac{1}{4}$; the first median nervule starts at $\frac{3}{4}$, the second just before the lower end of cell where the median vein is inclined upwards, the third from the end; lower

radial from above the middle of the discocellular ; upper radial from the end of cell ; as a result of the ends of the subcostal and median nervules being inclined towards one another, the cell is very distinctly wider at $\frac{3}{4}$ than at its extremity. Hind wings with the discocellular angulated, the upper half vertical, the lower oblique ; the two subcostal nervules separating shortly before the end of the cell.

Type, *Eurytaphria undilineata*, sp. n.

EURYTAPHRIA UNDILINEATA, sp. n.

♂ ♀. Wings dark pinky grey, more or less suffused with pale tawny, and dusted with fuscous and black atoms. No distinct first line ; the second line starts at $\frac{4}{5}$ of the costa, runs outwardly oblique to the upper radial, where it forms a minute tooth, then describes a large sinus parallel to the hind margin, and curves inwards to the inner margin shortly before the anal angle ; the sinus is connected with the hind margin by 2 wedge-shaped streaks, and the lower part of the line above the anal angle appears to be geminated ; a small blackish cell-spot ; disk suffused with pale tawny ; costa and hind margin most thickly sprinkled with fuscous strigæ. Hind wings like fore wings, with black discal spot and an indistinct denticulated black line halfway between it and hind margin ; fringes concolorous, with a blackish basal line.

The above description is taken from a ♂ ; in the ♀ there is no tawny suffusion ; the mottlings are black instead of fuscous, and the second line only visible towards the anal angle ; the basal line of the fringes is represented by a series of black spots and dashes, and the cell-spots on both wings are black and therefore more distinct. Underside of both wings paler grey, mottled with darker, with the cell-spots and outer line showing through.

Expanse of wings, ♀ 36, ♂ 34 millim.

Hab. Sikkim.

Subfam. SELIDOSEMINÆ.

ANAGOGE (?) *ALBIPICTA*, sp. n.

♀. Fore wings dark fuscous, with a few indistinct, scattered, ochreous, transverse strigæ ; basal line darker, edged internally with paler ; a dark discal spot ; exterior line darker, interrupted in the centre and edged externally by a rather distinct pale ochreous line ; submarginal line indistinct, except in the centre opposite to the interrupted portion of the 2nd line, where it is indicated by a pale blotch ; extreme hind margin with pale vertical strigæ ; fringes brown. Hind wings like fore wings, but somewhat duller ; the exterior line without the whitish edges. Underside duller, with all the markings reproduced. Abdomen cinereous. Head wanting.

Expanse of wings 28 millim.

Hab. Sikkim.

The hind margin of fore wings is regularly curved, not bent above the anal angle.

[Taken at Jongri, 13,000 feet, by my native collectors.—*H. J. E.*]

ANAGOGE (?) CONCINNA, sp. n.

♀. Fore wings whitish ochreous, which ground-colour, however, is almost wholly hidden by a suffusion of tawny and brown and a chequering of narrow, transverse, olive-fuscous striæ; basal line darker, curved, broadly blackish on the costa, slightly edged with paler internally; exterior line blackish sinuous, followed by a pale costal spot and paler points on the veins; an elongate black cell-spot, with a black costal spot above it; submarginal line indistinct, sinuous, followed towards the inner margin by an irregular double blotch of the pale ground-colour; fringe clearly chequered light and dark, and preceded by a very clear, pale, basal line; the space between the cell-dot and the submarginal line is most deeply suffused with tawny fuscous. Hind wings dull straw-colour, very thickly mottled with cinereous, with a dark grey central dot and an indistinct dark grey subdenticulate line at $\frac{2}{3}$; fringes as in fore wings. Head, face, antennæ, and collar brown-black; thorax and abdomen mottled with fuscous, as the fore wings. Underside tawny ochreous-red, mottled with cinereous; the fore wings greyer than the hind wings; cell-spots and the transverse lines distinct, that on the hind wings especially dark, much clearer than on the upperside.

Expanse of wings 30 millim.

Hab. Darjiling.

This species will probably have to be separated and form the type of a distinct genus. The ♂ will throw light upon it. In the ♀ the palpi are remarkably short; the hind margin of the fore wing is not scalloped, but distinctly bent in the middle.

ANAGOGE (?) COSTINOTATA, sp. n.

♂. Fore wings fawn-coloured, darker on the disk, greyer towards the hind margin; a small, pale, yellowish, triangular blotch on the costa at $\frac{5}{6}$; costa itself with dark minute strigæ; fringes darker; a small dark cell-spot. Hind wings paler, with dark cell-spot and indistinct, curved, dark submarginal line. Head, thorax, and abdomen concolorous. Underside paler, with the cell-spots dark.

Expanse of wings 26 millim.

Hab. Bhotan.

[Taken by Möller's collectors in September only.—H. J. E.]

ANAGOGE LIGNICOLOR, sp. n.

♀. Fore wings ochreous, suffused with yellowish and tawny brown, and thickly strewn with transverse black striæ; 1st line at $\frac{1}{3}$ indistinct, indicated on costa by a dark spot; 2nd line at $\frac{3}{4}$ irregularly dentate, with three prominent teeth, one subcostal, and a pair in the centre; this line is preceded by a dark tawny suffusion and followed by a paler tawny one, which reaches to the submarginal shade, which is irregularly sinuous and whitish; fringe chequered dark and light tawny, with distinct yellow basal line; costa with yellowish patches. Hind wings like fore wings, but duller, and with only a faint repetition of the 2nd line; in both

wings a blackish discal spot. Head, thorax, and abdomen mottled, tawny and grey. Underside pale straw-colour, mottled with yellow, with the discal spots and lines darker and distinct.

Expanse of wings 32 millim.

Hab. Sikkim.

[Taken by me in August at about 7000 feet.—*H. J. E.*]

ANAGOGE RUFA, sp. n.

♀. Fore wings dull reddish testaceous, with three dark fuscous transverse lines, all running parallel to the hind margin; 1st at $\frac{1}{3}$, indistinct, wavy; 2nd a little before $\frac{2}{3}$, wavy, diffuse, followed in one example by a broadish, diffuse, fuscous shade; 3rd subterminal, more sinuous, consisting of a series of subcontiguous dark blotches; fringes concolorous, with a series of small, inconspicuous, dark dots at base; a large fuscous cell-spot. Hind wings whitish testaceous, with dark cell-spot and 2 faint dark lines towards the hind margin; fringes as in fore wings. Head and thorax reddish; abdomen like hind wings. Underside of fore wings like upperside of hind wings, except towards the apex where they are like the upperside; underside of hind wings like upperside of fore wings, with all the markings much clearer than above.

Expanse of wings 38 millim.

Hab. Sikkim.

ANONYCHIA, gen. nov.

Nadagara, Butler, P. Z. S. 1883, p. 172.

Onychia, Moore, Lep. Coll. Atk. p. 279.

Cidaria, Warr. P. Z. S. 1888, p. 330.

Type, *A. grisea*, Butler (*Nadagara grisea*, Butl.).

Under the generic term *Onychia*, Hübner in the 'Verzeichniss', p. 331, placed together the two species *mœniata*, Scop., and *peribolata*, Hüb., both of which belong to the subfamily *Hydriomeninae*. Mr. Moore, in his Descr. Lep. Coll. Atk. p. 279, employs *Onychia* for his two new species, *lativitta* and *violacea*, which are, as he states, congeneric with Mr. Butler's so-called *Nadagara grisea*. All three belong, not to the subfamily *Hydriomeninae* at all, but to the very different subfamily *Selidoseminae*, in which there is no true radial to the hind wing, and are closely allied to the genus *Anagoge*, Hübn.

For this group I propose to slightly alter the name employed first by Hübner, and misapplied by Moore.

It is only fair to add that in the Society's 'Proceedings,' 1888, I myself wrongly referred one of the species of this genus to *Cidaria*, Tr.

ANONYCHIA ROSTRIFERA. (Plate XXXII. fig. 3.)

Cidaria rostrifera, Warr. P. Z. S. 1888, p. 330; Swinh. Cat. No. 3868 A.

CHIASMIA STRIGATA, sp. n. (Plate XXXI. fig. 22.)

♂ ♀. Fore wings whitish ochreous, thickly sprinkled with short,

dark, transverse striæ ; discal spot dark fuscous, large, diffuse ; costa with 3 indistinct dark blotches ; the first near the base, representing the origin of the first line ; the second above the discal spot ; the third halfway between the second and the submarginal line ; from this a curved series of small blotches can be traced, curving in beneath the discal spot ; these blotches represent the 2nd line ; submarginal line represented by a series of dark fuscous blotches, more or less wedge-shaped externally, and interrupted between the 2nd and 3rd median nervules ; opposite these blotches, except at the extreme apex, the hind margin itself is likewise blotched with fuscous ; fringes dark fuscous, chequered with paler and broadly pale opposite to the interruption of the submarginal line ; a row of shallow, dark fuscous crescents at base of fringes. Hind wings slightly tinged with yellowish, with same markings as fore wings, but with a small discal spot ; the fringes paler. Underside like upper, but somewhat duller. Head, thorax, and abdomen ochreous, dusted with darker. Antennæ fuscous.

Expanse of wings, ♂ 26, ♀ 24 millim.

Hab. Sikkim ; Naga Hills.

LOXASPILATES, gen. nov.

Fore wings elongate ; costa gradually arched ; apex produced, pointed, especially in the ♂ ; hind margin obliquely curved. Hind wings rather short, with rounded hind margin. Antennæ simple in both sexes ; palpi short, porrect ; tongue present. Neuration as in *Aspilates* ; transverse lines parallel to hind margin.

Type, *L. obliquaria*, Moore (*Aspilates*).

LOXASPILATES DISPAR, sp. n. (Plate XXX. fig. 14.)

♀. Fore wings light wood-brown, with the 3 markings dark brown ; 1st line at $\frac{1}{3}$, slightly dentate ; 2nd a little before $\frac{2}{3}$, also slightly dentate ; both parallel to hind margin ; a dark discal spot between them ; subterminal line more irregular, forming 2 slight curves ; fringes concolorous with wings. Hind wings pale dull grey, with a testaceous tinge ; an indistinct dark cell-spot, and traces of 2 darker lines on the inner margin. Underside rusty ochreous ; the fore wings with the lines indistinct, with a darker brown sub-apical costal blotch ; hind wings with 2 distinct curved dark fasciæ : both wings with the cell-spot distinct. Head and thorax concolorous with fore wings, abdomen with hind wings.

Expanse of wings 36 millim.

Hab. Sikkim.

PARASYNEGIA, gen. nov.

The insects of this genus have hitherto been confounded with those of *Anisodes*, Guen., to which they have a considerable superficial resemblance. They have, however, no radial in the hind wings, and are closely related to *Synegia*, Guen., and *Hadassa*, Butler. From both of these genera *Parasynegia* is separated by

the male antennæ, which are amply pectinated, whereas in *Synegia* the pectinations are very fine and short: and in *Hadassa*, though longer, yet stiff and straight. The neurulation is the same as in those genera, and equally strongly marked.

Type, *P. pluristriaria*, Wlk. (*Anisodes*).

PARASYNEGIA COMPLICATA, sp. n.

♂. Fore wings yellow, with rusty specklings; first line dull brownish, acutely angulated before the discal spot, and more bluntly above the inner margin; basal region brownish; from $\frac{1}{3}$ of the inner margin a brown line runs obliquely outwards, followed by another finer and more irregular one, the two curving round to the costa at $\frac{4}{5}$; a fine brown subterminal line runs near the hind margin, parallel to it from the inner margin to the middle, where it stops short at a horizontal brown blotch from the exterior line to the hind margin; a similar subcostal blotch occurs higher up, which throws off an oblique darker streak into the apex. Hind wings similar, but with 5 transverse lines; one thick, red-brown, close to the base; a second, finer, just before the small dark discal spot; a third, like the second, beyond the spot; the fifth, thick and dark, from the inner angle to the anal angle, throwing off a dark blotch in the middle; these 4 all parallel to one another; the fourth is only a rusty, irregularly-undulating line, brown only at its origin at the costa, where it is followed by a brown spot. Face and collar red; antennæ and fillet white; front of thorax rusty; thorax and patagia, as well as abdomen, yellow. Underside pale straw-colour, with the markings dull brownish.

Expanse of wings 36 millim.

Hab. Naga Hills.

PARASYNEGIA SUFFUSA, sp. n.

♂. Fore wings yellow, thickly irrorated and suffused with rusty confluent atoms; an indistinct, angulated first line; a double, thick, grey-brown, oblique line from the middle of the inner margin to the apex, beyond which is a curved series of paler, sometimes clear yellow spots: sometimes the oblique lines are lost, and the discal space is more or less entirely overrun with leaden grey; a grey horizontal blotch to the hind margin in the centre, and another below the apex. Hind wings similar, with 4 irregularly-margined, parallel, leaden grey lines, the space immediately beyond the first line, which is close to the base, paler; in one case the first 3 lines of the hind wings are wholly obsolete; both wings have a distinct black cell-spot. Face, palpi, and collar deep rust-colour; antennæ and fillet yellowish; thorax and abdomen yellow, tinged with rusty. Underside pale straw-colour, with the dark markings reproduced, dull brown.

Expanse of wings 26 millim.

Hab. Naga Hills.

[Seems fairly common at low elevations in the Naga Hills.—
H. J. E.]

ERINNYS, gen. nov.

Fore wings with costa straight, hardly convex before apex, which is slightly subfalcate; hind margin indistinctly crenulate, more oblique below the centre than above; hind wings sub-crenulate, with a slightly more prominent tooth at end of 1st subcostal and 1st median nervules. Antennæ simple in both sexes, slightly thickened in ♂ towards base; palpi obliquely ascending, 3rd joint shorter than 2nd, horizontally porrect; tongue present. Hind tibiæ of ♂ thickened and flattened laterally, with 2 pairs of short, stout, spurs. Hind wings of ♂ with a small fovea close to base in the cell, which is visible above as a small dark raised patch.

Type, *Erinnys combusta*, sp. n.

ERINNYS COMBUSTA, sp. n.

♂. Fore wings ochreous, suffused with yellow and tawny and thickly sprinkled with black atoms; inner line indicated by 2 small black-brown blotches, one below, the other above the median; a small black-brown cell-spot; exterior line sinuous, black-brown at $\frac{4}{5}$, more or less parallel to hind margin; marginal area dark fulvous brown, except a slightly paler patch above the anal angle; fringes yellowish straw, dotted with black at end of all the veins, and entirely black opposite the cell. Hind wings in the main similar, but the basal half suffused with fulvous, and bounded, before the middle, by an irregularly dentate dark line, beyond which the wing is strikingly whitish. Head, thorax, and abdomen straw-colour mixed with tawny. Underside like upper, but brighter; the light and dark tints more contrasted.

Expanse of wings 30 millim.

Hab. Sikkim.

Superficially reminding one of *Garcæus*.

HETEROSTEGANIA, gen. nov.

Anisodes, Moore, Lep. Coll. Atk. p. 250.

Stegania, Moore, Lep. Coll. Atk. p. 260.

Allied to *Stegania*; but easily distinguished. Fore wings longer; costa slightly arched, apex obtuse; hind margin oblique, curved; hind wings rounded, slightly protuberant in the middle of the hind margin, and with the anal angle square. Antennæ in ♀ simple, filiform; in ♂ thickened, slightly pubescent; palpi short, horizontally porrect.

Type, *H. lunulosa*, Moore (*Anisodes*).

HETEROSTEGANIA NIGROFUSA, sp. n.

♂. Fore wings wood-colour suffused with tawny, and sparsely dusted with coarse black atoms, a broad central fascia filled up with pale tawny, with a still paler patch just below the median; the inner edge of this fascia consists of a series of small curves

concave basewards, the outer of a similar series of curves concave outwards, and forming a sharp tooth below the costa, and a bilobed projection on the 1st and 2nd median nervules, containing a black blotch; discal spot small, blackish; a sinuous short blackish streak from the apex, its base connected with the tooth of the outer edge of the central fascia by a longitudinal tawny stripe; the costa from the base to the central fascia, a small blotch near the base on the inner margin, and some irregular clouds along the hind margin tawny. Hind wings the same, but with a small dark blotch on the *inner* edge of the central fascia, and none at all on the outer; discal dot hardly visible; no apical streak. Underside like upper, but duller. Head, thorax, and abdomen concolorous.

Expanse of wings 38 millim.

Hab. Sikkim.

[I have only seen a single male, which was taken in the interior by Möller's collectors.—*H. J. E.*]

Subfam. EUBYJINÆ.

Fam. *Amphidasydæ*, Guen. Phal. i. p. 191.

EUBYJODONTA, gen. nov.

Allied to *Eubyja*, Hübn., but differing in the outline of the wings and in the structure of the ♂ antennæ. These are stoutly pectinated for $\frac{3}{4}$, then simple; each pectination is stiff and bristly, nearly at right angles with the shaft and finely ciliated along its whole length, giving a filmy appearance to the whole antennæ. Tongue weak; palpi hardly visible. Fore wings elongate, narrow; the costa being nearly twice as long as the inner margin; costa itself nearly straight, curving only just before apex; apex rounded, broadly blunt; hind margin very oblique, twice concave, with a slight prominence between the 2 concavities between the ends of the 2nd and 3rd median nervules. Hind wings with 2 concavities, the intervening prominence being greater and rounded.

Type, *Eubyjodonta falcata*, sp. n.

EUBYJODONTA FALCATA, sp. n.

♂. Fore wings white with an ochreous tint, thickly sprinkled with irregular black flecks which in parts become confluent into blotches; the lines indicated by olive-tawny blotches; basal line represented by a curved tawny fascia broad on the inner margin, and not reaching the costa, followed on costa and inner margin by a black blotch; 2nd line, at $\frac{4}{5}$, parallel to hind margin, represented by a thin, irregularly-blotched olive-tawny fascia, *preceded* on costa and inner margin by a blackish blotch, and followed by an interrupted series of irregular black blotches, that extends from costa to inner margin; hind margin occupied by 5 or 6 irregular-sized olive blotches, that below the apex being far the largest; a deep black cell-spot. Hind wings like fore wings but with less

dense dark freckling; no basal line, and the largest marginal olive blotch in the central prominence. Face and forehead white; thorax white with strong black markings; abdomen the same. Underside an exact reproduction of upper.

Expanse of wings 60 millim.

Hab. Sikkim.

[I have two males of this very striking species, one of which I took at light at Darjiling in July, the other from Möller's collection. It must be very rare.—*H. J. E.*]

Subfam. ASCOTINÆ.

Fam. *Boarmidæ*, Guen. Phal. i. p. 213, part.

MEDASINA QUADRINOTATA, sp. n.

♂. Fore wings light wood-colour, dusted with fine brown transverse striæ, and with all the markings black-brown; costa broadly and densely shaded and mottled with brown-black; beneath this costal suffused dark streak, a pale broad streak of the ground-colour, without any admixture of darker, runs from the base of the inner margin to the hind margin below the apex; it is bounded towards the inner margin by a curved black-brown line running obliquely outwards, and forming the lower half of the basal line; beyond it and a little beyond the middle of the inner margin, a black doubly curved line rises vertically and nearly touches the end of the first line, where it disappears at the edge of the pale streak; it is followed by a narrow pale space and then a deep black blotch; submarginal line pale ochreous, rather glossy, forming 2 or 3 undulations near the costa where it crosses the pale space, and then running with one slight indentation, parallel to hind margin; space beyond it pale ochreous, with distinct black transverse striæ; fringes darker, preceded by a row of shallow black lunules; the submarginal line below the pale space is broadly edged internally with blackish brown, and the whole space between the submarginal line and the pale space, forming altogether an obtuse-angled triangle, is diffusely shaded with blackish brown; cell-spot black, somewhat lost in the costal suffusion; some indistinct traces of the two lines can be detected on the costa. Hind wings with the extreme base whitish ochreous, the whole basal half beyond being brown-black, gradually shading off towards the centre of the wing to the ground-colour and containing a large black cell-spot; just beyond the centre is a black line, slightly curved for $\frac{2}{3}$ from the inner margin, then forming 2 largish teeth on the subcostal veins; this line is followed by a broadish brown-black shade; submarginal line pale, distinct, irregularly wavy, bordered with darker brown on its inner side; submarginal space as in fore wings; fringes paler. Head, palpi, face, and collar dark; thorax and base of abdomen lighter; abdomen dark brown, with a distinct slender black ring at its base. Underside cinereous brown with a reddish tinge, with a broad dark brown

marginal fascia, preceded in the hind wings by the distinct brown central line; apex of both wings broadly creamy white.

Expanse of wings 62 millim.

Hab. Sikkim.

Akin to *M. strivaria*.

[I have a pair only of this species from Möller. It seems quite distinct and must be very rare. The female differs only in greater size and the simple antennæ.—*H. J. E.*]

APOPHYGA, gen. nov.

Akin to *Medasina*, but distinguished by the structure of the ♂ antennæ, which resemble those of *Eubyjodonta* and *Buzura*; the pectinations being stiff and straight, nearly at right angles to the shaft, and themselves with long silky pubescence which extends beyond the apex of each; the palpi are still more acutely pointed and drooping; and the hind wings are rounded, without any trace of a central point. Hind margin of *both* wings finely scalloped. Scaling fine and glossy.

Type, *Apophyga sericea*, sp. n.

APOPHYGA SERICEA, sp. n.

♂. Fore wings pale wood-colour, very finely dusted with brown atoms; extreme base of costa brown; in the centre of the inner margin a brown-black triangular blotch, the outer edge of which is concave outwards, the apex pointing to the apex of the wing; the basal side of the triangle runs parallel to the costa, and after interruption by a pale fascia of the ground-colour is continued towards the submarginal line; this is situated near the hind margin, is irregularly sinuous, broadly shaded internally with brown, and forms 2 contiguous *white* spots in the centre; submarginal area cinereous brown, paler at apex and anal angle; fringes brown. Hind wings whitish, somewhat glossy, mottled towards the base, and inner margin, and suffused along the hind margin with grey, with 3 brown-grey diffuse lines, running from the inner margin as far as the centre of the wing; the 3rd, which is submarginal, really being a brown shade which forms the inner edging of a pale submarginal line. Head and collar brown-black; thorax glossy pale ochreous; abdomen brown, with a broad blackish ring at the base. Underside whitish straw-colour; fore wings with the base towards the costa, the triangle on the inner margin, and a broad marginal fascia cinereous-brown, all three connected by a brown streak along the centre of the wing, the two white spots visible, and the apex and anal angle paler, as on the upper-side. Hind wings with the 2 lines blackish and the hind margin brown; a distinct cell-spot on each wing, which is only visible above on the hind wing.

Expanse of wings 34 millim.

Hab. Sikkim.

[I have several males sent by Möller dated May, September, and October, but I do not know at what elevation they were taken. A



Flower, William Henry. 1893. "April 18, 1893." *Proceedings of the Zoological Society of London* 1893, 325–434.

<https://doi.org/10.1111/j.1469-7998.1893.tb00562.x>.

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