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XXIX.—*New Pyrales from the Khasia Hills.*

By Col. C. SWINHOE, M.A., F.L.S.

[Continued from p. 149.]

Genus CHABULA, Moore.

19. *Chabula vedonalis*, sp. n.

♂ ♀. Coloured like *C. acamasalis*, Walker, and *C. telphusalis*, Walker, = *reniferalis*, Snellen; smaller but much darker than either, and the dark purplish-grey colour more uniform throughout; the first white spot on fore wings replaced by a white band across the wing, preceded and also followed by a slightly sinuous white line; the second white spot wedge-shaped and not reniform, broad on the costa, the point downwards, reaching down a little more than a third of the breadth of the wing, with a white line on each side which extend across the wing, meet together on the hinder margin one third from the angle, and are there joined by the second line, which curves along the hinder margin; cilia concolorous with the wings. The hind wings have the costal margin narrowly white, with three white streaks running downwards from it, all inside the nearly straight discal white line. On the underside the base of fore wings and all but the outer margin of hind wings are white; the bands and spots on fore wings same as they are above, on the hind wings there is a middle grey line.

Expanse of wings $\frac{8}{10}$ inch.

Shillong and Cherra Punji. Numerous examples.

C. telphusalis, Walker, is very near *C. acamasalis*, Walker, but it seems to be a good species, the differences so distinctly described by Snellen being constant. I have received it in great numbers from the Khasia Hills. *C. vedonalis* is very distinct, and can at once be distinguished from both by its wedge-shaped outer spot on the costa of fore wings and by the absence of white on cilia at the angles.

Glyphodes terealis, Walker, from Borneo, also belongs to the genus *Chabula*, and is closely allied to the others, but apparently quite distinct.

Genus PAGYDA, Walker.

20. *Pagyda discolor*, sp. n.

♂. Palpi ochreous, with the hairs tipped with purplish brown; antennæ, head, body, and wings of a uniform grey

colour, with a very slight purplish tinge. Wings with the lines brown, very straight; first line one fourth from base of costa of fore wings to the abdominal margin one third from anal angle; second commencing immediately below the lunular mark at the end of cell of fore wings and reaching anal angle; a straight streak from costa of fore wings one fourth from apex, and a submarginal line from below the costa near the apex towards the anal angle, which it does not reach; this line on the hind wings is slightly curved and corresponds to the shape of the outer margin, all the three lines crossing this wing are obsolete on the costal space, which is white; marginal line and anteciliary line brown, giving a double line to the margin; cilia whitish. Underside whitish, unmarked; fore legs with dark brown stripes and bands.

Expanse of wings $1\frac{2}{10}$ inch.

Cherra Punji. One example.

Larger than *P. salvalis*; lines similarly disposed; coloration very different.

Genus BOTYODES, Guen.

21. *Botyodes maculalis*, sp. n.

♂. Palpi dark red-brown, white beneath; antennæ, head, body, and wings bright clear yellow, without, however, any gloss; abdomen with anal tuft black. Fore wings with a red-brown marginal band, narrow at the apex, bulging inwards opposite the cell and again on to the hinder margin, where it is broad, with a corresponding broad patch at the apex of hind wings; on the inner side of this patch and on both the curves on the fore wings is a dark brown suffused spot; both wings are covered with grey spots; a grey ringlet at the end of each cell; two grey spots within the cell of fore wings, the first forming with two spots below it the inner line; the outer line is also formed of similar spots almost straight across the wing, with a bend inwards before reaching the hinder margin: the hind wing has a central band composed of large spots joined together on the upper and lower portions of the wing with an outward curve of lunules; also a submarginal dentated line with grey points, and brown points between the veins close to the margin: cilia of fore wings brown, of hind wings grey, with pale tips. Underside paler, with the marginal band and some of the spots visible; legs white, fore legs with brown bands.

Expanse of wings $1\frac{8}{10}$ – $1\frac{9}{10}$ inch.

Cherra Punji. Two examples.

The yellow coloration is clearer and brighter even than in

Meroctena tullalis, Walker, and except that the marginal band is not carried up broadly to the costa of fore wings, as in that species, the markings are very similarly disposed.

Genus *SYLEPTA*, Hübn.

22. *Sylepta nigriflava*, sp. n.

♂. Dark bright ochreous, body below and legs white. Wings with the spots and lines deep black; a spot at the end of each cell; exterior lines across both wings, interior line on fore wings only, these lines being composed of spots, the interior line on fore wings with a spot larger than the others in the middle, the line nearly straight, outer line curved outwardly and then bent inwards to a black spot below the cell-spot; on the hind wing the outer line runs down to a spot on the upper disk, from which it curves outwards and then inwards to another similar spot, and then to the hinder margin at two thirds. Underside duller ochreous, with some of the markings visible.

Expanse of wings 1 inch.

Cherra Punji. Many examples.

Wings shaped like *S. caldusalis*, Walker, but a smaller insect, much more brightly coloured, with ochreous cilia and deep black markings.

23. *Sylepta venustalis*, sp. n.

♂. Palpi brown; head, body, and wings dull ochreous, wings with the bands and spots pale black. Fore wings with an interior line from hinder margin at one third, curving round on to the costa near the base; a subbasal spot on the hinder margin (not always present), a spot within the cell, a larger spot at the end; a discal line of lunular spots joined together from costa at one third, curving inwards, then outwards, then bent inwardly to below the outer cell-spot and downwards to the hinder margin just beyond the middle: hind wing with the discal line with a straight, rather thick band running right through it, leaving the outwardly curved portion of the line only visible; both wings with marginal lunular thick line, with the extreme margin ochreous; cilia brown, tipped with white. Underside dull ochreous grey, most of the markings on the wings as above; body and legs white; fore legs with black bands.

Expanse of wings $1\frac{4}{5}$ inch.

Shillong and Cherra Punji. Several specimens.

A larger and stouter insect than *S. caldusalis*, Walk., with the lines and spots thick and prominent.

Genus CERATARCHA, nov.

♂. Fore wings elongate, narrow; costa straight till close before apex; apex prominent, subfalcate, outer margin concave below apex, bulging in the middle, concave below apex, and oblique towards anal angle. Hind wings with the apex prominent, the outer margin immediately below it slightly concave to the middle, thence straight, and at the anal angle rounded. Antennæ simple, three fourths the length of the fore wings; palpi broadly triangular, the second joint almost concealing the third, which is short and blunt and does not reach as far as the front of the second; tongue present; abdomen elongate, extending far beyond the hind wings; hind tibiæ with four spurs.

Type: *Ceratarcha umbrosa*.

24. *Ceratarcha umbrosa*, sp. n.

♂. Pale olive-grey, irrorated and striated with black atoms and short striations, which sparsely but evenly cover both wings. Fore wings with a small black spot within the cell and another below it; a large black spot at the end of the cell; some black marks on the costa near the base. Hind wings with a black spot at end of cell; a group of black irrorations clustered together like a short band alongside of it against the abdominal margin; both wings with a broad outer marginal brown band, limited by a recurved and deeply excavated black line of small spots, which are joined together and thickened on the hinder margin of both wings; in some specimens this band is opaque and nearly black, in others it is brown and studded with black irrorations like the rest of the wings; marginal line pale; cilia pale brown, interlined with dark brown. Underside pale olive-grey, with the cell-spots and irrorations prominent; body and legs olive-grey, legs with some brown bands.

Expanse of wings $1\frac{4}{10}$ inch.

Shillong and Cherra Punji. Many examples.

25. *Ceratarcha? clathralis*, sp. n.

♂ ♀. Palpi brown; antennæ, head, body, and wings pale luteous grey; antennæ with brown joints, thorax with a brown band in front. Wings sparsely irrorated with dark brown atoms: fore wings with an indistinct brown ringlet in the cell, another below it, and a more distinct and larger ringlet at the end of the cell; the irrorations somewhat clustered together in the middle of the wing, and a broad blackish

marginal band, slightly curved and bulging inwards on the hinder margin, with a blackish line close to its inner margin: hind wings with a brown ringlet at end of cell, a blackish space at the apex, and a black marginal lunular line; cilia of both wings luteous, with a black macular line in it. Under-side: body, legs, and wings whitish; wings with the ringlets at the ends of the cells distinct, and the marginal band grey with a short sinuous black band on its inner side; fore legs with brown stripes. The female differs from the male in having the marginal band only faintly indicated.

Expanse of wings 1 inch.

Shillong. One male and one female.

This species does not quite correspond in contour of fore wings with *C. umbrosa*; it has some affinity to the genus *Mimorista*, but at present I prefer leaving it here.

Genus *RAVANOA*, Moore.

26. *Ravanoa strigulosa*, sp. n.

♂. Palpi white, with a brown patch above towards the tips; body rubbed, but the abdomen has the anal portion ochreous, with a white band at the tip and a white and black band near the tip. Wings luteous white, with transverse brown bands, five on each wing, besides a thin marginal band; the cilia is long and is four-lined—luteous, brown, luteous, and brown,—making the wings look as if the marginal band was duplex and the cilia luteous tipped with brown; the transverse bands are nearly straight and at even distances, commencing near the base; on the fore wings the first two are complete, the third stops short of the costa near the commencement of the fourth, which only runs halfway down the wing, and also is connected along the costa with a short streak between the second and third; the fifth is submarginal and does not quite touch the hinder margin: the hind wing has a large ochreous patch at the anal angle, none of the bands touch the costa, and all run to the ochreous patch inclining towards the anal angle of the wing. Underside whitish throughout, with the bands faintly visible; fore legs with brown bands.

Expanse of wings $\frac{9}{16}$ inch.

Shillong. One example.

Genus *CHAREMA*, Moore.

27. *Charema subalbidalis*, sp. n.

Antennæ grey-brown; palpi dark brown, ochreous at the base on the underside; a small whitish space on the head at

the base of the antennæ; rest of head, body, and wings above dark glossy brown, markings on fore wings very indistinct and only slightly darker than the wing-colour, consisting apparently of a cell-spot on fore wings, an inner line and a discal line, slightly recurved and bent inwards to the discal spot and then down to the middle of the hinder margin; cilia concolorous with the wings. Underside whitish, with cell-spot and discal line on fore wings distinct, and a cell-spot and discal recurved line on hind wings, with a spot at the end of each curve; this line is not visible above; legs and body white.

Expanse of wings 1 inch.

Shillong and Cherra Punji. Many examples.

The wings are broader and rounder than is usual in this genus.

28. *Charema fuscipennis*, sp. n.

♂. Antennæ reddish grey; palpi blackish brown; head, abdomen, and wings of a uniform dark dull brown. Fore wings with a dark brown spot in middle of cell, a lunule at the end; interior and exterior lines dark brown, indistinct, the latter bent outwards on the median vein, then curves inwards to the bottom of the cell-lunule, then downwards to the middle of the hinder margin. Hind wings with a discal lunule, a discal line with a similar outward bend in its centre; some indistinct black lunular points on the outer margin of both wings; cilia concolorous with the wings, with a pale basal line. Underside with the wings as above, but slightly paler; legs blackish brown, tarsi and body whitish.

Expanse of wings 1 inch.

Shillong and Cherra Punji. Many examples.

Transverse lines much as in *C. analis*, Snellen, = *albociliata*, Moore; the wings, however, are not so long nor so pointed, and the cilia brown, and not white as in that species.

29. *Charema carbonalis*, sp. n.

♂. Palpi black, white beneath; antennæ, head, body, and wings black; abdomen with a thin white band at the base and with the segments in fresh specimens marked with white. Fore wings with a deep black spot at the end of the cell and a black indistinct smaller spot within the cell; both wings crossed by a rather broad, nearly straight, and fairly uniform deep black band, which is discal on fore wings and medial on hind wings; the space outside the band with a bronze-like gloss upon it; anteciliary line pale; cilia black, tipped with grey. Underside much paler than above, with the cell-spot,

transverse band, and outer bronzy gloss distinct; body and legs white, hind tibiæ black.

Expanse of wings $1\frac{1}{10}$ inch.

Cherra Punji. Four examples.

30. *Charema annubilata*, sp. n.

♂. Palpi, head, body, and wings dull purplish black; abdomen with pale segmental lines; spots and lines on wings black; a spot at end of each cell. Fore wings with a dot within the cell, an outwardly curved interior line just inside this spot; an exterior thick line, rounded from the costa to vein 2, where it bends inwards, and then straight to the hinder margin at two thirds, and is continued across the hind wings nearly in the middle, with an outward curve in its centre; marginal points black: wings grey, interlined with black. Underside of a uniform pale grey, brown dots at the end of each cell and an outer line across both wings composed of brown dots; body and legs whitish.

Expanse of wings 1 inch.

Cherra Punji. Many examples.

In some specimens the costal margin of the fore wings is slightly ochreous.

31. *Charema pernitescens*, sp. n.

♂. Palpi, antennæ, head, body, and wings above ochreous grey; wings with a shining cupreous tinge, with the outer borders broadly suffused with dark grey. Hind wings with the basal half of the costal portion whitish; spots and lines dark grey, a spot at the end of each cell. Fore wings with the interior line nearly straight, the exterior line with a small curve outwards in its centre, then deeply bent inwards below the cell-spot, then nearly straight to the hinder margin at its middle. Hind wing with a central line, rather indistinct, with a small outward curve in its middle; the hind wings are very slightly paler in colour than the fore wings; cilia grey, with a whitish basal line, grey towards apex of fore wings. Underside: wings paler, glossy, with markings as above; body and legs whitish, fore legs with brown bands.

Expanse of wings $1\frac{3}{10}$ inch.

Cherra Punji. One example.

Genus CYCLARCHA, nov.

♂. Fore wings elongate, narrowed at base; costa straight but rounded towards apex, which is blunt; outer margin

curved, hinder margin somewhat convex; palpi slender, rather long, upcurved in front of face; tongue long and slender; antennæ pubescent; hind tibiæ with two pairs of spurs, the inner one three times as long as the outer, scaling smooth and glossy, the veins all pale and the intervals dark.

Allied to *Denterarcha*, Meyrick.

Type: *Cyclarcha atristrigalis*.

32. *Cyclarcha atristrigalis*, sp. n.

♂. Palpi, antennæ, head, body, and fore wings of a uniform bright ochreous colour. Fore wings with black streaks in the interspaces, two along the costa, and the rest forming two broad bands across the wing—the first antemedial and straight, the second postmedial and outwardly curved. Hind wings paler, with a grey shade on the outer margin; cilia of both wings ochreous, with white tips. Underside pale ochreous; fore wings with the bands faintly visible; fore legs with black stripes.

Expanse of wings $\frac{8}{10}$ inch.

Cherra Punji. Many examples.

33. *Cyclarcha flavinervis*, sp. n.

♂. Palpi ochreous, brown above, thicker and stouter than in *atristrigalis*; antennæ, head, and thorax dull ochreous; abdomen smoky brown, with an ochreous tip. Wings smoky brown: fore wings with the apex, costal margin, and all the veins ochreous throughout, and an ochreous mark at the end of the cell: hind wings with the veins distinct, giving this wing also a somewhat striped appearance; cilia of both wings ochreous. Underside: body, legs, and wings ochreous grey, fore wing with a smoky suffusion in the interior portions.

Expanse of wings $\frac{8}{10}$ inch.

Cherra Punji. Many examples.

Genus *NAGIA*, Walker.

34. *Nagia flavispila*, sp. n.

♂. Antennæ grey; palpi dark brown, ochreous grey beneath; head, body, and wings of a uniform dark purplish brown. Both wings with a large subquadrate ochreous-white spot across the wing; at the end of the cell in the fore wing there is a small similarly coloured spot near the hinder margin at its middle, and on the hind wings the spot has an outward curve in its centre; cilia concolorous with the wings, with a pale basal line. Underside much as on upperside, but the

spot on hind wings forms a band from the costa to near the abdominal margin.

Expanse of wings $1\frac{9}{16}$ inch.

Cherra Punji. Two examples.

Allied to *Nagia quadrimaculalis*, Kollar, = *desmialis*, Walker; is much smaller, has the four large spots differently shaped, and the cell-spots absent.

35. *Nagia inomitata*, sp. n.

♂. Palpi brown, ochreous grey beneath; top of head ochreous grey; body and wings of a uniform dark purple-brown, except on the basal half of the costa of hind wings, which is whitish. Fore wings with a large central luteous white spot, deeply excavated on its upper outer side. Hind wings with a large nearly round similar spot; cilia of both wings concolorous with the wings, with a pale basal line. Underside: body and legs whitish; wings paler coloured than they are above, the basal portion of the hinder margin of fore wings whitish; spots as above.

Expanse of wings $1\frac{1}{10}$ inch.

Shillong. One example.

Between *quadrimaculalis* and *flavispila*, but quite different to either.

Genus PRORODES, nov.

Antennæ of male quite simple except at base; basal joint enlarged, second joint thickened and swelling in front, leaving a hollow between the joints, as in *Coptobasis*: labial palpi large, three times as long as the head, porrect and smoothly scaled, third joint nearly as long as second, bluntly oblong, and slightly inclined upwards; maxillary palpi shortly porrect above labial; tongue present. Fore wings more than twice as long as broad; costa straight, curving towards apex; apex distinct, outer margin obliquely curved. Hind wings with outer margin curved and both angles rounded. Abdomen long, reaching far beyond hind wings; scaling dull.

Type: *Prorodes mimica*.

Distinguished from *Coptobasis* by the palpi being quite differently shaped, and herein somewhat resembling *Anthæretis eridora* of Meyrick.

36. *Prorodes mimica*, sp. n.

♂ ♀. Palpi, antennæ, head, body, and wings above brown, with a slight purplish gloss. Wings with the spots and lines white: fore wings with a small spot in middle of cell, a larger

spot at the end, another of equal size (sometimes larger) below it; inner line indicated by the spot in middle of cell and an indistinct spot on the hinder margin at one third; outer line commences with three largish lunules below the costa at one third from apex, followed by a few small dots in an outward curve, and two or three dots down to the hinder margin after the usual bend inwards, which sometimes can be traced: hind wing with the outer line as on fore wings, except that the lowest spot is only left of the three subcostal lunules; a dot at end of cell; cilia coloured like the wings, with a whitish basal line and pale tips. Below, wings paler, more glossy, markings much as above; body and legs whitish; fore legs with brown bands.

Expanse of wings $1\frac{2}{16}$ inch.

Shillong and Cherra Punji. Many examples.

The female only differs from the male in having the lines and spots finer; some of the well-marked males closely resemble *Coptobasis luctuosalis*, Guen.

Genus ORPHANOSTIGMA, Warren.

37. *Orphanostigma fulvistriga*, sp. n.

♂. Palpi brown; antennæ, head, body, and wings ochreous grey, the wings suffused with darker grey on the outer portions; costal portion of hind wings whitish. Wings with the lines fulvous; a mark of the same colour across the end of cell of fore wings; both wings with interior and exterior thick even lines, the former slightly curving outwards from costa of fore wings, rather close to the base of the hinder margin at one fourth, then on to the hind wings beyond the costal white portion almost straight to the anal angle; the outer line evenly curved outwards from the costa of fore wings at one fourth from apex, bends inwards abruptly to the cell-spot, then straight to hinder margin at the middle, and is continued on the hind wings straight towards the anal angle, terminating at vein 2; marginal border dark grey; cilia interlined, being ochreous grey, brown, and then white. Underside whitish; a dot at the end of each cell and discal line evenly curved on both wings; body and legs white.

Expanse of wings 1 inch.

Shillong. Two examples.

Genus ÆDIODES, Guen.

38. *Ædiodes ciliata*, sp. n.

♂. Deep black, very uniform in colour; antennæ white

at the tips; frons with a white line on each side; abdomen with a white band near the base and another one third from the tip. Wings with large white spots: fore wings with one just before the middle and another, larger, on the upper disk; hind wings with one subbasal, touching the abdominal margin, and another of about the same size on the disk; cilia of both wings black, with white tips at the apex of fore wings and a white spot at the hinder angle. Underside: wings as above; abdomen white, with two black bands; legs black; tarsi white, with black bands.

Expanse of wings $\frac{7}{16}$ inch.

Cherra Punji. One example.

Genus TRICHOPTYCHODES, nov.

♂. Fore wings narrow, elongate; costa straight for three fourths, then convex; apex blunt, outer margin rounded. Hind wings twice as broad as fore wings; the outer margin nearly straight, abdominal margin distorted from base to outer margin, raised above and hollowed below, the raised upper surface being clothed with a bed of dark hairs. Antennæ lamellate; palpi upcurved in front of face; hind tibiæ with four spurs, the upper inner one five times as long as the outer one.

Type: *Trichoptychodes delicata*.

39. *Trichoptychodes delicata*, sp. n.

♂. Palpi grey, pure white at the tip; head, body, and wings white. Fore wings with the basal third pale fulvous, tinged with orange colour, with a short white streak from the costa near its end, rather more than the outer third of the same orange colour, intersected by three short white streaks from the costa, two from the outer margin, and one from the hinder margin, where there is a blackish space or patch. Hind wings with a broad blackish suffused marginal band, which does not quite touch the white outer margin, is irregular on its inner side, and does not reach the anal angle; abdominal margin with a patch of black hairs. Underside white, with the marginal bands and streaks visible; body and legs white.

Expanse of wings $\frac{7}{16}$ inch.

Cherra Punji. Four examples.

Genus AGROTERA, Schrank.

40. *Agrotera discinotata*, sp. n.

♂. Palpi brown, antennæ grey; head, body, and basal

two thirds of abdomen golden yellow, marked with golden red, the abdomen striped with that colour on the segments; the anal third grey, with two red-brown segmental bands. Fore wings grey, with a yellow lunule at end of cell ringed with red; the basal fourth of the wing of that colour, marked with golden red; a black suffused patch in the disk, which includes the cell-lunule; the exterior line thin and black and wavy. Hind wings pale grey, with the exterior line indistinct and some black marks in the disk; marginal line of both wings black; cilia grey, partly interlined with darker grey and partly tipped with the same colour. Underside whitish, without any markings.

Expanse of wings $\frac{8}{16}$ inch.

Cherra Punji. One example.

A very beautiful little insect.

Genus ANTIGASTRA, Led.

41. *Antigastrea longipalpis*, sp. n.

♂. Palpi brownish above, white beneath; head, thorax, and abdomen white, with brownish sides. Wings thinly clothed, dull sordid grey, nearly white in parts, with some pure white flecks between the veins, which are brownish, the vein-lines being thick and entire on fore wings, more or less obsolete on hind wings (which are nearly white and nearly semihyaline), especially towards the basal and lower portions of the wing; in some specimens the hind wings are without any indications of the brown vein-lines; there are also some brown and some blackish short streaks between the veins on the fore wings, and in some specimens the interspace between veins 5 and 6 is filled with brownish; antennæ and legs grey.

Expanse of wings 1 inch.

Shillong and Cherra Punji. Many examples.

Genus PLEONECTUSA, Led.

42. *Pleonectusa planalis*, sp. n.

♂. Palpi dark brown, grey beneath and at the tips; antennæ, head, body, and wings of a uniform dark lilac-grey; thorax with a white mark in front. Fore wings with a brown lunule at the end of the cell, an outwardly curved inner line at one fourth, and a uniform outer brown line commencing at one fifth from costa of fore wings, curving uniformly almost to the shape of the outer margin to the hinder margin of the wing at two thirds, and then nearly straight across the middle of the hind wing; anteciliary line pale, cilia grey.

Underside grey; spot at end of cell and outer line pale brown, the latter composed of spots; body and legs whitish.

Expanse of wings $\frac{8}{10}$ inch.

Cherra Punji. One example.

The apex of the fore wings is rounded, and not acute, as is generally the case in this genus; there are indications of a spot within the cell, but it is nearly obliterated by the inner line; the outer line is somewhat as in *P. adhaesalis*, Walker.

Genus *AMBIA*, Walker.

43. *Ambia instrumentalis*, sp. n.

♂. White; palpi grey at the sides; thorax grey in front. Fore wings with some grey suffusion on the basal portion, with pinkish ochreous uniform straight bands—one subcostal, extending from near the base, connected with the costa by a short band, to the costa near the apex, where it bends up; another from near the base runs along the wing below the median vein to near the outer margin, then straight up submarginally to the costa near the apex, outside the termination of the other line, and is then joined to the apex by a small loop; also a third band runs just above the hinder angle, where it is also curved up for a small space on the outer margin. Hind wings with a broad suffused brown median band. Underside as above.

Expanse of wings $\frac{1}{2}$ inch.

Shillong. One example.

A very pretty little insect; there are examples of it from Assam in M. Ragonot's collection.

Genus *NYMPHULA*, Schrank.

44. *Nymphula nigriplaga*, sp. n.

♂. Palpi brown, grey beneath, ochreous white at base and tip of last joint; antennæ, head, thorax, and wings black, with a pinkish tinge; abdomen pinkish ochreous. Fore wings with the costal space above the subcostal vein paler; two round white spots of equal size below and touching this vein, one at the end and one a little beyond it. Hind wings with a rather large white lunular spot at the end of the cell; both wings with an even pinkish ochreous marginal border, margined inwardly by a black line, on the inner side of which is an irregular pure white thin band; marginal lunules black; cilia grey, interlined with black. Underside: body and legs

whitish; wings pale, whitish in parts, with the marginal bands and spots on fore wings visible.

Expanse of wings $\frac{9}{10}$ —1 inch.

Cherra Punji. Two examples.

Much resembling *Nymphula irialis*, Walker, from Sierra Leone.

Genus CYMORIZA, Guen.

45. *Cymoriza albicomma*, sp. n.

♂. Reddish ochreous, suffused in parts with brownish. Wings with a small white spot ringed with black at the end of each cell: fore wings with a white comma-like mark from costa one third from base; a short white band from costa one fifth from apex to the middle of the wing; a short thin white streak inwards from this band near and parallel to the costa; another similar streak lower down, which runs into the cell-spot; a submarginal white line, which curves inwards above the hinder margin and is here thicker, also a fine marginal white line; all these white lines, bands, and streaks are bordered on each side with black, the black line on the inner side of the marginal white line being composed of black lunules: the hind wing has the white band from the costa near the apex and the submarginal and marginal lines similar to those on the fore wings, except that the submarginal line stops before reaching the anal angle.

Expanse of wings $\frac{8}{10}$ inch.

Shillong. One example.

The fore wings are marked somewhat like *Ambia locuples*, Butler.

XXX.—*Development of the Lungs of Spiders.*

By ORVILLE L. SIMMONS *.

[Plate VI.]

ALTHOUGH several persons † had suggested the close affinity of the Arachnids and *Limulus*, it was not until the appearance of Lankester's paper "*Limulus* an Arachnid" (1881^b) that the view of such a relationship came into prominence. Since that date it has attracted more and more numerous advocates, until now the majority of the special students of

* From the 'American Journal of Science,' August 1894, pp. 119–128.

† Straus-Durckheim (teste Lankester), van Beneden (1870).