

for the winter, but only one survived to commence feeding again. On April 14th, it came up from among the close blades of the *Luzula pilosa*, where it had been hidden, and began to eat and grow; about the middle of May it moulted, and was full-fed about the end of the first week in June. When I saw that it had begun to shorten, I put it in a large chip box with some moss, and there it spun, and on June 13th turned to a pupa. The moth appeared on July 1st.

All I can now say about the egg is, that it was globular.

The larva is one of those plain dull-coloured things that do not change much, except in size, throughout their growth. When full-fed, it is rather over three-quarters of an inch in length, somewhat fusiform, being stoutest at the eighth segment, and thence tapering towards the head, and more rapidly towards the tail; perhaps its most noticeable feature is the extreme shortness of the second segment, which looks quite shrunk, and is about as wide as the head, but the head, being globular, has its rounded lobes a little projecting.

The ground colour is a pale grey-brown, freckled all over with tiny freckles of ochreous-yellow; the dorsal line is of a darker tint than the ground, and is edged with paler lines; the sub-dorsal line is paler than the ground; the spiracular region is also paler, and slightly inclining to ochreous; the spiracles are small, and black in colour; the usual dots distinct, being rather darker than the dorsal line; the belly paler than the back.

The cocoon was spun against the side of the chip box, and was of a longish oval shape, being more than five-eighths of an inch long, and less than three-eighths of an inch wide, extremely slight, being a very open network of silk, with bits of moss drawn in, but still with interstices left, through which the pupa could be seen. The smooth pupa is not quite half an inch long, slender, rather widening at the shoulders, but otherwise cylindrical, and tolerably uniform throughout, the last segment of the abdomen tapering to a blunt spike, which is grooved or fluted in two steps as it were, and its tip set with several small spines with curved ends; its colour dark rich brown, the edges of the wing-cases, and the segmental divisions in the abdomen, of a lighter reddish-brown.—J. H.

September, 1873.

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## DESCRIPTION OF THREE NEW CONTINENTAL AND ONE BRITISH SPECIES OF *LIBURNIA*.

BY JOHN SCOTT.

### *LIBURNIA MARSHALLI*, *sp. n.*

Developed form.

♂. Testaceous or pale ochreous; keels of the head frequently almost white. *Face* brown, keels with a broad black margin, or the face almost entirely black. *Elytra*—nerves granulated, the granules somewhat remote, blackish.



*Head* testaceous or pale ochreous, keels frequently almost white. *Face* brown; keels with a broad black margin, or the face almost entirely black. *Antennæ* yellow, apex of the 1st joint narrowly black, 2nd joint at the base very narrowly, and the granulation distinctly, black. *Eyes* purplish or reddish-brown.

*Thorax: pronotum*—hinder margin and keels very pale yellowish, sometimes almost white; disc between the keels sometimes with a slight fuscous shade. *Scutellum* testaceous or pale ochreous, keels paler. *Elytra* pale, transparent; nerves, as far as the membrane, with a yellowish tinge, from thence to the apex fuscous or black; granulation minute but distinct, granules somewhat remote, hairs dark. *Membrane*—disc pale fuscous, marginal nerve black. *Legs* whitish, with a slight fuscous shade; *tarsi*—apex of the 3rd joint of the 1st and 2nd pairs narrowly black; *claws* of all the pairs black.

*Abdomen* above, black, posterior margin of the segments very narrowly (except the two last which are broadly) yellowish; beneath black, posterior margins of the segments very narrowly yellowish; last genital segment black, viewed from above, the posterior margin curves round inwardly, the two rounded apices white, somewhat approximating; from the side slightly concave; from behind somewhat U-shaped, the upper corners white, somewhat drooping, and with a distinct puncture before their apices. Length,  $1\frac{1}{4}$  line.

♀. Unknown to me.

Somewhat like the developed form of *L. pellucida*, but the apical portion of the elytra is darker than in the last-named species; and the shape of the opening of the last genital segment when viewed from behind, as well as the styloid processes, are totally different.

Six specimens were taken by the Rev. T. A. Marshall (after whom I have much pleasure in naming this insect) during his last visit to Corsica.

#### LIBURNIA LETHIERRYI, *sp. n.*

Undeveloped form.

♂. Pitchy-brown, shining; *crown* alone, or crown and pronotum, or crown, pronotum and scutellum, testaceous. *Elytra* pitchy-brown, nerves distinctly granulated.

*Head: crown* slightly longer than broad, more or less clear testaceous, keels acute, prominent. *Face* brown, paler in some examples than in others, keels brownish-yellow. *Antennæ* yellowish or brownish-yellow.

*Thorax: pronotum* more or less testaceous or brown. *Scutellum* testaceous or pitchy-brown. *Elytra* pitchy-brown, shining, elongate-oval, slightly longer than the abdomen, nerves distinctly granulated, granulation darker than the nerves. *Legs* yellow, or dusky testaceous; *tarsi*—apex of the 3rd joint very narrowly, and *claws* black.

*Abdomen* black, posterior margin of the two last segments above and beneath yellow, last genital segment black; upper angles viewed from above and behind white, styloid processes somewhat U-shaped.



♀. Entirely ochreous-yellow. *Elytra* pale, transparent, reaching to a little beyond the middle of the abdomen, posterior margin somewhat broadly rounded, nerves distinctly punctured. *Legs* yellow; *tarsi* as in the ♂.

Length, ♂  $\frac{7}{8}$ , ♀ 1 line.

The ♂ in appearance very much resembles the undeveloped form of *L. pellucida*, but the elytra are longer than in that species; and besides the different colour of the head, and generally the pronotum and scutellum, the different form of the opening of the last genital segment when viewed from behind, as well as the styloid processes, at once serve to separate them.

I have named the species after M. Lethierry, who, with Dr. Puton, has acquired the whole of the late Dr. Fieber's valuable drawings of *Homoptera*, and from whom I have already received valuable assistance.

Both sexes were taken by the Rev. T. A. Marshall in Corsica.

LIBURNIA GUARAMANENSIS, *sp. n.*

Undeveloped form.

♂. Testaceous, with a faint clear brownish tinge. *Scutellum*—disc with a distinct puncture near the apex of the side keels.

*Head* longer than broad, testaceous; *crown*—keels not prominent. *Face* concolorous, keels somewhat prominent and acute. *Antennæ* pale brownish-testaceous. *Eyes* large, pale brown.

*Thorax*: *pronotum* testaceous, middle keel somewhat faint, disc with a short, narrow, transverse fovea on each side of the middle, almost in a line with the posterior margin of the eyes. *Scutellum* clear pale brown, keels distinct; disc a little below the apex of the side keels with a distinct puncture. *Elytra* testaceous, reaching to beyond the middle of the abdomen, posterior margin flattish convex, nerves fine, unpunctured. *Legs* yellow.

*Abdomen* clear pale brown or brownish-yellow; last genital segment and styloid processes concolorous; opening of the former viewed from behind somewhat resembling the section of a carafe or water bottle with a short, wide neck.

Length,  $\frac{3}{4}$  line.

Unlike any species which I have hitherto seen. The head somewhat resembles *L. spinosa*, Mink, but beyond this there is nothing more in common between them.

I took a single ♂ specimen near Linares, Andalusia, by sweeping, and which I am sorry to say is sadly mutilated through having escaped notice, and remained so long in a cyanide bottle. It wants an elytron and nearly all the legs, and the somewhat defective description must be attributed to these imperfections.



LIBURNIA SCUTELLATA, *sp. n.*

Developed form.

♂. Dusky testaceous. *Scutellum* at the base with a black spot on each side of the central keel, beyond the side keels entirely black.

*Head* dusky testaceous, longer than broad; *crown* slightly widening from the base to the anterior margin, keels paler than the disc, acute, prominent; central keel imperceptible on the anterior margin; anterior triangular fovea small, the two basal foveæ large, deep. *Face* dusky testaceous, keels paler than the disc, central keel almost imperceptible on the frons. *Antennæ* dusky testaceous.

*Thorax*: *pronotum* dusky testaceous, keels paler than the disc, the latter posteriorly inclined to pale fuscous, and in the middle with a small distinct puncture on each side of the central keel; sides, exterior to the keels, piceous; behind each eye, and adjoining the very narrowly white posterior margin, are four minute whitish spots, the inner one slightly remote from the other three, which are close together. *Scutellum* pale brownish-yellow, darker in the middle on each side of the central keel, on either side of which at the base is a black spot; disc, to within a short distance of the apex, convex, beyond the side keels black, side margins brownish-yellow. *Elytra* clear, transparent; nerves dusky testaceous, inclined to fuscous towards the apex, not granulated; marginal nerve from the apex of the clavus round to in a line with the same on the anterior margin, black. *Legs* fuscous; *thighs* dark fuscous, paler at the apex; *tibiæ*—3rd pair dusky testaceous, outer margin and apex paler; *tarsi*—3rd pair fuscous grey, apex of the 3rd joint and *claws* black.

*Abdomen* above, black; beneath black, posterior margin of the two last segments very narrowly yellow; last genital segment and styloid processes black, the latter somewhat bill-hook shaped at the apex. Length,  $1\frac{1}{4}$  line.

In the shape of the head, somewhat like the developed form of *L. leptosoma*; apparently belonging to the same section as, but much more slender than, that species. The large  $\Delta$ -shaped character formed by the posterior margin of the head and the converging side keels, the markings on the pronotum, and the form of the styloid processes, separate it from all other species with which I am acquainted.

Taken by the Rev. T. A. Marshall at Darenth, but the time of capture not known.

Lee: *September*, 1873.

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 DESCRIPTIONS OF NEW SPECIES OF EXOTIC RHOPALOCERA.

BY THE REV. R. P. MURRAY, M.A.

LYCÆNA PHŒBE, *sp. n.*

Male purplish-blue, with a somewhat narrow brown border to the hind margins, and on the posterior wings to the costa also. Female



Scott, J. 1873. "Description of three new Continental and one British species of Liburnia." *The Entomologist's monthly magazine* 10, 104–107.

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