

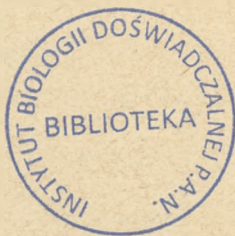
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evidence seems to show, especially after Mr. Cripps' observations, that the larvae are not actually carnivorous, except under exceptional conditions.

The pupa of *Lachnocnema*, hitherto unknown, is described below.

Placed below ground in the ant runs, and attached head downwards, to the roots of the tree or shrub, by the anal extremity.

Shape squat, broad, much shortened, angulate at the head-case and shoulders; abdominal segments broad, evenly excurved from anal extremity and incurved to a pronounced constriction or "waist" at a point about the centre of the wing-cases. A lateral view shows that this "waist" extends round and above the pupa, the abdominal and thoracic segments being raised and domed above it. Colour pale dirty brown, wing-cases lighter; surface highly polished. Length, 11 mm.; width, 8 mm. at the broadest part.

THE LARVAL GLAND IN *LACHNOCNEMA BIBULUS* (FAB.)

By H. ELTRINGHAM, M.A., D.Sc., F.R.S.

Two larvae, fixed in Blès Solution, were submitted for investigation. An examination of the dorsal half of a longitudinal section showed, on the inner surface of the eighth segment, a pale patch lying between the hypoderm and the cuticle. Transverse sections were made of this eighth segment.

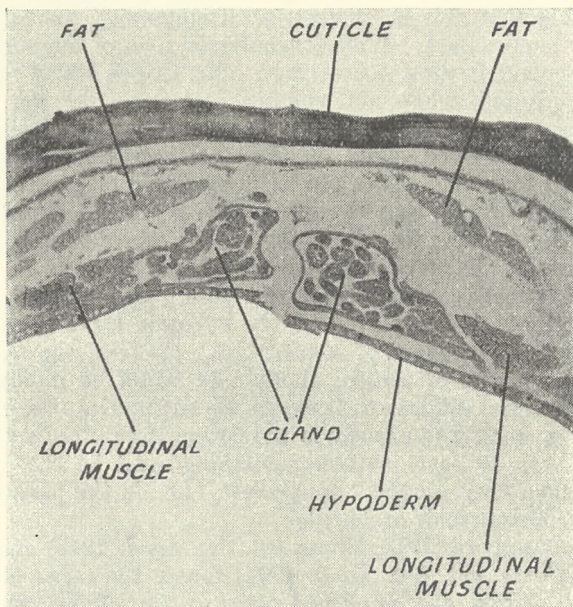


FIG. 1.—*Lachnocnema bibulus* (Fab.). Transverse section of 8th segment of larva, $\times 50$.

These sections show a flattened gland of bifid structure, the division being in the long axis of the body, *i.e.* along the dorsal centre line. There is a containing membrane, and glandular lobes cut in various planes. Some of the lobes show comparatively large cells, and others have a more fibrous appearance.





LIFE HISTORY OF *LACHNOCNEMA BIBULUS* (Fab.).

No very obvious ducts are apparent. Careful examination of the whole series fails to show any special opening to the exterior, nor is any such opening visible on examination of the dorsal cuticle from the outside. The active appearance of the gland in section suggests that it is functional, and if its secretion does in fact make its way to the exterior, it must do so by some form of diffusion or osmosis. There would be nothing very unusual about this as I have found glands in Lepidoptera which are very obviously active and functional but which show no evident external orifice.

The chitinous cuticle of this larva shows the usual pore canals, and there seems no reason why the excretion, if any, should not occur through them. As usual in such larvae, there are numerous subcuticular muscle-fibres and the contraction of these would cause pressure on the glands with a tendency to expel the contents.

EXPLANATION OF PLATE 1.

Lachnocnema bibulus Fab.

FIG. 1, egg; 2, larva; 3, larva, showing anal end; 4, larva pupating; 5, 3rd day; 6, pupa casing; 7, 10th day; 8, larva being fed by ant; 9, larva being carried to ant's run; 10, ant clasping larva at side, the larva being curled and rigid; 11, young larva in hole half-way down *Vernonia* and attended by ants; 12, *Vernonia* leaf showing egg, and early stage larva; 13, sketch of position of larva and pupae underground, with ants; 14, *Lachnocnema* showing underside; 15, the same enlarged, hairs are on the upperside of legs; 16, male; 17, 18, female. The figures are by C. Cripps.



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