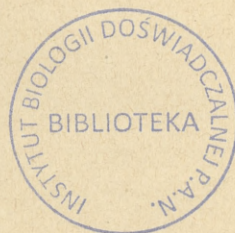


Prof. E. B. POULTON



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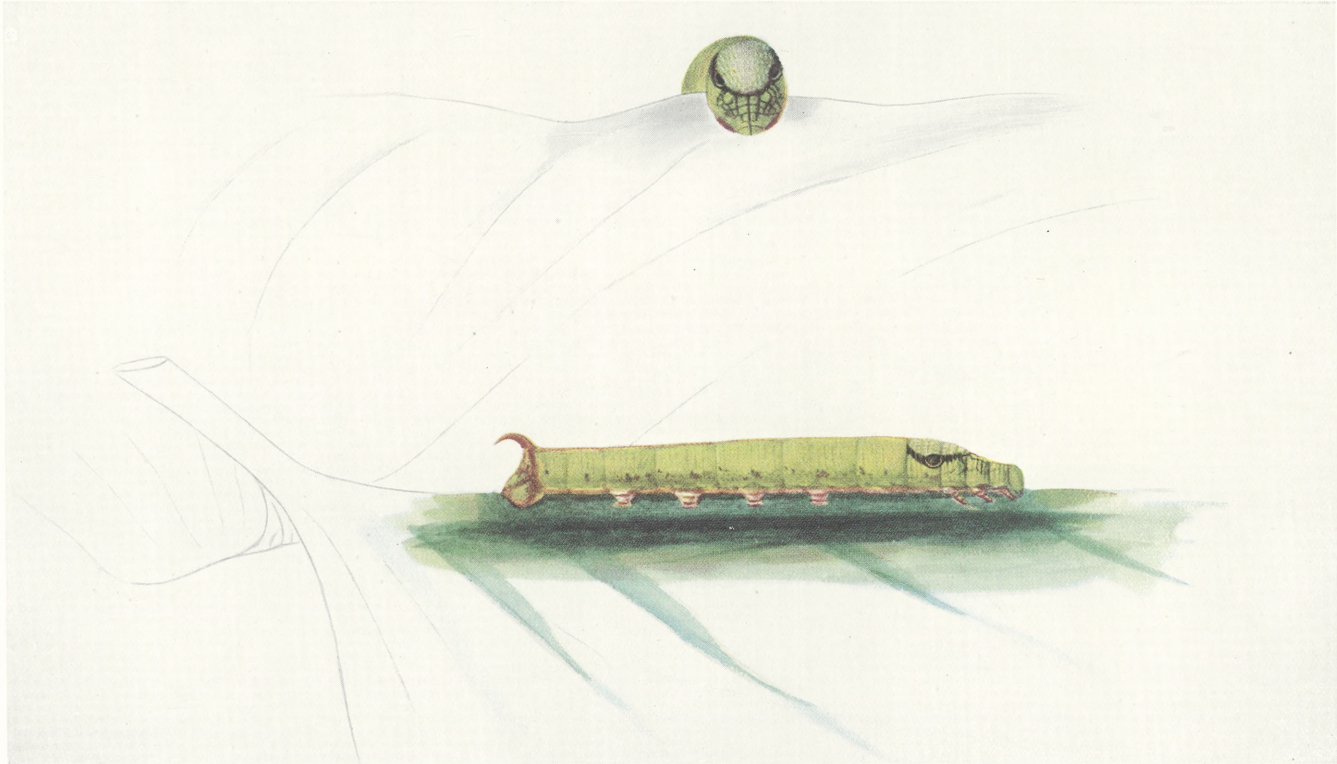


*The Tree-viper-like larva of the Oriental
Hawkmoth, *Theretra s. silhetensis*, Walker*

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J. D'Alvis, pinx.

The Tree-viper like larva of the Oriental Hawkmoth, *Theretra s. silhetensis*, walker.



The Tree-viper-like larva of the Oriental Hawkmoth, *Theretra s. silhetensis*, Walker.

Prof. POULTON said: The beautiful drawing reproduced on Plate I was presented to the Natural History Museum many years ago by my old friend Mr. H. N. Ridley, F.R.S. With his consent and that of the authorities in the Museum and with the aid of a grant from the Fund for Promoting Research in Evolution presented to Oxford University by my friend Prof. James Mark Baldwin, D.Sc., Oxon., this snake-like caterpillar, as seen from the side and also in the striking attitude and position it assumes when disturbed, has been made available for the study of naturalists interested in this form of Protective Mimicry.

Mr. Ridley kindly wrote, on 28 January, 1931, and several later dates, giving me the information quoted in the following paragraphs:—

“I went to the Museum to-day (28 Jan. 1931) and ran the moth of the viper-like caterpillar to earth easily. In fact, there is in the cabinet a specimen which I think I bred from the larva. It is *Theretra pinastrina pinastrina*, Martyn.* It is not in H. J. Kelsall’s (and my) list of SPHINGIDAE in the Singapore Gardens † because we did not take it at flowers, and therefore did not know it at the time. The caterpillar is quite green but for the head which, when contracted, is marked with scale-like lines and black and yellow ‘eyes.’ It feeds on the leaves of the Aroid *Homalomena*, sitting on the back of the leaf so as just to show its bogus head over the edge when alarmed, as in the plate. I have also seen a later stage of the larva brown, but not often. The snake it mimics, *Lachesis wagleri*, when young, is of about the same size as the larva and nearly always plain green like it, but I think with a trace of the red tail-tip, exactly like *L. gramineus* (Shaw), and sometimes with a few scattered reddish spots, but I have seen one at least which was mottled as in the adult. Also, in my ‘Habits of Malay Reptiles’ (*Ibid.*, 32 : 202), I record that on opening a female *L. wagleri* (Boie) I found several young coloured like the adult,—mottled black, yellow and green, and one plain green. Cantor speaks of a row of cinnamon and buff spots on each side of the back of the young *wagleri*. Perhaps the lateral spots of the larva may represent these.

“*L. gramineus*, the plain green species, was the commonest poisonous snake in Cantor’s time—1840 to 1852. It frequented open grassy fields, at least that is where I used to find it,—fields very liable to fire. *L. wagleri* was then rare, so that when I visited the Brit. Mus. to look at their snakes, I found almost all they had (from Cantor’s Collection) were *gramineus*, and I think but one *wagleri* from Singapore. *Wagleri* sits on bushes and small trees in forests and so does not get burnt. Its colouring is adapted for concealment in the sun-flecked foliage of the forest. In my day *L. gramineus* had nearly disappeared, while *L. wagleri* was

* Dr. Karl Jordan, F.R.S., informs me that Martyn’s *Psyche* (1797) is considered to be “unpublished” and the names are therefore invalid. The correct name is *Theretra silhetensis silhetensis*, Walker (1856).

† 1890, *J. Roy. Asiat. Soc., Straits Br.*, 22 : 324.

very common. No doubt the great clearing and burning of the open country by the Chinese after Cantor's time accounts for the change in abundance of the two snakes. Cantor states that *gramineus* ate largely *small* birds and tree-frogs.

"The whole story suggests the evolution of the mottled *wagleri* from the green *gramineus* as an adaptation for concealment in jungle, but that it still retains the green colouring of the latter in the young; furthermore, that the caterpillar originally mimicked the young of *gramineus* and now also the young of *wagleri*.

"The picture reproduced in the plate was drawn by the Singapore Garden artist, James D'Alwis, a Cinghalese, who also drew the black and red caterpillars surrounding the top of a plant-stem in the Natural History Museum.* I did not see these alive: the drawing was made when I was away. I intended to have more drawings done, but these two were I think the only ones. D'Alwis left in 1894, and this also prevented me from having a picture of the young snake which I had hoped to add to that of its mimic."

Two excellent examples of caterpillars with terrifying eye-like marks, from Malekula, New Hebrides, are figured by Miss Cheesman in *Hunting Insects in the South Seas*, London, 1932. Unluckily they could not be bred successfully, so that the species remain uncertain, but my friend Dr. Karl Jordan considers that they are certainly NOCTUIDAE. The larger of the two, opposite p. 44, he suggests may belong to the genus *Phyllodes* (CATOCALINAE), of which a species, *P. imperialis*, Butl., occurs in the New Hebrides. The eye-like mark is bright blue which thins away anteriorly and is here bordered with red and this again with a shorter segment of white. The large "pupil" is very dark blue. The Native name for the larva is "Tiavol," which Miss Cheesman suggests may have been formed from "Diable." Dr. Jordan also informs me that there are no Eastern SPHINGIDAE with a larva at all like this, and that its proportions and attitude are those of a Noctuid. The other smaller caterpillar, opposite p. 42, is certainly an *Ophideres* (CATOCALINAE) of which there are, he believes, several species in the New Hebrides. The display of eye-like marks in the doubled-up attitude of *Ophideres* is well known, and an Indian example, shown to me by the late Lord Walsingham, is figured in *Colours of Animals*, London, 1890, p. 263. Both larvae were painted in April 1929, and the drawing, kindly lent to me by Miss Cheesman, shows that the posterior "eye" of the *Ophideres*, as well as the much larger anterior "eye," possess a small bright blue "pupil" and a brown "iris," ringed with white.

* My friend Mr. N. D. Riley has kindly written (15 Dec. 1932) that "The black and red caterpillars surrounding the top of a plant stem, which were illustrated in a drawing exhibited for many years in the Mimicry Case at the foot of the stairs in the Central Hall, were those of *Hypsa monycha*, Cramer. This I have discovered from some old notes. The drawing itself was taken down about five years ago."—E.B.P.



