

NOTES ON CERTAIN COLOUR PATTERNS IN  
LYCÆNIDÆ

BY V. G. L. VAN SOMEREN

There has always been a certain amount of speculation as to the use or otherwise of certain colours and the distribution of them in Lepidoptera, particularly in Rhopalocera.

So-called 'mimicry' has its staunch supporters, and there appear to be considerable grounds for the various theories put forward. Little, however, in comparison, has been written regarding the peculiar shape of certain species of Rhopalocera, and this is a subject worthy of attention.

Certain lepidopterists have drawn attention to the curious shape of the anal angle in the wings of certain *Lycænidæ*, and have put forward ingenious theories as to the uses of such peculiar formation and appendages, combined with the brilliant spots of colour usually associated with them. I propose in these notes to record my observations on this particular subject.

One authority has advanced the theory that the brilliantly coloured, rounded appendages, in conjunction with the so-called tails, are in reality 'false heads,' with the attendant eyes and antennæ, and, by virtue of their shape and colour, are a means of protecting the life of the insect against such natural enemies as lizards.

This theory is very pretty and attractive, but assumes a fairly high special development on the part of the insect, and a low intelligence on the part of the lizard. To my mind a compromise appears to offer the more reasonable explanation.

These appendages, coloured as they are, certainly are to the human eye objects of attraction; and, assuming that they appeal to the lizard in the same way, may be termed 'spots or areas of primary attraction.' I refer in the first instance to the markings on the underside.

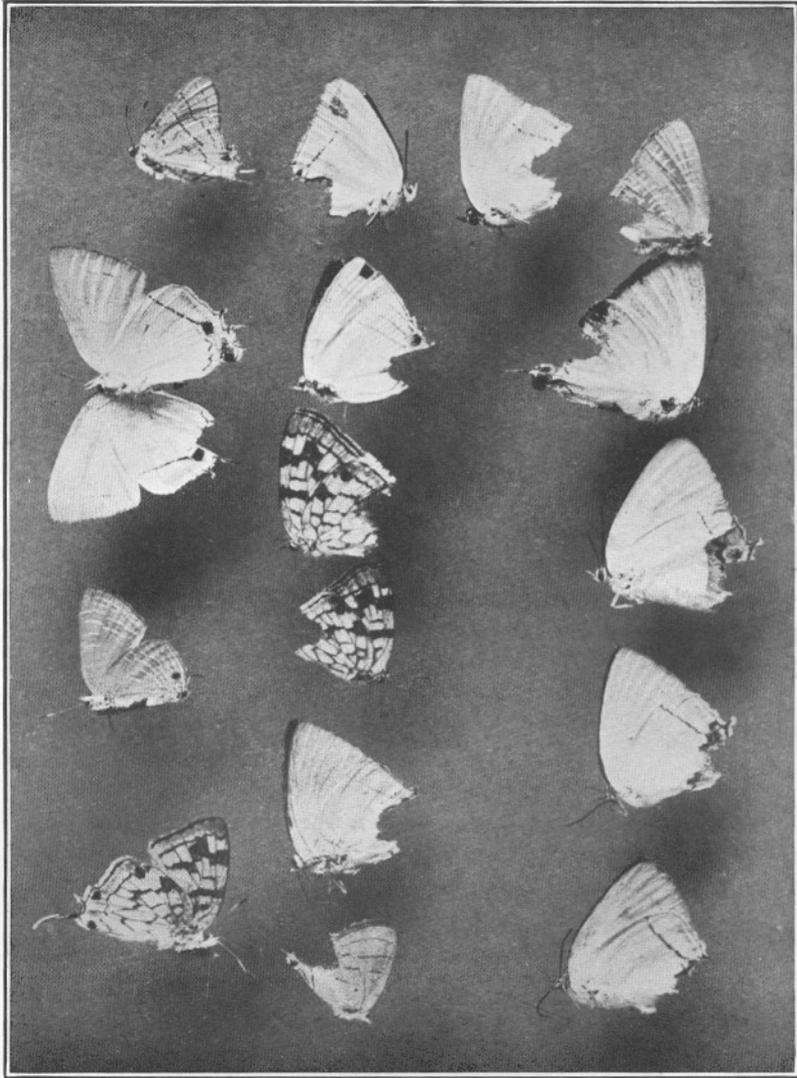
A glance at the accompanying plate will at once show that all these insects have been attacked, in some cases more than once, in the same area, namely, the rear.

We can explain this in three ways—first, by applying the

A

B

C



A

B

C

theory of the false head, and assuming that the lizard, keen on capturing its prey, attacked the apparently most vital spot, namely, the false head ; or, secondly, by the compromise theory of areas of most attractability ; or, thirdly and most likely, by ascribing to the lizard a certain and by no means unlikely amount of intelligence, and saying that the lizard attacked the insect in its ' blind ' area, namely, the rear.

This last explanation appears simple and the most likely, until we come to study the actual specimens attacked.

It was my good fortune in July 1920 to find a small flowering shrub growing against a pergola constructed of rough branches, the former being most attractive to the ' Blues ' figured, and the latter the home of numerous wall lizards.

My attention was first drawn to this bush by noting that the butterflies were never still for any length of time, although feeding and sunning themselves ; this behaviour being quite unusual, in my experience, in the species under consideration.

This strange action led me to investigate the cause, which proved to be the repeated attacks on the part of the lizards.

Having heard of the theories mentioned at the beginning of these notes, I determined to try to prove or disprove them by personal observation. I accordingly spent several hours at the bush, and paid particular attention to the position of the attackers and the butterflies attacked. Every attack was made from behind, and on *no occasion* was a butterfly taken from any position other than the rear.

Now, studying the plate, it will be seen that all those in column B have the excised portion in the same area, and symmetrical in both wings, indicating that the wings were closed, and further, in No. 1, that the attacker was below and behind ; while in No. 7 a double attack has been made—the first from directly behind, and the other from above and behind.

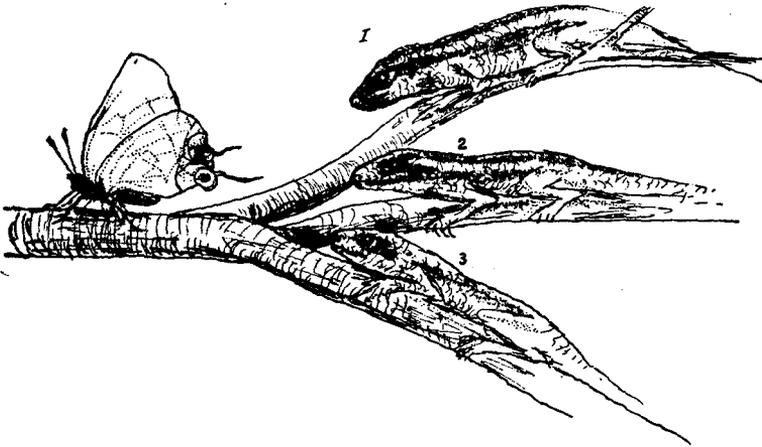
In some cases both eye-spots have been removed, in others only one.

In column C the excision has not been symmetrical in both wings, indicating that the wings were not tightly closed but slightly opened, and further, we can see the side of attack

well exemplified : in Nos. 1 and 2 the attack has been made from behind and on the right ; in Nos. 3, 4, and 5, from the left and behind, each victim having suffered from more than one attack.

In making the sudden dart, the lizard twisted his head to one side. It was only when the grip included part of the body that the catch was successful.

Another contributory factor determining the position and



SKETCH SHOWING RELATIVE POSITION OF EXCISED AREAS ACCORDING TO POSITION OF ATTACKER.

1. Attacker above and behind removes upper eye-spot and tail.
2. Attacker directly behind removes a portion of both eye-spots.
3. Attacker below and behind removes under eye-spot and tail.

shape of the excised portion is the habit which some of these species have of rolling the hind wings—that is, moving them up and down in a vertical position when still closed. In the specimens taken, the excised areas are the same shape but not in the same position on both wings.

Although on several occasions the tip of the fore wing was the nearest point to the lizard, no attempt was made to secure the victim. This would, then, appear to argue against haphazard attack, and lend support to the theory of selective position ; and so we come again to the point from which we started.

I would now mention that on a few occasions one wing only was attacked, and this at times when the butterfly had its wings fairly widely open, thus hiding from view the eye-spots on the underside, but incidentally laying open to view the very much more vivid colouring on the upper side of the anal angle, which was less like a 'head with eyes,' lending support to the theory of attraction by virtue of colour, not shape, or to the simple explanation that attack from behind is safer and more often successful.

Brilliant splashes of colour on insects and other creatures have sometimes been interpreted as being of use as danger signals or warnings, but such cannot be the case in this instance, as no warning is apparently heeded by the lizards—rather the contrary.

---

## SOME NOTES ON THE WASANYE

By ARTHUR M. CHAMPION

This hunting tribe cannot be said to inhabit any particular area, but may be met with from Kipini to Gazi, from Takaungu to Voi. I recently had an opportunity of visiting a settlement of these people some thirty miles west of Mangea Hill. The place was called Mlango Moro, but there is, I am informed, another settlement a day's march farther west, called Mtanyango. The tribe call themselves 'Wat,' but are spoken of by the Wanyika as the Alangulo. The local Elder at Mlango Moro is called Kalime Dida, but the settlement seem to regard one Dede who lives at Warumbe Forfa (about an hour and a half S.E. of Shakahola) as their chief.

I found two villages, one of which had seven circular huts, and the total population of the settlement may have been twenty-five all told. One hut was much bigger than any of the others, being 15 feet in diameter, and, I should judge, 10 or 12 feet in height. It was finished off at the top very neatly in the form of a little ornamental point. Others were very roughly put together. I measured one of what I considered average size: it measured 9 feet in diameter and 5 feet in