

#### Mimicry *versus* Hybridisation

ALLOW me space for a word or two in reply to Mr. Wallace and Mr. Butler's observations on my papers on Mimicry and Hybridisation.

There is only one point in my argument to which they have taken exception, and although, of course, I am not therefore entitled to assume that their silence on other points means assent, I may at least infer that in their view the point objected to is most open to assault, and that if it were established, the reader may regard the rest with increased confidence.

The objection is that the instances of hybridisation in plants which I have cited as parallel to the cases of mimicry between the Danaids and Nymphalids were merely cases of hybridisation between species of the same genus or allied genera, whereas these butterflies are more distantly related. The question, as thus put by these gentlemen, resolves itself into a question of comparative degrees of affinity, and Mr. Wallace, with his usual skill, tries to throw the onus of proof from his shoulders to mine. But with all submission we shall keep it where it naturally lies. He puts it that my argument rests on the assumption that hybridisation can take place between different orders or families, and quite logically (supposing me to have done so) objects to my making any such assumption in regard to insects, seeing that nothing of the kind has ever been observed in other animals or in plants. But I rest my argument on no such assumption. I ask no other measure for insects than is given to plants. It is Mr. Wallace who makes the assumption that the amount of difference between Lepidoptera has a different value from that attached to it in any other organic beings. It is he who claims for differences which in any other creatures would be regarded as no more than specific the importance of generic or ordinal. But however this may suit the artificial classification of the systematist, we cannot allow it when we come to deal with the actual workings of nature.

I am not surprised that either Mr. Wallace or Mr. Butler should take what appears to me an exaggerated view of the dignity and position of their favourite group. It is human nature that any subject to the study of which we have devoted ourselves should assume in our eyes larger proportions than it does in the eyes of those who take a wider but less detailed view of it. Hence we see Mr. Butler comparing the Lepidoptera to birds, as if it were a kingdom of equal magnitude, and seeking for

equivalents for such groups as the hawks and doves within its limits. Whereas it seems to me that the truer parallel is between the whole class Insecta and Birds, and that the equivalent groups for hawks, doves, &c., are to be looked for, not in one of the sections, but in the whole of the class. He looks for both hawks and doves in the *Lepidoptera*. I find nothing but doves. If you want hawks you must go to the dragon-flies, which are their equivalent; and, of course, if we are only dealing with doves, there is nothing in the known phenomena of hybridisation opposed to such a cross having taken place.

It is impossible in the brief space that you would allow me, even to glance at the many arguments that I could adduce to show that this is the true position of the *Lepidoptera*. I hope to do so elsewhere. But I would only remind entomologists, especially lepidopterists, of the trifling characters on which their genera have been established, and how difficult it has been to find any generic characters at all. This is frankly acknowledged as the great difficulty attending the study of *Lepidoptera*, consequently characters which would never for a moment be looked on as generic in any other group of animals, are there allowed that value. If any specialist in another group objects, what is the answer? "We have no better characters, and we must do the best we can with the slight ones we possess." Quite right, in a systematic point of view. If the species of doves came to be reckoned by thousands, the ornithologist would just have to do the same thing; but that would not alter the position of doves in the animal kingdom—they would still bear the same relation that they do now to hawks, and be equally open to hybridisation among themselves, indeed, more so; for such great numbers of one type would be a presumption in favour of every mode by which species could be increased having been resorted to; and this by the way is an additional indirect argument in favour of hybridisation sometimes taking place among *Lepidoptera*.

Of course, I do not mean to say that there is nothing more than specific distinction between the Danaids and Nymphalids. I recognise them as good genera, but only as genera sufficiently nearly akin to allow of hybridisation taking place between them—and *ecce signum*—the mimics in question partaking of the characters of each in all respects as other hybrids do.

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67, Bedford Gardens, Kensington, Dec. 30, 1870