

of the Hesperidæ, and through them of the Heterocera, and can confidently assert that, in the preparatory stages, these two families are as unlike as any of the series. And as to the butterflies themselves they stand at the two poles. Even Mr. Bates says of the Papilionidæ, they are "quite unconnected with the Hesperidæ, no connecting links between the two families being known." (Jl. of Entom. 1861, Dec.) In the imago, some Danainæ and Heliconiæ closely resemble species of Papilioninæ and of Pierinæ, and in any arrangement these four sub-families should stand near each other. But the fact of atrophied fore legs in *Danaï* should no more give it precedence over *Papilio* than does such atrophy in other orders of insects give pre-eminence to the species subject to this phenomenon, or to the genera and families which contain them.

I do not believe that one family of the Diurnals has necessarily been evolved from another, and all from the Heterocera, by successive stages, in a direct line, as is implied in the arrangement I object to, but rather that, if such development may have sometimes taken place, in other cases families have radiated from a common progenitor, just as a group of species has done. And here and there resemblances between such families must be expected to occur, just as they do occur between the species, in both cases merely because they had a common origin.

The proposition is enunciated by Mr. Darwin, that "distinct species present analogous variations, and a variety of one species often assumes some of the characters of an allied species, or reverts to some of the characters of an early progenitor." And what is true of species is just as true of genera and families.

Moreover there may be affinities which are so only in appearance, arrived at through "biological necessity," as where the larvæ of *Parnassius* protects its chrysalis by a sort of cocoon, after the fashion of certain of the Heterocera, a fact much insisted on by the advocates of the modern arrangement. Now that habit may well have been found useful in this genus, considering the exposure to which the species are subject, dwelling on lofty mountains, treeless, often shrubless, and storm-swept. A naked and suspended chrysalis would stand a poor chance of surviving in such a region, and it is well known that the *Parnassians* alone of the *Papilioninæ* have been able to gain and maintain a foothold in elevated districts. That they have done it is owing to the necessary modification of the habits of the larvæ, and it is a singular notion that success in such respect should work the degradation of themselves and all their blood relations.