

It is not possible to say of butterflies at large exactly when one came from chrysalis, or when it expired, but in the case of any species we observe at a certain time of the year, with great regularity, fresh butterflies are on the wing, and that in a few weeks only here and there can this species be seen, the survivors being old, abraded of wing and broken. If a female be now taken, on dissection there will usually be found a few eggs in the abdomen, perhaps half a dozen, the remains of an original stock of 200 or more. Sometimes not a vestige of the eggs remain. Any collector much in the field will often have seen female butterflies on the ground, sometimes struggling, oftener dead, and if examined these will usually show no sign of violence, but plenty of old age and exhaustion.

In the case of many-brooded species we observe that, periodically, every few weeks a new brood has come, then that the butterflies are old and scarce, and suddenly great numbers of fresh ones are flying. So that in a certain number of weeks a whole generation has come and gone. But the individuals of this generation which emerge earliest, and lay their eggs soonest, will die first, and as the emergence occupies at least half the whole period of the generation, we may say, if a generation is on the wing six weeks, that three or four weeks would be the limit of existence of any particular individual. In many species, in the latitude of West Virginia and further south, there is a new generation on the wing every month, and in such case a butterfly three weeks old would be a patriarch among its kind. In New York and New England, where most species are double-brooded at least, the duration of an individual life may be a trifle greater, but no more, depending upon the time the eggs are laid.

In the case of a seasonally-dimorphic species, and still more of a trimorphic species, like *Papilio Ajax*, we can fix the limits of duration of one or more of the forms with some definiteness. In my section of West Virginia the form *Walshii* is on the wing very early; *Telamonides* appears about a month later, but occasional *Walshii* fly as late as any *Telamonides*; and by first of June the third form, *Marcellus*, appears, and almost at once completely supplants the other two. In a few days not a single example of the other forms will be seen. I find many memoranda in my note books bearing on this point.

In a series of years, from 1871 to 1881, the first appearance of the forms of *Ajax*, and the last appearance of the two spring forms, is recorded nearly every year.