

coming on. A large proportion of these early females must die before the leaves of the Pawpaw first show themselves. In this plant the flowers precede the leaves, and these larvæ do not eat the flower, but eggs are sometimes found on the unopened flower buds and even on the stems, several days before the bursting of the leaf buds.

In 1880, 9th April, I recorded that no good examples of *Walshii* were to be had, all being worn and broken. But same year, on 20th April, I took a pair of *Walshii* in copulation, the ♀ just out of chrysalis, the wings expanded, but still limp - not wholly dried—the ♂ old and broken. Next day I took 3 pairs of same form in copulation, and in each case the female was fresh, while the male was worn and broken.*

Now in that year the first *Walshii* had been seen early in March. On 1st day of April I took a ♀; on 3rd April I recorded that I saw several females about the blossoms of the wild plum and that all were worn. Plainly one division of this generation, in the ♀, was passing away early in April, while 20th April many fresh females were coming from chrysalis. I took all these pairs in one clump of bushes inside my fence, and it is to be presumed that if plenty there, multitudes of *Walshii* were coming from chrysalis throughout this region on those days. The weather had suddenly changed from cold and blustering to fine, and the belated chrysalids were giving butterflies.

The period of *Telamonides* in these same years has been from 29th April to 9th June. In 1871, 9th June, I recorded that I confined 2 ♀ *Telamonides*; on 10th had got no eggs, and concluded from their wasted appearance that they had previously exhausted their stock. That same year, both on 24th and 28th May, I had taken females of *Telamonides* while ovipositing. On 12th May, 1872, I recorded that I shut up a ♀ *Telamonides* and got eggs; on 30th May, that I shut up 2 ♀; and add that many of this form were to be seen, but all were worn. *Telamonides*

* I have again and again noticed in many species of butterflies, where a pair have been taken in copulation, that the male will in most cases show signs of considerable age, while the female is evidently either just from chrysalis or quite recently. Boisduval, Spec. Gen., I, p. 28, says: "In some instances two or three days elapse between chrysalis and pairing, but only when the sexes cannot come together sooner." But of the hibernators the same author says of the *Vanessidæ*, all which in temperate regions at least hibernate in the imago: "Their pairing does not take place till seven or eight months after the emergence of the insect." Of my own experience I know nothing as to this.