

duct in New England as elsewhere of the form *Fabricii*. Our author proceeds: "The reason for this variation" (that is, between the dimorphic forms) "is difficult to explain, as neither food nor atmospheric change appear to have anything to do with it, for we find that Mr. Edwards has produced both forms where the larvæ were found under precisely the same circumstances." Both the forms spoken of are figured in *But. N. A.*, vol. 1, and the life history at Coalburgh is given at length. Also in *C. E.*, x., 73, and xiv., 201. I gave the result of many years observations at Coalburgh on this species, stating that all the hibernating butterflies had been *Fabricii*, except in a single instance; that the eggs laid by females of this early *Fabricii* produced a mixed brood, the large majority of individuals being *Umbrosa*. And eggs of *Umbrosa*, of this mixed brood, again produced a mixed brood, the large majority still being *Umbrosa*. But that eggs of these last *Umbrosa* had produced *Fabricii* only, late in the year, and these were hibernators. At the north, where there are two broods only, the dimorphism is complete, and this is the case with all seasonally-dimorphic species of butterflies, which are also only two-brooded. But at the south, or where the length of the warm season permits one or more additional broods to mature—and these seem to be inserted between the two original ones—the result in such additional broods is a mixture of the two forms. But in the case of *Interrogationis*, there is a preponderating tendency towards the summer form, *Umbrosa*, imperfectly counteracting the inherited tendency of the species to produce the winter form *Fabricii*, as it would in New England.

These results are not only interesting but biologically very important, and the forms are not to be regarded as simple variations. Food has nothing to do with dimorphism, nor has atmospheric change, but climate has. Vide Weismann, vol. 1. In my paper referred to, *CAN. ENT.*, x., p. 73, I offered a conjecture that at the north, *Fabricii* would be found to be the winter form and *Umbrosa* the summer, and expressed a hope that some lepidopterist would examine into the matter and report. If Mr. Sprague has made the necessary observations, I hope he will publish them.

Under *Melitæa* (*Phyciodes*) *Tharos*, we are told that the larvæ of first brood give the "butterflies known as *Morpheus*," while the larvæ of the second hibernate, to produce "the butterfly known as *Myrina*," in June. That is a mistake for *Marcia*. But here again the names of the forms had to be used to make the story intelligible.

*Satyris Alope* is given as one species, *S. Nephela* as another, though