

cool weather a very few *vernalis* also—these in late September and in October until severe night frosts occur. In autumn the grades of earlier dates are nearer the type; those appearing later progressively approach *vernalis*.

I would suggest that the term "dimorphic variety" hardly applies properly to *vernalis*. The variation is multiform, and the intergrade examples largely outnumber the instances of the extreme "*vernalis*" type as described and figured. *Vernalis* is not a variety abruptly contrasting with a type form, but merely the extreme term of a series of variations departing from type.

Vol. I of Mr. Edwards' "Butterflies of N. A." contains plate with accurate and beautiful figures of *vernalis*.

AN ACCOUNT OF SOME FARTHER EXPERIMENTS UPON THE EFFECT OF COLD IN CHANGING THE FORM OF CERTAIN BUTTERFLIES.

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In May, of the present year, at Coalburgh, I bred a large number of larvæ from eggs laid by *tharos*, var. *marcia*; also several from eggs laid by *ajax*, var. *Walshii*; and from eggs laid by *Lyc. pseudargyritus*; and all of the chrysalids of *tharos*, and part of those of the other two species, were placed in small tin boxes as they formed, and at different intervals thereafter, 10, 20, 60 minutes up to some hours, and one and two days, were laid in the ice box on top of the ice. The box was supplied with ice once a day. I intended removing the chrysalids at irregular periods, so as to see what length of exposure to cold would suffice to change the form of the butterfly, and hoped also to ascertain how soon after the forming of the chrysalis the cold must be applied to produce the desired effect. But the *tharos* chrysalids had scarcely begun to form when I was called to New York, and had to leave charge of them and the larvæ to a member of my family, who followed my directions faithfully as to