

crossing would follow one form or the other, and tend to revert to the parent or to become merged in the variety. Favorable conditions might render one or more of them permanent, as with *Alope Texana*, which seems to possess a territory of its own to the south-west. Certainly the parent form would be more or less modified by the absorption of the intergrades, if not permanently, yet so that now and then sports would be thrown out in the direction of *Alope*. Hence the two-eyed *Pegala*. That, on the other hand, the intergrades nearest the strong variety would tend to merge in it also, when cross breeding had ceased by the disappearance of the parent form, we may infer from the fact that when *Alope* is suppressed the tendency of the species is to the pure type *Nephele*. Wherever *Nephele* is alone found there appear variations in the direction of *Alope*, but they are very infrequent as compared with the typical form.

*Alope* and *Nephele* are dimorphic in a certain belt of latitude which embraces part of New York and New England, but as I have before intimated, there is a longitudinal limit to the dimorphism also. Somewhere between New York and Indiana *Alope* disappears. There would seem to be a longitudinal belt of considerable width passing through western Ohio and eastern Indiana, in which both forms are either unknown or of extremely rare occurrence, while to the west of it *Nephele Olympus* emerges in Illinois, Wisconsin, Iowa, &c. As before stated, *Alope* is reported to be very rare at Cleveland (eastern Ohio), and unknown at Toledo (north-western Ohio). In the region from Columbus (middle), Dayton and Cincinnati (south-west), *Alope* and *Nephele* are unknown. A line drawn from Toledo through Columbus to Cincinnati would embrace about one third of the State. Dr. Landis kindly undertook to obtain information for me from the collectors in eastern Indiana, and so far as Indianapolis (a little to the east of the middle of the State) he reports both forms unknown. It is true, collectors of butterflies are not numerous, but they are usually very zealous, and each is likely to be well acquainted with his own neighborhood and for a considerable distance around.

I have recently had several letters calling my attention to published lists of butterflies of different western States, in which *Alope* is mentioned as present, and usually both *Alope* and *Nephele*. Such as Mr. Scudder's list of butterflies taken by Mr. J. H. Allen, in Iowa, 1870; Mr. J. Duncan Putnam's list of butterflies found about Davenport, Iowa; Mr. Herbert Osborn's recent list of butterflies about Ames, Iowa; Prof. H. W. Parker's