

## ON THE GEOGRAPHICAL DISTRIBUTION OF NORTH AMERICAN LEPIDOPTERA.

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(Continued.)

The study of the forms referable to the first or European element in the North American Moths, is complicated by the circumstance of the great range in the character and amount of the differences separating the related species now living so widely apart. These related species are found, in fact, to offer also difficulties as to their correct nomenclature. We have seen that the term "representative species," like that of "prophetic types," hides the real significance of the inter-resemblance which is that of a common descent. In naming these "representative" forms we must be guided by the rule that where the differences are such that the species would be considered distinct if members of a common fauna, a different specific title must be given them, but where these differences are slight, and what, under the same supposition, would be considered only varietal, the species must be considered as still identical, though separated so long in time and by so wide a space. The study of those forms which are practically identical is, as we have seen, further complicated by the difficulty of deciding as to whether they may have been introduced since the discovery of the New World by the Spaniards, or whether the species have continued unaltered since the Tertiary in both America and Europe. While certain species such as *Scoliopteryx* are undoubtedly in this latter case, it is less easy to feel so sure with regard to this in instances like *Dipterygia Pinastris* and the various identical forms of *Agrotis*, but on the whole I am inclined to believe that the number of species artificially exchanged is very small, and that these identical species have simply proved more constant and are of an older type than the rest. An agent which, however, must not be omitted in the interchange of species of insects is the voluntary importation by collectors for purposes of acclimatization, deception, or from a desire to destroy, through the introduction of injurious species, the crops of another country. It seems quite clear that the Natural History of most insects precludes the idea of their importation in an accidental way by commerce. It seems certain that the Colorado Potato Beetle never found its way to Europe in cargoes of vegetable provisions. Where it was found on the Continent it was evi-