

thickness of which scarcely exceeds three or four feet, and in two quarries of very limited dimensions. The rare combination of causes which seems to have led to the faithful preservation of so many treasures of a perishable nature in so small an area, appear to have been the following : first, a river flowing into a lake ; secondly, storms of wind, by which leaves, and sometimes the boughs of trees, were torn off, and floated by the stream into the lake ; thirdly, mephitic gases rising from the lake, by which insects flying over its surface were occasionally killed : and fourthly, a constant supply of carbonate of lime in solution from mineral springs, the calcareous matter, when precipitated to the bottom, mingling with fine mud, and thus forming the fossiliferous marls.

Species of Insects in Britain and North America, represented by distinct Varieties.

If we compare the living British insects with those of the American continent, we frequently find that even those species which are considered to be identical, are, nevertheless, varieties of the European types. I have noticed this fact when speaking of the common English butterfly, *Vanessa atalanta*, or 'red admirable,' which I saw flying about the woods of Alabama in mid winter. I was unable to detect any difference myself, but all the American specimens which I took to the British Museum were observed by Mr. Doubleday to exhibit a slight peculiarity in the colouring of a minute part of the anterior wing,* a character first detected by Mr. T. F. Stephens, who has also discovered that similar slight, but equally constant variations, distinguish other lepidoptera now inhabiting the opposite sides of the Atlantic, insects which, nevertheless, he and Mr. Westwood and the

* Lyell's Second Visit to the United States, vol. ii. p. 293.