

forests of this period, where for the first time types so different are united. The waters are covered with *Nymphæa Arithnæa* (Brongniart); and with *Myriophyllites capillifolius* (Unger); *Culmites animalis* (Brongniart); and *C. Gæpperti* (Munster), spring up in profusion upon their banks, and the grand *Bambusinites sepultana* throws the shadow of its long articulated stem across them. Some analogous species occupy the banks of the great rivers of the New World, one Umbellifera is even indicated, by Unger, in the *Pimpinellites zizioides*.

Of this period date some beds of lignite resulting from the accumulation, for ages, of all these different trees. It seems that arborescent vegetation had then attained its apogee. Some *Smilacites* interlaced like the wild vines with these grand plants, which fell on the ground where they grew, from decay; some parts of the earth, even now, exhibit these grand scenes of vegetation. They have been described by travellers who have traversed the tropical regions, where Nature often displays the utmost luxury, under the screen of clouds which does not allow the rays of the sun to reach the earth. M. D'Orbigny cites an interesting instance which is much to the point. "I have reached a zone," he says (speaking of Rio Chapura in South America), "where it rains regularly all the year round. We can scarcely perceive the rays of the sun, at intervals, through the screen of clouds which almost constantly veils it. This circumstance, added to the heat, gives an extraordinary development to the vegetation. The wild vines fall on all sides, in garlands, from the loftiest branches of trees whose summits are lost in the clouds."

The fossil species of this period, to the number of 133, begin to resemble those which enrich our landscapes. Already tropical plants are associated with the vegetables of temperate climates; but they are not yet the same as existing species. Oaks grow side by side with Palms, the Birch with Bamboos, Elms with Laurels, the Maples are united to the Combretaceæ, to the Leguminales, and to the tropical Rubiaceæ. The forms of the species, belonging to temperate climates, are rather American than European.

The luxuriance and diversity of the Miocene flora has been employed by a German savant in identifying and classifying the Middle Tertiary or Miocene strata of Switzerland. We are indebted to Professor Heer, of Zurich, for the restoration of more than 900 species of plants, which he classified and illustrated in his "*Flora Tertiaria Helvetiæ*." In order to appreciate the value of the learned Professor's undertaking, it is only necessary to remark that, where Cuvier had to study the position and character of a bone, the