mastodon, rhinoceros, and deer. The woods were haunted by musk-deer, apes, opossums, three-toed horses, and some of the strange, long-extinct Tertiary ruminants, akin to those of Eocene times. There were also frogs, toads, lizards, snakes, squirrels, hares, beavers, and a number of small carnivores. On the lake, the huge Deinotherium floated, mooring himself perhaps to its banks by the two strong tusks in his under jaw. The waters were likewise tenanted by numerous fishes, of which 32 species have been described (all save one referable to existing genera), crocodiles, and chelonians.

Italy.—The enormous Aquitanian stage of Liguria (p. 1630) is followed by (1) blue homogeneous marine marls, reaching a depth of nearly 2000 feet and marked by the abundance of pteropods, also Ostrea neglecta, Cassidaria vulgaris, and Aturia aturi. This stage, called by Mayer "Langhien," is paralleled with that of Mainz. It is surmounted by (2) the Helvetian stage (3280 feet), composed of three divisions: a lower (1000 to 1300 feet) composed of shaly marls rich in Vaginella, Cleodora, etc.; a middle (700 to 750 feet) consisting of yellowish sandy molasse with bryozoa, Pecten ventilabrum, Terebratula miocenica, etc.; and an upper (more than 300 feet) composed of beds of conglomerate and nullipores, with oysters, pectens, etc. The Tortonian stage (3) is made up of blue marls (650 feet), forming a remarkably constant band, with a profusion of Pleurotomaria and species of Conus, Natica, Ancillaria, etc.[85]

Greenland.[86]—One of the most remarkable geological discoveries of modern times has been that of Tertiary plant-beds in North Greenland. Heer has described a flora extending at least up to 70° N. lat., containing 137 species, of which 46 are found also in the central European Miocene basins. More than half of the plants are trees, including 30 species of conifers (Sequoia, Thujopsis, Salisburia, etc.), besides beeches, oaks, planes, poplars, maples, walnuts, limes, magnolias, and many more. These plants grew on the spot, for their fruits in various stages of growth have been obtained from the deposits. From Spitzbergen (78° 56′

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[85] C. Mayer, Bull. Soc. Geol. France (3) v. p. 288. F. Sacco, "Il Bacino Terziario del Piemonte," Turin, 1889.

[86] Heer, "Flora Fossilis Arctica," in seven vols. 1868–83; Q. J. Geol. Soc. 1878, p. 66; Nordenskiöld, Geol. Mag. iii. 1876, p. 207. In this paper sections, with lists of the plants found in Spitzbergen, are given.