

American Turtles, from the Lower Miocene, or White River beds, of Dakota, *Testudo brontops* of Marsh, which had a length of about two and two thirds feet. The Puerco beds have afforded a species of *Champsosaurus* (*C. Saponensis* of Cope), a Laramie genus. A very small species of Crocodile has been reported from the White River beds.

3. **Birds.** — The Eocene and Miocene have afforded remains of species related to Waders, an Owl, *Bubo leptosteus* of Marsh, a bird near the Woodpeckers, some web-footed species allied to the Gannet; and the Miocene, remains of a large Eagle, a Cormorant, and other birds. The *Diatryma gigantea* of Cope, from the early Eocene of New Mexico, was larger than the Ostrich. The *Barornis regens* of Marsh, from the Upper marl beds of Squankum, N. J., of the Eocene, had about the size and many of the characters of the Ostrich. From the Florissant beds have been obtained a Plover and other species.

4. **Mammals.** — The sea-border Tertiary of the continent has afforded remains of but few Mammals; for seashores are not their ordinary resort except for aquatic kinds. The regions of the great lakes over the Rocky Mountain area, on the contrary, have been found to be literally Tertiary burial-grounds. They bear evidence that Mammals in great numbers, and of several successions of faunas, lived and died about these lakes, and by lacustrine agencies were buried.

These ancient bone-beds remained almost unknown to science until the year 1847; and now, through the labors of explorers, and the works of Leidy, followed by the memoirs of Marsh, Cope, Scott, Osborn, and others, the number of known species far exceeds that of existing North American Mammals. These Mammals are, with rare exceptions, of the ordinary or placental type. The Marsupials, as in earlier time, were small species, related to the Opossums; and their remains are known from the Early Eocene onward.

Eocene. — The Eocene species comprise Herbivorous, or Ungulate, Carnivorous, Insectivorous, and Rodent species, and also Quadrumana; and before the close of the period, Cetaceans, or Whales. The remains of Ungulates are most abundant, because such species frequent lake borders. They are related to the modern Tapir, Wild Boar, and Rhinoceros, yet only in a very general way, as these special types belong to a later period. The earliest of the Eocene species are remarkable for their prototype or primitive characteristics: (a) the legs being approximately equal; (b) the feet five-toed and of typical form, the five toes similar, with the third or middle toe a little the longest; (c) the carpal bones and the tarsal in vertical series with the following bones of the foot; (d) the teeth of the typical number, 44, — that is, 11 in either ramus of each jaw, — the 11 including 3 incisors, 1 canine, 4 premolars, and 3 molars; (e) the molars of simple form, being usually tritubercular at summit, or trigonodont; (f) the head without armature of horns or tusks.