

Greek, signifying *without teeth*. The skull and slender bird-like jaws of *Pteranodon longiceps* Marsh are shown in Fig. 1422 *b*, and an upper view in Fig. 1422 *a*. The fore limbs (wings) are enormous, the hind limbs very small. These animals, as Marsh observes, have several vertebræ anchylosed to act as a *sacrum* to the *pectoral* arch (like the sacrum in the *pelvic* arch), for the support of the powerful wings. The skull alone of *P. ingens* of Marsh is about *four feet long*, and that of *P. longiceps* over three feet. The abundance of their remains in the Kansas beds appears to show that these great bird-billed Pterosaurs frequented the borders of the Cretaceous sea as its Kingfishers.

3. **Birds.** — The Cretaceous *Birds*, in part, had teeth (like the Jurassic of Solenhofen), as first reported by Marsh from Kansas specimens. One of the species, the *Hesperornis regalis* of Marsh, five to six feet in height, is represented in Fig. 1423 (reduced to $\frac{1}{8}$) from an essentially complete skeleton. The figures also illustrate, besides the skeleton, one of the teeth, the jaw in two positions, a dorsal vertebra, and the pelvis. The teeth are fixed in a groove, as in many Reptiles. This large bird had short wings, ostrich-like, with many of the characteristics of a Loon, one of the Divers. Another Kansas bird of different type is the *Ichthyornis victor* of Marsh, a small bird, with *good* wings. The fish-like feature to which the name alludes is the biconcave form of the vertebræ. But, with this low-grade feature, it has the teeth in sockets. In the restored skeleton (half the natural size), Fig. 1430, the bones actually found are those of the shaded part. *Apatornis* of Marsh is a related bird. Marsh has described, also, species of two other genera related to *Hesperornis*; namely, *Baptornis* and *Coniornis*, the latter from the Fox Hills group, Montana. All the Cretaceous birds have the fore limb greatly modified for wing purposes, bird-like; but in the *Hesperornis* it has passed beyond this and become rudimentary, as in the Ostrich. This is in striking contrast with the earlier Jurassic birds, in which the fore limb is more completely and normally a leg than a wing. The toothless birds (or those not yet proved to be toothed) of the Cretaceous beds of New Jersey were related to the Cormorants and Waders.

4. **Mammals.** — The Mammals of the Cretaceous thus far discovered are probably all Marsupial or Monotreme, like those of the Jurassic period. The remains are mainly teeth, with a few broken jaws and limbs. The earliest described is the *Meniscoëssus conquistus* of Cope, discovered by J. L. Wortman in the Laramie of Dakota (1882, 1884). Many kinds have been described by Marsh (1889–1892). The following figures are from his plates of 1892.

The figures 1432–1438 are supposed by Marsh to represent teeth and portions of jaws of Marsupials, and the remainder probably of Monotremes. The teeth of the genus *Tripriodon* have some resemblance to the tooth of the *Meniscoëssus* figured by Cope, and have been referred by Osborn to that species.