

The Palms came in during the Middle Cretaceous as the decline of the Cycads made progress. It is supposed probable that they were in the successional line of some type of Cycads, since they approach them in their foliage, in their usually simple stems, and in having the pithy interior traversed by bundles of woody fibers.

*Progress in Mollusks: Culminations under the type.* — The Tetrabranch Mollusks, which include the Nautilus and Ammonite tribes, pass their climax and decline in the Cretaceous period. The Nautiloid, which commenced with a straight body and a shell no longer than the little finger, and was continued in curved and coiled forms, and reached its maximum in the Carboniferous, is continued to the present time, but only in two or three species of Nautilus; and these are the last of the Tetrabranchiates. The Ammonite section, which commenced with the closely coiled Goniatite in the Early Devonian, became increasingly complex in the flexures of the septa, and finally two to three feet in diameter in the Jurassic and Cretaceous seas, where it numbered thousands of species. It disappeared entirely, or nearly so, at the close of the Cretaceous.

The Dibranchiate Mollusks, or the Cuttle-fishes, whose shells are internal when any exist, are known first from the later Triassic beds. Under the Belemnite family they become very numerous in the Cretaceous, and apparently end at its close. But other Cuttle-fishes were continued; and probably the giant species of modern Newfoundland and other seas, having bodies 12 to 15 feet long, arms of 25 feet, and eyes of 8 inches diameter, the largest in the animal kingdom, are evidence that the type, and the type of Mollusks, has now its time of culmination as to grade of species, though not as to numbers and predominance in the marine fauna of the world.

*Fishes: their culmination in Mesozoic time.* — The type of Fishes is supposed to have culminated as early as the Triassic in the *Ceratodus* and related Dipnoans, which have rudimentary arms in the fins, essentially lungs as well as gills, and other Amphibian-like characteristics. The line to the Teleosts, through the Amioids, was a declining line. In some respects the Teleosts are more highly specialized, but not in a way toward superiority; they are purer representatives of the Fish-type, and better illustrate the fact that the Fish-type is a low style of Vertebrate. The Selachians hold to their early characteristics of a cartilaginous or semiosseous skeleton, of gills without gill-covers, and of a heterocercal or vertebrated tail. The Cestracient Sharks, which were common in the Cretaceous, became fewer afterward, and now only four species exist — and these live in Australian and Japan seas. The Squalodonts, or Sharks of modern type, reached later their time of maximum display.

*Decline in Amphibians.* — Amphibians, so far as registry gives evidence, were few in species after the Triassic period. In the scale-covered and large-toothed Labyrinthodonts of the Permian or Triassic periods they passed their maximum as to size, grade, and numbers. No American, British, or Euro-