upon leaves, grass and especially fruit. *Staurotypus, e.g. sαlυini* with 23, *Dermatemys, e.g. mawi,* with 25 marginal shields.

Family 3. Cinosternidae.—Closely allied to the two previous families from which *Cinosternum,* the only genus, differs chiefly by the absence of the endo-plastral plate. Inframarginals are present. The nuchal plate has a pair of rib-like processes. The neural plates are interrupted by the meeting of several pairs of the costal plates. Twenty-three marginal shields. In some species the skin of the legs and neck is so baggy that these parts slip in, the skin rolling off, when such a turtle withdraws into its shell. In some the plastron is hinged and the creature can shut itself up tightly, *e.g. G. leucostorna* of Mexico; in others the plastron leaves gaps, or it is narrow and without hinges, *e.g. C. odoratum,* the mud turtle or stinkpot terrapin of the eastern half of North America. About a dozen species, mostly Central American.

Family 4. Platysternidae.—*Plαtysternum megocephalum,* the only species, from Burma to southern China. The total length of these thick-headed, very long-tailed turtles is about 1 ft., only 5 in. belonging to the shell. The plastron is large, oblong, not cruciform, composed of nine plates. The nuchal is devoid of rib-like processes. A unique arrangement is that the jugals are completely shut off from the orbits owing to the meeting of the post-frontals with the maxillaries.

Family 5. Testudinidae.—The shell is always covered with well- developed shields; those which cover the plastral bridge are in direct contact with the marginals. The plastron is composed of nine bones. The digits have four or five daws. The neck is completely retractile.

This family contains the majority of tortoises, divided into as many as 20 genera. These, starting with *Emys* as the least specialized, can be arranged in two main diverging lines, one culminating in the thoroughly aquatic *Batagur,* the other in the exclusively terrestrial forms. *Emys,* with the plastron movably united to the carapace; with well-webbed limbs, amphibious. *E. orbicularis* or *europaea* was, towards the end of the Pleistocene period, distributed over a great part of middle Europe, remains occurring in the peat of England, Belgium, Denmark and Sweden; it is now withdrawing eastwards, being restricted in Germany to isolated localities east of Berlin, but it reoccurs in Poland and Russia, whence it extends into western Asia ; it is common in south Europe. The other species, *E. blandingi,* lives in Canada and the north-eastern states of the Union. *Clernrnys* with the plastron immovably united to the cara- pace; temperate holarctic. region, *e.g.* C. *cαspica, C. leprosa* in Spain and Morocco; C. *insculpta,* in north-east America. *Malacoclemmys* with a few species in North America, *e.g. M. terrapin,* the much prized “ diamond-back. ” *Chrysemys* with many American species, *e.g. Ch. picte,* the “ painted terrapin ” and C. *concinna,* most of them very handsomely coloured and marked when still young. *Batagur* and *Kachuga* in the Indian sub-region.

*Cistudo Carolina,* the box tortoise of North America, with the plastron divided into an anterior and a posterior movable lobe, so that the creature can shut itself up completely. Although essen­tially by its internal structure a water tortoise, it has become absolutely terrestrial in habits, and herewith agree the high-backed instead of depressed shell, the short webless fingers and its general coloration. It has a mixed diet. The eyes of the males arc red, those of the females are brown. From Long Island to Mexico. *Cinixys, e.g. belliana* of tropical Africa, has the posterior portion of the carapace movably hinged. *Pyxis arachnoides* of Madagascar has the front-lobe of the plastron hinged.

*Testudo,* the main genus, with about 40 species, is cosmopolitan in tropical and sub-tropical countries, with the exception of the whole of the Australian and Malay countries; most of the species are African. *T. graeca,* in Mediterranean countries and islands. *T. marginata* in Greece with the posterior margin of the carapace much flanged or serrated, and *T. ibera* or *mauritanica* from Morocco to Persia; both differ from *T. graeca* by an unpaired supracaudal, marginal shield, and by the possession of a strong, conical, horny tubercle on the hinder surface of the thigh. With age the posterior portion of the plastron develops a transverse ligamentous hinge. *Τ. polyphemus,* the “ gopher ” of southern United States, lives in pairs in self-dug burrows. *T. tabulate* is one of the few South American terrestrial tortoises.

Of great interest are the so-called gigantic land tortoises. In former epochs truly gigantic species of the genus *Testudo* had a wide and probably more continuous distribution. There was *Τ. atlas, of* the Pliocene of the Sivalik hills with a skull nearly 8 in. long, but the shell probably measured not more than 6 ft. in length, the restored specimen in the Natural History Museum at South Kensington being exaggerated. *T. perpigniana* of Pliocene France was also large. Large land tortoises, with a length of shell of more than 2 ft., became restricted to two widely separated regions of the world, viz. the Galapagos Islands (called thus after the Spanish *gαlαpago, i.e.* tortoise), and islands in the western Indian Ocean viz. the Mascarenes (Bourbon, Mauritius and Rodríguez) and Aldabra. When they became extinct in Madagascar is not known, but *T. grandidieri* was a very large kind, of apparently very recent date. At the time of their discovery those smaller islands were un- inhabited by man or any predaceous mammal. It was on these peaceful islands that land tortoises lived in great numbers; with plenty of food there was nothing for them to do but to feed, to propagate, to grow and to vary. Most of the islands were or are inhabited by one or more typical, local forms. As they provided, like the equally ill-fated dodo and solitaire, a welcome provision of excellent meat, ships carried them about, to be slaughtered as occasion required, and soon almost exterminated them ; some were occasionally liberated on other islands, for instance, on the Seychelles and on the Chagos, or they were left as presents, in Ceylon, Java or on Rotuma near the Fijis. Thus it has çome to pass that the few survivors have been very much scattered. The small genuine stock at Aldabra is now under government protection, in a way. A large male of *T. gigantea* or *elephantina* or *hololissa* or *ponderosa,* was brought to London and weighed 870 lb; another specimen had in 1908 been living at St Helena for more than one hundred years. A specimen of *T. daudini,* native of the South Island of Aldabra, was known for many years on Egmont Island, one of the Chagos group, then it was taken to Mauritius and then to England, where of course it soon died; its shell measures 55 in. in a straight line, and it weighed 560 lb. The type specimen of *Τ. sumeirei,* supposed to have come originally from the Seychelles, was in 1908 still kept in the barrack grounds at Port Louis, Mauritius, and had been known as a large tortoise for about 150 years. *Τ. υosmaeri* was a very thin-shelled species in Rodriguez. Of the Galapagos species *T. ephippium* still survives on Duncan Island; *T*. *abingdoni* lived on Abingdon Island ; of *T. elephantopus* or *υicina,* G. Baur still collected 21 specimens in 1893 on Albemarle Island. One monster of this kind is said to have measured 56 in. over the curve of the carapace, with a skull a little more than 7 in. in length. All the Galapagos species are remarkable for their comparatively small head and the very long neck, which is much larger and more slender than that of the eastern species.

Family 6. Chelonidae. Marine turtles, with only two recent genera. with three widely distributed species. The limbs are paddle- shaped, with only one or two claws, and the shell is covered with horny shields. The neck is short and incompletely retractile. The parietals, post-frontals, squamosals, quadrato-jugals, and jugals are much expanded and form an additional or false roof over the temporal region of the skull.

The Chelonidae are a highly specialized offshoot of the Cryptodira, adapted to marine life. Fundamentally they agree most with the Testudinidae, and there is nothing primitive about them except that they still possess complete series of inframarginal shields.

*Chelone,* with only 4 pairs of costal shields, with 5 neurals and a broad nuchal. C. *mydas* s. *viridis,* the “ green or edible turtle,” has, when adult, a nearly smooth shell. It attains a length of nearly 4 ft., and may then weigh more than three hundred weight. Their food consists of algae, and of *Zostera marina.* Their capture forms a regular pursuit wherever they occur in any numbers. Comparatively few are caught in the open sea, others in staked nets, but the majority are intercepted at well-known periods and localities where they go ashore to deposit their eggs. These are round, with a parchment-like shell and buried in the sand, above the high-tide mark, as many as 100 to 250 being laid by one female. They are eagerly searched for and eaten. The famous turtle-soup is made not only of the meat and the fat, but also from the thick and gelatinous layer of subcutaneous tissue which lines the inside of the shell. Only the females are eaten ; the males, recognizable by the longer tail, are rejected at the London market. This species inhabits the Atlantic, Indian and Pacific Oceans.

C. *imbricata,* the “ hawksbill turtle. ” The shields are thick, strongly overlapping each other from before backwards, but in old specimens the shields lose their keel, flatten and become juxta­posed. The horny cover of the upper jaw forms a hooked beak. This species lives upon fish and molluscs and is not eaten; but is much persecuted for the horny shields which yield the