

are so frequently distorted as the *Cheiracanthus*. It seems to have been more a cartilaginous and less an osseous fish than most of its contemporaries. However perfect the specimen, no part of the internal skeleton is ever found, not even when scales as minute as the point of a pin are preserved, and every spine stands up in its original place. And hence, perhaps, a greater degree of flexibility, and consequent distortion. The body was covered with small angular scales, brightly enamelled, and delicately fretted into parallel ridges, that run longitudinally along the upper half of the scale, and leave the posterior portion of it a smooth, glittering surface. (See Plate VII., fig. 2.) They diminish in size towards the head, which, from the faint stain left on the stone, seems to have been composed of cartilage exclusively, and either covered with skin, or with scales of extreme minuteness. The lower edge of the operculum bears a tagged fringe, like that of a curtain. The tail, a fin of considerable power, had the unequal sided character common to the formation; and the slender and numerous rays on both sides are separated by so many articulations as to present the appearance of parallelogramical scales. The other fins are comparatively of small size. There is a single dorsal placed about two thirds the entire length of the creature adown the back; and exactly opposite its posterior edge is the anterior edge of the anal fin. The ventral fins are placed high upon the belly, somewhat like those of the perch; the pectorals only a little higher. But it is rather in the construction of the fins, than their position, that the peculiarities of the *Cheiracanthus* are most marked. The anterior edge of each, as in the pectorals of the existing genera *Cestracion* and *Chimæra*, is formed of a strong, large spine. In the *Chimæra borealis*, a cartilaginous fish of the Northern Ocean the