

*Diplacanthus*; and, though the smallest ichthyolite of the formation yet known, it is by no means the least curious. The length from head to tail, in some of my specimens, does not exceed three inches; the largest fall a little short of five. The scales, which are of such extreme minuteness that their peculiarities can be detected by only a powerful glass, resemble those of the *Cheiracanthus*; but the ridges are more waved, and seem, instead of running in nearly parallel lines, to converge towards the apex. There are two dorsals, the one rising immediately from the shoulder, a little below the nape, the other directly opposite the anal fin. The ventrals are placed near the middle of the belly. There is a curious mechanism of shoulder-bone involved with a lateral spine and with the pectorals. The creature, unlike the *Cheiracanthus*, seems to have been furnished with jaws of bone: there are fragments of bone upon the head, tubercled apparently on the outer surface; and minute cylinders of carbonate of lime running along all the larger bones, where we find them accidentally laid open, show that they were formed on internal bases of cartilage. But the best marked characteristic of the creature is furnished by the spines of its fins, which are of singular beauty. Each spine resembles a bundle of rods, or, rather, like a Gothic column, the sculptured semblance of a bundle of rods, which finely diminish towards a point, sharp and tapering as that of a rush. (See Plate VIII., fig. 4.)\* The rest of the fin presents the appearance of a mere scaly membrane, and no part of the internal skeleton appears. Perhaps this last circumstance, common to all the ichthyolites of the formation, if we except the families of the *Coccosteus*

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\* Agassiz reckons four species of *Diplacanthus* — *D. crassispinus*, *D. longispinus*, *D. striatulus*, and *D. striatus*.