

spine seems placed in front of the weaker rays, just, if I may be allowed the comparison, as, in a line of mountaineers engaged in crossing a swollen torrent, the strongest man in the party is placed on the upper side of the line, to break off the force of the current from the rest. In the *Cheiracanthus*, however, each fin seems to consist of but a single spine, with an angular membrane fixed to it by one of its sides, and attached to the creature's body on the other. Its fins are masts and sails — the spine representing the mast, and the membrane the sail; and it is a curious characteristic of the order that the membrane, like the body, of the ichthyolite, is thickly covered with minute scales. The mouth seems to have opened a very little under the snout, as in the haddock; and there are no indications of its having been furnished with teeth.*

An ichthyolite first discovered by the writer about three years ago, and introduced by him to the notice of Agassiz during his recent visit to Edinburgh, but still unfurnished with a name,† is a still more striking representative of this order than even the *Cheiracanthus*. It must have been proportionally thick and short, like some of the tropical fishes, though rather handsome than otherwise. (See Plate VIII., fig. 1.) The scales, minute, but considerably larger than those of the *Cheiracanthus*, are of a rhomboidal form, and so regularly striated — the striæ converging to a point at the posterior termination of each scale — that, when examined with a glass, the body appears as if covered with scallops. (See Plate

* There have been three species of *Cheiracanthus* determined — *C. microlepidotus*, *C. minor*, and *C. Murchisoni*.

† Now determined to be a species of *Diplacanthus* — *D. longispinus*.