

acter with the scale-like markings of the *Seraphim* of Forfar shire, a huge crustacean. Even admitting, however, that a set of teeth and spines, with perhaps the shagreen points represented in page 54, fig. 2, *b*, in addition, may have all belonged to but a single species of fish, there seem to be materials enough, among the remains found, for the erection of two species more. And we have evidence that at least two of the three kinds were fishes of the Placoid order, (*Onchus Murchisoni* and *Onchus tenuistriatus*,) and—as the supposed scales must be given up—no good evidence that the other kind was not. The ichthyic remains of the Silurian System next discovered were first introduced to the notice of geologists by Professor Phillips, at the meeting of the British Association in 1842.\* They occurred, he stated, in a quarry near Hales End, at the base of the Upper Ludlow rock, in

---

\* “Mr. Phillips proceeded to describe some remains of a small fish, resembling the *Cheiracanthus* of the Old Red Sandstone, scales and spines of which he had found in a quarry at Hales End, on the western side of the Malverns. The section presented beds of the Old Red Sandstone inclined to the west; beneath these were arenaceous beds of a lighter color, forming the junction with Silurian shales; these, again, passing on to calcareous beds in the lower part of the quarry, containing the corals and shells of the Aymestry Limestone, of their agreement with which stronger evidence might be obtained elsewhere. He had found none of these scales in the junction beds or in the Upper Ludlow Shales; but about sixty or one hundred feet lower, just above the Aymestry Limestone, his attention had been attracted to discolored spots on the *surface* of the beds, which, upon microscopic examination, proved to be the minute scales and spines before mentioned. These remains were only apparent on the surface, whilst the ‘fish-bed’ of the Upper Ludlow rock, as it usually occurred, was an inch thick, consisting of innumerable small teeth and spines.” — *Report, in “Athenæum” for 1842, of the Proceedings of the Twelfth Meeting of British Association, (Manchester.)*