

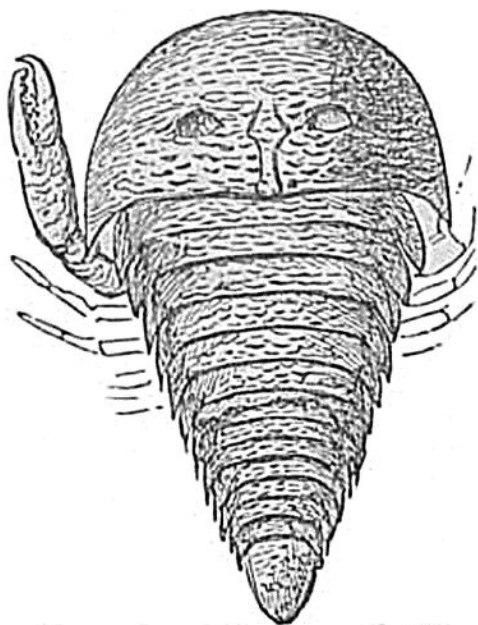
previously referred some of these fragments to the class of fishes, was the first to recognize their true nature, and in the first plate of his "Poissons Fossiles du Vieux Grès Rouge," he figured the portions on which he founded his opinion.

The carapace of this huge crustacean, which must have rivalled, if not exceeded in size the largest crabs, is furnished at its hinder part with short prongs, and has two large eyes near the middle, much like those of the *Eurypterus* found in the coal formation of Glasgow. The body consists of ten or eleven movable rings (the exact number is not ascertained), and was terminated by an oval-pointed tail. The whole surface is covered by the scale-like markings before mentioned as ornamenting the head. Prof. McCoy, to whom I owe these notes on the general structure, has kindly furnished me with a restoration of the entire animal (fig. 543), which he believes to be closely allied to the great *Eurypterus* before mentioned, if not of the very same genus, and, moreover, of the same family as the living King-crab or *Limulus*.

Sir R. Murchison has expressed some doubts* whether the gray beds of Forfarshire, containing the *Pterygotus*, may not be referable to the Upper Silurian or Upper Ludlow beds; but, as they are associated at Balrudderie with numerous specimens of *Cephalaspis* (the bony bucklers or head-pieces alone being preserved), apparently belonging to two species, I think it far more probable that they constitute a division of the "Old Red," and perhaps not so ancient a one as the bituminous schists (b, p. 418) in the North of Scotland.

In the same gray paving-stones and coarse roofing-slates in which the *Cephalaspis* and *Pterygotus* occur, in Forfarshire and Kincardineshire, the remains of grass-like plants abound in such numbers as to be useful to the geologist by enabling him to identify corresponding strata at distant points. Whether these be fucoids, as I formerly conjectured, or freshwater plants of the family *Fluviales*, as some botanists suggest, cannot yet be determined. They are often accompanied by fossils, called "berries" by the quarrymen, and which are not unlike the form which a compressed blackberry or raspberry might assume (see figs. 544 and 545). Some of these were first observed in the year 1828, in gray sandstone of the same age as that of Forfarshire, at Parkhill near Newburgh, in the north of Fife, by Dr. Fleming. I afterwards found them on the north side of Strathmore, in the vertical shale beneath the conglomerate, and in the

Fig. 543.



Pterygotus problematicus, Agassiz.
Restoration by Professor McCoy.

* Siluria, p. 247.