

oped, though more sparingly, in the northern extremity of Fife, in a line parallel to the southern shores of the Tay. But of all the localities yet known, the Den of Balruddery is that in which the peculiar organisms of the formation may be studied with best effect. The oryctology of the Carboniferous of England seems restricted to four species of the *Cephalaspis*. In Fife, all the organisms of the formation yet discovered are exclusively vegetable — darkened impressions of stems like those of the inferior ichthyolite beds, confusedly mixed with what seem slender and pointed leaflets drawn in black, and numerous circular forms, which have been deemed the remains of the seed-vessels of some unknown sub-aerial plant. “These last occur,” says Professor Fleming, the original discoverer, “in the form of circular flat patches, not equalling an inch in diameter, and composed of numerous smaller contiguous circular pieces;” the *tout ensemble* resembling “what might be expected to result from a compressed berry, such as the bramble or the rasp.” In Forfarshire, the remains of the *Cephalaspis* are found associated with impressions of a different character, though equally obscure — impressions of polished surfaces carved into seeming scales; but in Balruddery alone are the vegetable impressions of the one locality, and the scaly impressions of the other, together with the characteristic ichthyolites of England and Forfarshire, found associated with numerous fossils besides, many of them obscure but all of them of interest, and all of them new to Geology.

One of the strangest organisms of the formation is a fossil lobster, of such huge proportions, that one of the average sized lobsters, common in our markets, might stretch its entire length across the continuous tail-flap in which the creature terminated.* And it is a marked characteristic of the fossil, that the terminal flap should be continuous; in all the

* See Note H.