

remarkable is the fact that this is the first and only instance in which I have met with either of the Capreolate *Fumariæ* in the neighbourhood, notwithstanding that they have been closely looked for. Such instances of the vitality of seeds are not unfrequent, but are always interesting, and offer some problems well worthy of solution. Why had not these seeds previously germinated? Perhaps because they were too deeply buried in the ground. But if this be so, at what depth do seeds cease to vegetate, and what is the influence which, acting on the germ, keeps in abeyance the vital energy stored up within?—*Trans. Tyneside Naturalists' Field Club*, Jan. 1862.

Highly interesting Discovery of new Sauroid Remains.

Mr. O. C. Marsh, a student in the Sheffield Scientific School of Yale College, U.S., procured last summer from the coal formation of the Joggins in Nova Scotia, where he has for several seasons spent his long vacation in mineralogical and geological observations, two Saurian vertebræ, of which Agassiz writes to us thus:—

“*My dear Silliman*—A student of your Scientific School, Mr. Marsh, has shown me today two vertebræ from the coal formation of the Joggins, which have excited my interest in the highest degree. I have never seen in the body of a vertebra such characters combined as are here exhibited. At first sight they might be mistaken for ordinary *Ichthyosaurus* vertebræ; but a closer examination soon shows a singular notch in the body of the vertebra itself such as I have never seen in Reptiles, though this character is common in Fishes. We have here undoubtedly a nearer approximation to a *synthesis between Fish and Reptile* than has yet been seen. * * * *
The discovery of the *Ichthyosauri* was not more important than that of these vertebræ; but what would be the knowledge of their existence without the extensive comparisons to which it has led? Now these vertebræ ought to be carefully compared with the vertebræ of bony Fishes, with those of Sauroid Fishes, of Selachians, of Batrachians, of the Oolitic Crocodilians, of the newer Crocodilians, of the *Ichthyosaurians*, and of the *Plesiosaurians*, and all the points of resemblance and difference stated; because I do not believe there is a vertebra known, thus far, in which are combined features of so many vertebræ, in which these features appear separately as characteristic of their type. Whatever be the fate of these remains, be sure that they are preserved where nothing can happen to them, and where they will be duly appreciated.

“Ever truly yours,

“L. AGASSIZ.”

“Museum of Comparative Zoology, Cambridge, U.S., Dec. 23rd, 1861.”
—*Silliman's Journal* for January 1862.

Discovery of Saurian Remains in the Keuper of the Jura.

In making a section for the railroad now in construction in the neighbourhood of Poligny, remains of a gigantic Saurian have been

discovered. With great care and precaution the following fragments were obtained :—three claws of eight to twelve centimetres in length, several other phalanges with fine articular surfaces, a part of the tarsus and metatarsus, two vertebræ joined, and several other fragments. The dimensions of these bones is such that the whole length of the animal cannot have been less than from thirty to forty metres. [?]

These remains lay in the upper strata of the Keuper, visibly overlapped by the lower Lias. These formations have heretofore been considered as devoid of organic remains in this country (France) where they contain gypsum and rock-salt. Nevertheless, some years ago, M. Pidancet, a geologist of the Franche-Comté, found in these same strata large bones, which he deposited in the museum of Besançon, and which he considers as belonging to the same species. Besides, a few months ago, near Domblans, while opening a ditch for the railroad, a similar fragment was found; and M. Lauckardt, one of the employés, has seen at the same place other bones, much larger, which he could not remove on account of their fragility.

Another discovery, not less important, was made by M. Froment, mayor of Saint Lothaire, in strata younger than the Keuper formation. The bones found there belong to the *Elephas primigenius* and to a kind of Stag; among them are two molar teeth beautifully preserved. This deposit of bones is in a layer of sand and marl containing boulders of quartz and numerous fragments of terrestrial and fresh-water shells, but no trace of human remains.—*Silliman's Journal for January 1862.*

On the general conditions of the Avicula contorta Beds, and on the constitution of the Infra-Liassic stage. By ANT. STOPPANI.

The little fossil which bears the name of *Avicula contorta* was scarcely known a few years ago. General Portlock first named it, in 1843, after his geological investigation of a part of Ireland. By degrees this fossil has acquired great importance, which is due to its abundance, and to the extent of the beds in which it has been deposited.

The first part of M. Stoppani's memoir contains a historical summary of the investigation of the beds which occur on the horizon of the *Avicula contorta*, the description of the characters of these beds, and the indication of their thickness, which appears to be but small in England, about 12 metres on the northern slope of the Alps, and from 800 to 1000 feet in Lombardy. As regards their extent, they are known in Ireland and England, in Würtemberg and Bavaria, in Westphalia, Luxembourg, and the departments of the Moselle, of La Meurthe, of the Côte d'Or, de l'Yonne and of the Rhone, in the Cevennes, in Savoy, in Switzerland, in the Vorarlberg, and at other points of the chain of the Alps as far as Hungary. Throughout, these beds form a convenient and clear horizon.

In his second part, M. Stoppani describes the *Avicula-contorta* beds in Lombardy, previously studied by MM. Collegno, Escher, and Omboni. These beds are there represented by the deposit of the