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Observations on Echini perforating the granite of Brittany

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The author adds that the vesicating power of these insects resides in all the soft internal parts, and not, as stated by M. Farines of the common *Cantharides*, only in the soft parts of the thorax and abdomen. He found that the internal parts of the head and thighs employed by themselves were as efficacious as those of the body, but the hard parts as usual were destitute of any action. He states that this applies also to the officinal species.—*Comptes Rendus*, Dec. 3, 1855, p. 1003.

UNUSUAL DEARTH OF ALGÆ IN 1855.

Devonport, 19th October 1855.

MY DEAR SIR,—The present year has been marked by an unusual dearth of Algæ on all the Devonshire coasts, and this I have not only had evidence of myself, but it has also been noticed by *all* my correspondents, who are rather numerous.

A great many species, which for several successive years I have been in the habit of finding whenever I sought for them, with as much certainty as I should in going into my own garden to cut a cabbage, have altogether disappeared, that is, those plants growing between the extremes of high and low water marks. This unusual occurrence from the ordinary course, after careful consideration, I am inclined to assign to atmospheric influence.

The early months of the present year, not including those which we usually assign to winter, such as March, April and May, were exceedingly cold, and frosty nights were not unfrequent even in the latter end of May. Our lowest tides here occur at the advent of the new and full moon from about twelve to one o'clock. Plants beginning to grow *between the tidal limits* were thus exposed to a very low temperature during the night; but a very different result followed at the next low water, occurring at noon, twelve hours after. Here, those plants were subjected to the influence of a vertical sun, and these alternate changes from a high to an extreme low temperature, being followed up during many successive nights and days, had the effect of destroying them altogether. I am the more convinced that my views on this subject are correct, inasmuch as I found all the missing plants by dredging in deep water, and where they could not be affected by changes in the atmosphere.

Believe me, dear Sir, very faithfully yours,

Dr. J. E. Gray.

JOHN COCKS.

Observations on Echini Perforating the Granite of Brittany.

By M. VALENCIENNES.

The attention of naturalists has always been awakened by the curious habit of many Mollusca and Zoophyta, of excavating cavities for their habitation in rocks often of great hardness and of very different natures. It was at first supposed that these perforating animals only attacked the calcareous rocks, which led several people to think that the erosion required to form the hole was assisted by the action of some acid. It has been admitted of necessity, however, that in particular cases the animals only employed mechanical means, as the *Teredos* and the *Pholades* and even the *Sipunculi* were found to

pierce wood. Of late years naturalists have observed felspathic rocks burrowed by Mollusca. M. Caillaud of Nantes sent to the Academy specimens of granite from Pouliguen in the Bay of Croisic, perforated by Pholades. The striae traced in the holes, corresponding with the spiny ribs of the shell of these mollusks, furnished an evident proof that the rock had been abraded by the movement communicated by the animal to the shell. Granite altered by sea-water is more readily attacked.

More recently M. Eugène Robert exhibited to the Academy a block of old red sandstone, obtained from the shore of the great Bay of Douarnenez, which was perforated with numerous holes evidently formed by the Echini which were lodged in them. Each rounded cavity is in exact proportion, both as to size and form, with the body of the Echinoderm.

M. Lory, Professor at Grenoble, and well known for his numerous and excellent works on geology, has begged me to exhibit several specimens of perforating Echini, which have taken up their abode in the granite of the Bay of Croisic, not far from Piriac. It is the same granite as that from the Pouliguen, and in the same state of alteration. This primitive rock is there perforated by Mollusca and Echinodermata for an extent of several kilometers. Those which M. Lory has just discovered are certainly of the same species as the Echini which burrow in the old red sandstone of the Bay of Douarnenez. They closely resemble the Mediterranean *Echinus*, mentioned by Lamarck under the name of *Echinus lividus*. It is one of the most abundant Echini on the coast, and in the market of Marseilles, whence Lamarck obtained his specimens. I have never heard that these individuals possessed perforating habits, and probably a careful examination of living specimens of the *Echinus* from the coast of Brittany may show that it belongs to a distinct species, notwithstanding its apparent identity with that of the Mediterranean. In this case it might be called *Echinus terebrans*.—*Comptes Rendus*, Nov. 5, 1855, p. 755.

NEW SPECIES OF MAMMALS AND BIRDS.

The well-known naturalist Eversmann has recently published a very interesting paper*, containing an account of some of the most recent additions to the Mammalogy and Ornithology of the Russian Empire. The species described are—

1. *VESPERUGO KRASCHENINIKOVII*, n. sp.

V. dentes primores superiores duo interni bifidi, externi simplices minuti: auriculæ capite breviores, latæ, rotundato-subtriangulares, trago reniformi, dimidiam aurem non attingente: vellus nigrum, pilorum apicibus canis.

A new species of Bat, belonging to the section of the genus *Vesperugo* with 34 teeth—5 molars in both jaws on each side;—it is

* Noch ein kleiner Beitrag zur Mammalogie und Ornithologie des Russischen Reiches, von Dr. Eduard Eversmann; Bull. de la Société Impériale des Naturalistes de Moscou, 1853, no. iv. p. 487.