XLVII.—*Observations on the Madreporaria or "Stony Corals" taken, in the late Expedition of the Yacht 'Norna,' off the Coast of Spain and Portugal.* By W. SAVILLE KENT, F.Z.S., F.R.M.S., of the Geological Department, British Museum.

Sect. APOROSA.

Fam. Turbinolidæ.

Caryophyllia Smithii, Stokes.

This coral was dredged up attached to shells and stones, at a depth of 20 fathoms, off Cezimbra. Specimens kindly placed in my hands by Mr. Gwyn Jeffreys, from the Hebrides, Valencia, and Malta, convince me of the correctness of Dr. Duncan's opinion that *C. Smithii*, *borealis*, and *clavus* are merely varieties of the same species; but at the same time there are, I think, scarcely sufficient grounds for uniting with these, as he proposes, the Mediterranean *Caryophyllia cyathus*. This latter possesses a massiveness and compactness of its corallum and internal arrangement and structure, and a smoothness of the external surface of the theca, which bestow upon it a facies quite distinct from what obtains in either of the other varieties; the columella, pali, and septa are far more solid, and the latter would also seem to be more rounded and more evenly exsert. In *C. cyathus*, again, the contour of the calicinal fossa is almost or quite circular, while in the other varieties it is usually more or less oblong.

Desmophyllum crista galli, M.-Edw.

Three examples of this species, all of which were attached to masses of *Lophohelia prolifera* or its variety *anthophyllites*, were obtained from a depth of 500 fathoms. As individuals, the three differ from one another considerably. One extreme example has large prominent costæ continuous from the exterior margin of the exsert septa of the primary, secondary, and, often, tertiary orders, to the very base: in the oppositely extreme one the costal elements are entirely absent or merely represented by obscure longitudinal striæ. The intermediate form has the costæ produced superiorly, while towards the base the theca is simply striate. In internal structure and arrangement, including the development of the septa, the three specimens taken agree precisely.

In consideration of the above remarks, it will, I think, be necessary to refer to this same species the *Desmophyllum Rusei* of Michelotti (Mém. sur les Corall. des Antilles, 1859), which

he distinguishes from *D. crista galli* simply on account of its prominent and persistent costæ.

Fam. Oculinidæ.

Lophohelia prolifera, M.-Edw.

Some magnificent examples of this branching coral were brought up, with the assistance of the fishermen's hooks and lines, off Cezimbra, from a depth varying from 400 to 600 fathoms. The whole series is admirably illustrative of the extreme diversity of form this coral is susceptible of assuming under, we may presume, modified external conditions. Dr. P.M. Duncan has already pointed out ('Porcupine'-Expedition Madreporaria, Proc. Roy. Soc. 1870) that the form hitherto considered a distinct species, and described as *Lophohelia anthophyllites*, must now be recognized as a variety only of the type species *L. prolifera*. This variety is very well represented among the examples taken in our recent dredging-cruise; and their study has suggested the following as the interpretation of the causes at work which bring about this particular modification of form. One of the masses now before me exhibits at its base the short wide-mouthed calices with the characteristic exsert primary septa of *Lophohelia prolifera*, while above, and springing from them, are the attenuate and frequently almost cylindrical forms with little-exsert septa, which constitute the leading features of *L. anthophyllites*. On arriving on board our yacht the whole basal portion of this specimen was invested and all the interstices filled up with mud; and this, in connexion with the attenuate or, so to say, *drawn-up* character of the superiorly situated calices, would seem to indicate that at a certain period of its living history a greater deposit of sedimentary matter had taken place in the ocean bed; the coral-colony was consequently threatened with speedy destruction, and in the struggle for existence it had thrown off these longer forms of calices, which would serve to raise it up beyond the action of the untoward conditions then existing. This interpretation is further strengthened by the direction of the calices in the two extreme portions of the mass: in the lower part they all follow an irregular horizontal disposition, while in the upper one they are all directed perpendicularly upwards. The variety of structure in the individual calices of this same specimen is very remarkable. Some have only the primary, and others both the primary and secondary septa much exsert and equally developed, while a third variety has all the septa alike, not at all exsert, and existing as little more than striations on the internal surface

of the calyx. While the contour of the orifices of the calices differs much, some being quite circular or prismatic and others oval, there is quite as much variation in their size, some being over three quarters of an inch in breadth, while the smallest do not exceed one fifth: these last have an attenuate and vermicular appearance, with the rudimentary septal development before alluded to. The character of the costæ is equally variable, being either highly developed or altogether suppressed, with every intermediate condition. The coloration by iron is very conspicuous in some of the older parts of the corallum; and its presence in large quantity has been clearly ascertained by my colleague Mr. Thomas Davies, of the Mineralogical Department.

Amphihelia oculata, M.-Edw.

A single luxuriant example of this common Mediterranean form was taken; but it does not possess any marked peculiarities.

Sect. PERFORATA.

Fam. Eupsammidæ.

Dendrophyllia ramea, Blainville.

Fragments of this magnificent arborescent form were observed on various occasions in the houses of the residents at Setubal; but not having heard of examples being taken so far north, I presumed they had been obtained from the Mediterranean, which sea is the headquarters of this coral. Before the yacht's departure, however, the fishermen brought us, freshly taken, with the brilliant orange-coloured polypes scarcely dead, huge masses, two feet in length, having some of the main branches upwards of three inches in thickness.

The depth at which these specimens were taken is stated to have been nearly 100 fathoms. The same statement applies also to the example of *Amphihelia oculata*.

XLVIII.—*Notices of British Fungi*. By the Rev. M. J. BERKELEY, M.A., F.L.S., and C. E. BROOME, Esq., F.L.S.

[Continued from ser. 3. vol. xviii. p. 129.]

1182. *Agaricus* (Lepiota) *metulæspora*, B. & Br. in Ceylon Fungi, ined.

This species, which at present has been found only once in this country by Mr. Broome, and which in external characters

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