ture and in the deep punctures on the elytra it is allied to *Mannerheimii*, but is a larger and more robust insect; the thorax especially is much larger and broader at its basis.

I captured three specimens near Dorchester in May 1848, a pair of which I gave to Dr. Schaum, who informed me by letter after his return to Germany, that the species is unknown on the continent.

Ramsgate, February 15, 1849.

XXIV.—*Algæ Orientales*:—*Descriptions of new Species belonging to the genus Sargassum.* By R. K. GREVILLE, LL.D. &c.*

[Continued from p. 109.]

[With a Plate.]

WIGHTIANÆ.

13. *Sargassum obovatum* (nob.); caule subcompresso; foliis caulinis obovatis, obtusissimis, subintegris vel obscure dentatis; aliis racemis intermixtis lanceolatis, serratis; vesiculis subellipticis; receptaculis minutis, oblongis, cylindraceis, in racemis densis, rotundatis, pedunculatis, aggregatis.

Hab. in mari Peninsulæ Indiæ Orientalis; Wight.

Root unknown. *Plant* probably 1–2 feet long, judging from the fragment in my possession, which is apparently a portion of one of the primary branches or divisions of the *stem*; this is somewhat compressed, as thick as a blackbird's quill, beset with numerous branches 2–3 inches long, which are bushy with ramuli less than an inch in length on which are found the racemes of fructification. *Leaves*: those on the stem above an inch long, obovate, quite rounded at the extremity, almost entire or obscurely repando-dentate, furnished with a nerve which disappears at some distance from the end; those on the smaller branches often more or less serrated, while those which accompany the fructification are much smaller, linear-lanceolate, and sharply serrate. *Vesicles* attaining the size of a small garden pea, varying in shape from elliptical to spherical, sometimes apiculate, supported on a compressed stalk generally little more than a line in length. Sometimes, however, one of the little lanceolate leaves becomes converted into a vesicle, and the stalk is then proportionally long. *Receptacles* cylindraceous, oblong, much-divided and lobed, forming a dense, roundish, very shortly pedicellated cluster a line or more in length. *Colour* very dark red-brown. *Substance* thick and cartilaginous.

* Read before the Botanical Society of Edinburgh 11th Jan. 1849.

The only specimen—and it is a mere fragment—which I have seen of this Alga was disentangled from some other species. There appears to be a disposition in the leaves towards the ends of the branches to become incurved, but this may not be a permanent character.

14. *Sargassum Wightii* (nob.); caule compresso, distiche ramoso; foliis anguste lanceolatis, integerrimis; vesiculis ellipticis, apiculatis, longe petiolatis, petiolis planis, dilatatis; receptaculis linearibus, compressis, ramosissimis, in racemo amplo subtruncato aggregatis.

Wight in herb. no. 12 & 13.

Hab. in mari Peninsulæ Indiæ Orientalis; Wight.

Root an expanded disc, throwing up several mostly undivided stems from 1 to 2 feet in length, or probably more, giving off branches in a distichous manner, at intervals of half an inch or more; the lower ones are several inches long, becoming gradually shorter, and more remote as they approach the summit: the fruit-bearing ramuli are very short, and, like the rest, distichously arranged. *Leaves* from 1 to near 2 inches in length, narrow-lanceolate, sometimes almost linear-lanceolate, nearly equally attenuated at each extremity, acute, quite entire or obscurely repando-dentate, furnished with a somewhat faint nerve and a few scattered pores. *Vesicles* about the size of the seed of *Lathyrus odoratus*, elliptical, apiculate, on long dilated foliaceous stalks, in young plants arising from the axils of the cauline leaves; afterwards accompanying the fructification but sparingly, and generally taking the place of a leaf. *Receptacles* axillary, filiform, compressed, very much divided, the exterior branches the longest, so that the racemes have a cymose or tassel-like appearance. The racemes vary much in size, being dense, and not more than 2 or 3 lines long in some plants; in others half an inch and much more lax. *Colour* dark, olivaceous, the receptacles black when dry. *Substance* slightly cartilaginous.

In some specimens, the branches, besides producing axillary racemes, have the appearance of terminating in a larger raceme, an effect which seems to be produced by the ultimate leaves being converted into receptacles, the whole preserving the truncate and tassel-like outline of the axillary racemes.

For this fine and very striking Alga I have reserved the name of the excellent and indefatigable naturalist from whom I received it. It is quite unlike any other species with which I am acquainted.

15. *Sargassum cervicorne* (nob.); caule compresso, distiche ramoso; foliis late lineari-lanceolatis subintegerrimis, superioribus atque in ramis fertilibus brevioribus, lanceolatis, plus minusve dentatis;

vesiculis elliptico-sphæricis petiolatis, petiolis foliaceis, dilatatis; receptaculis compressis, valde dentatis, in racemo composito aggregatis.

Wight in herb. no. 17.

Hab. in mari Peninsulæ Indiæ Orientalis; Wight.

Root a callous disc, throwing up a number of *stems* nearly two feet long, compressed, a line or more broad, undivided, giving off *branches* in a distichous manner, at intervals of from half an inch to an inch or more, 3–6 inches long, spreading, the whole forming a more or less oblong outline. Fruit-bearing *ramuli* numerous, an inch long or more at the base of the branches, and diminishing gradually to the extremity. *Leaves*: those produced from the main stem and especially on young plants often 2 to near 3 inches long, and from a quarter to half an inch in breadth, somewhat obtuse at the apex, either quite entire or obscurely repando-dentate, rarely furnished with a few sharp teeth towards the base. On the branches they are about an inch long, more or less lanceolate, more acute, often sharply toothed; all furnished with a nerve and pores. *Vesicles* somewhat elliptical, on young plants nearly as large as a small garden pea, supported on foliaceous, dilated stalks 2–3 lines long. Sometimes the vesicle is winged and apiculate. *Receptacles* 1–1½ line long, axillary, forming pedunculate, more or less divided racemes, the segments very irregular in shape, compressed, and toothed so as frequently to resemble a deer's horn.

The most remarkable feature in this *Alga* is the occasional length of the leaves which arise at the base of the primary branches, and which cause them to resemble the fronds of some of the Lycopodoid *Polypodia*. This is most conspicuous in a rather early stage of growth. The species however is liable, I suspect, to considerable variation; and even on the same individual leaves may be seen almost, if not quite entire, while others are decidedly and sharply toothed. The latter occur chiefly in the upper part of the plant, and towards the ends of the branches. The description and figure I have given must be regarded as provisional, for if my apprehensions be well-founded, a more extensive series of specimens will be required before a complete character can be drawn up.

EXPLANATION OF PLATE IX.

Sargassum obovatum.

Fig. 1. Termination of a branch.

— 2. Cauline leaf.

— 3. Leaves accompanying the receptacles.

— 4. A raceme and leaf from the end of a branch.

— 5. Vesicles. 4 magnified.

Sargassum Wightii.

Fig. 1. Portion of a branch.

— 2, 2. Leaves and vesicles from a young specimen.

— 3. Raceme of fructification as sometimes seen terminating the branches.

— 4. Portion of a raceme in its more compact form.

— 5. Portion of do. as seen in fig. 3.

— 6. Vesicle. 4 & 5 magnified.

Sargassum cervicorne.

Fig. 1. One of the fertile ramuli, and leaf given off at the base of a branch.

— 2. Leaf from a young plant with vesicles.

— 3. Do. from towards the upper part of same plant.

— 4. Vesicles.

— 5. Receptacles as they are developed on one specimen.

— 6. Do. The last magnified.

XXV.—On the *Gonidia* of Lichens. By G. H. K. THWAITES, Lecturer on Botany and Vegetable Physiology at the Bristol Medical School.

[With a Plate.]

THERE appears to have been much uncertainty felt by those who have devoted their attention to the study of the Lichens, as to the real character of those spherical or subspherical green bodies which are characteristic of true Lichens, and to which the name of *gonidia* has been given, from the circumstance of their capability of becoming developed into new plants when separated from the parent structure. Every one who has examined carefully the *thallus* of a Lichen under a tolerably high power of the microscope, must have been struck by the peculiar appearance of the *gonidia*, as compared with ordinary cellular structure:—the frequent irregularity in their form—their want of correspondence in size—their slight attachment to each other, or to the filamentous tissue surrounding them, and their aggregation in certain parts of the structure—must have taken the attention of any observer who has been much accustomed to the examination of vegetable structures. These peculiarities indeed gave rise to a strong desire on my part to ascertain the real character of *gonidia*, and after examining a great number of species, both of true Lichens and of the genus *Collema*, and plants allied to it, I am able with confidence to state what is the true character of *gonidia*. It is pretty generally known that the *thallus* of *Collema* consists of a number of moniliform filaments, and also of delicate anastomosing cylindrical filaments immersed in a more or less firm gelatine. When examined more carefully the structure is found to consist of numerous Nostoc-like vesicles closely cohering, and among which ramify the anastomosing filaments. The cellular

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