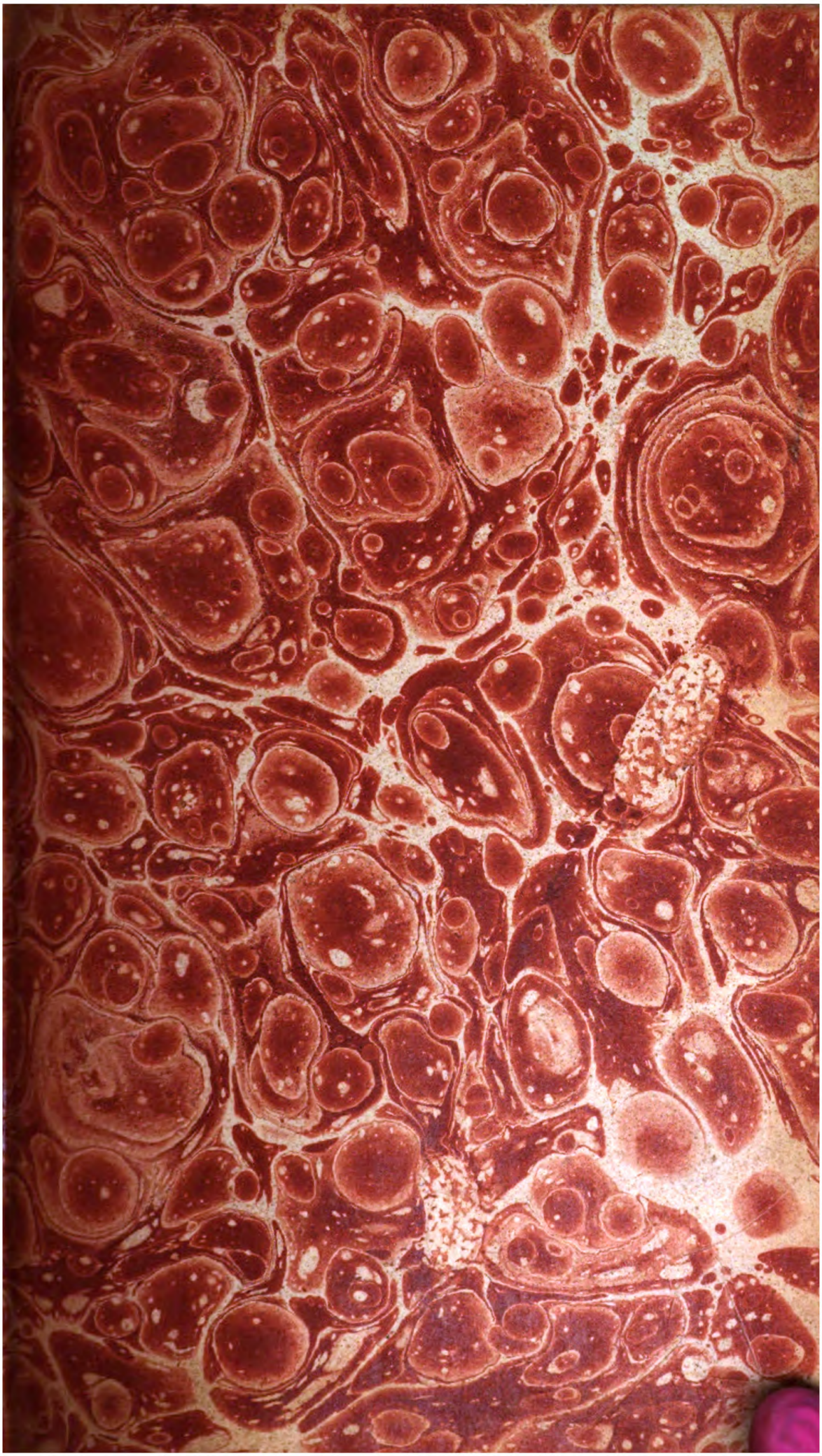


ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE ACADEMIES OF STOCKHOLM, UPSAL, TURIN, LISBON, LUND, BERLIN, PHILADELPHIA, AND THE NAT. HIST. SOCIETY OF PARIS;

PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY

JAMES SOWERBY, F.L.S.

——" VIRESQUE ACQUIRIT EUNDO."—— *Virg.*

VOL. XXII.

LONDON:

PRINTED BY R. TAYLOR AND CO., 38, SHOE-LANE, FLEET-STREET;

And sold by the Proprietor, J. SOWERBY, at No. 2, Mead Place, Lambeth; by Messrs. WHITE, Fleet-street; JOHNSON, St. Paul's Church-yard; SYMONDS, Pater-noster-row; and by all Booksellers, &c. in Town and Country.

MDCCCVI.

CONFERVA inflata.

Tumid-jointed Conferva.

CRYPTOGAMIA Algæ.

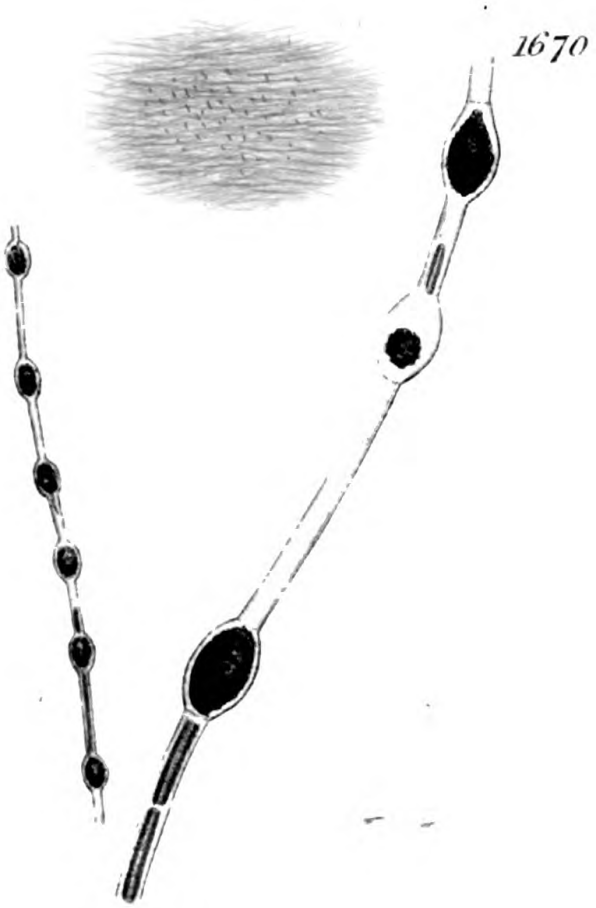
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments unbranched. Joints three times as long as broad; when fertile swelling and elliptical.

SYN. Conjugata inflata. *Vaucher Conf.* 68. *t.* 5. *f.* 3.

FOUND by Mr. W. Borrer in fresh water at Henfield, Sussex, in March last.

The filaments are but the 700th part of an inch in diameter, simple, jointed, pellucid and almost colourless, consisting at first of exactly cylindrical joints about thrice as long as they are broad, marked (according to M. Vaucher's observations in all this tribe) with green colouring matter in spiral lines. The same acute investigator has seen the joints afterwards swell, becoming elliptical, and each protruding a lateral tube so as to unite with similar tubes of a neighbouring plant. The colouring matter of one joint passes into the other, its spiral appearance being entirely lost. At length each joint which has received it swells still more, growing quite elliptical, and filled with a solid green body, which M. Vaucher has proved to be a single seed, producing in due time a solitary young plant. Our specimens are in the state of ripening seed, and many of their joints are barren. We have little doubt of its being the very same species with his. At any rate they are nearly allied, and the subject is so curious that we are glad to give even an imperfect view of it, in order to excite the curiosity of those who have leisure for microscopical inquiries. They will be amply rewarded by perceiving how great is the Creator in these his least works.



Nov 1806 Published by Jas Sowerby, London

2.

CONFERVA spiralis.

Combined Spiral Conferva.

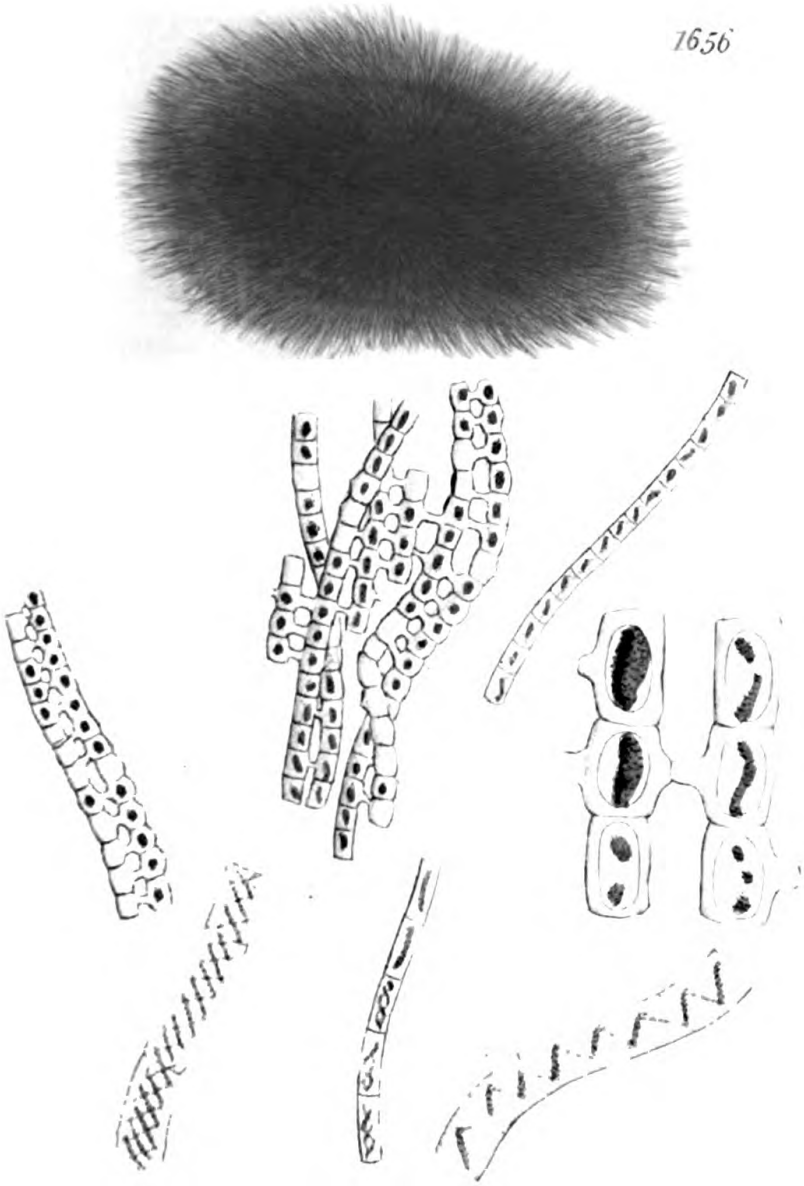
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Light green. Filaments unbranched, slender, slippery. Joints a little swelling, longer than broad. Colouring matter in spiral lines.

SYN. Conferva spiralis. *Roth. Catal. v.* 2. 202. *Dillw. Conf. t.* 3; also *t.* 4. *f.* A, B, according to Mr. J. Woods.

NOT unfrequent, according to Mr. W. Borrer and Mr. J. Woods, in fresh water in the spring, though of short duration. It grows in dense masses, of rather a light green. The filaments are an inch or two long, unbranched, from the 700th to the 500th of an inch in diameter; when magnified they appear almost white, spotted with green in a curious manner, each joint when young being marked with a spiral line, apparently of grains or seeds, which afterwards unite into an oblong mass. The joints are considerably longer than broad; even when young; swelling a little when old. But as the plant advances in age a more singular change happens. The filaments become yoked together, their joints protruding laterally so as to unite by a slender tube, and M. Vaucher has observed the internal green matter to pass through this tube from one to the other. This phænomenon is common to several species besides, comprehended by that writer under the term *conjugatæ*. We cannot with certainty reduce our present plant to any one of his.



Orr sc. Pub. by J. J. Sowerby, London

3.

CONFERVA cærulescens.

Sky-blue Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Light purplish blue. Filaments unbranched, slender, curved, approximating and uniting here and there. Joints six times as long as broad, the combined ones greatly shortened. Seeds green.

FOUND by Mr. W. Borrer, in a boggy pool on Henfield Common, Sussex, July 3d, 1812, and communicated to us under the above name, which appears very suitable.

The dull blueish hue of the threads is unusual in this tribe of *Confervæ*, and their mode of union, or at least its consequences, is peculiar. The joints are originally six or eight times as long as broad, exactly cylindrical, pellucid, with a central, slightly spiral, dotted, green line. Such as meet, and unite laterally, with those of neighbouring filaments, become prodigiously shortened, though scarcely dilated, and their green contents, on coalescing, grow more enlarged and conspicuous.

This species belongs to the family of *conjugatæ*, like *C. nitida*, *t.* 2337; *spiralis*, *t.* 1656; *genuflexa*, *t.* 1914, &c.

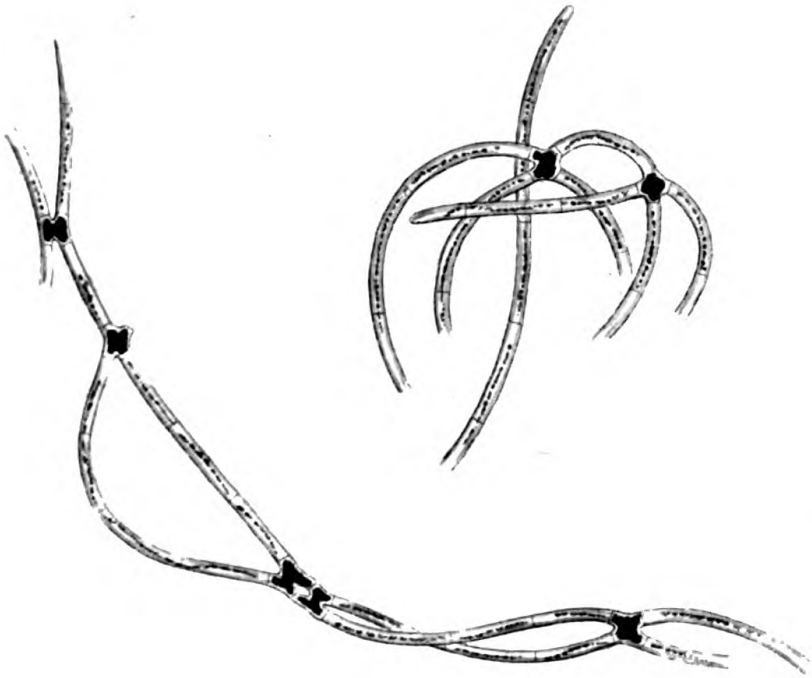


Fig. 1. M.S. p. 1. Drawn by Jos. Lowry London.

✓

4.

CONFERVA bipunctata.

Double-dotted Conferva.

CRYPTOGAMIA Algæ.

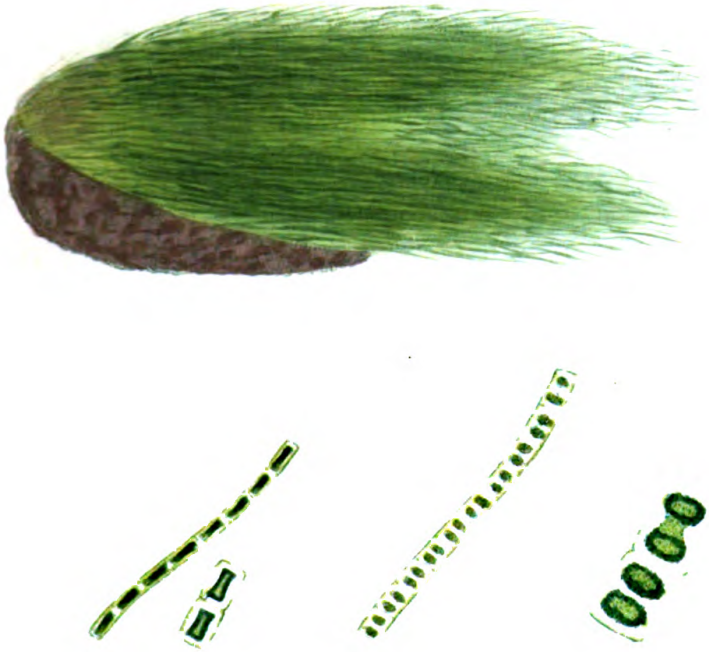
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments unbranched, slippery, cylindrical. Joints rather longer than broad, each double-dotted.

SYN. Conferva bipunctata. *Roth. Catalect. v.* 2. 204. *Dillw. Conf. t.* 2.

NOT uncommon in stagnant waters. Mr. Turner has several times shown it to us at Yarmouth. These specimens were collected in Tothill fields by Mr. Sowerby in September 1802.

It is found, as Mr. Dillwyn observes, "either floating in thick masses on the surface, or loose and straggling at the bottom of the water." The colour of the whole mass is a more or less yellowish green. The filaments are several inches long, capillary, slender, slippery and rather tender, unbranched, of an equal thickness throughout, scarcely at all contracted at the union of the joints. Each joint is rather longer than broad, pellucid, marked in its central part with two dots or masses of a green substance, which in some stages of growth are confluent. These double dots well characterize the species.



Pinx: 1826 Published by Jo[illegible] Loverly London

5.

CONFERVA stictica.

Many-dotted Combined Conferva.

CRYPTOGAMIA Algæ.

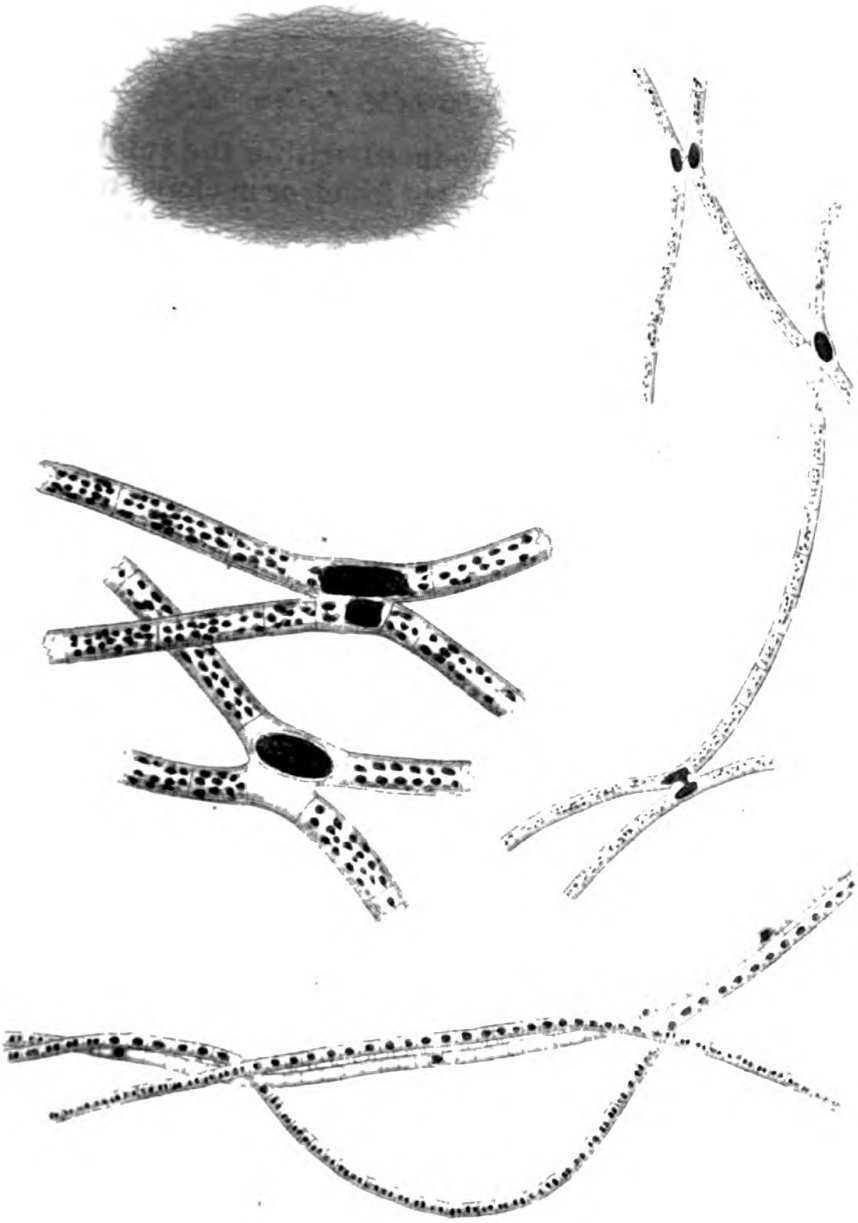
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, very slender, here and there slightly bent, and combined by their angles. Joints cylindrical, four times as long as broad. Colouring matter in a triple irregular series of dots.

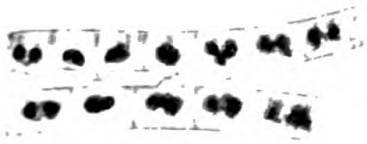
COMMUNICATED by Mr. W. Borrer from ditches in Henfield Level, Sussex, with the following remarks.

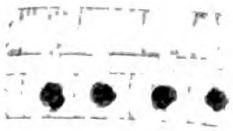
It forms large masses on the water, much like *C. fracta*, *t.* 2338, full of air-bubbles, being pale and yellowish above water, and of a blackish green under. The threads are not slippery, like other combined species. Their diameter nearly equals *C. nitida*, *t.* 2337, but the joints are four or five times longer than broad. When young, the colour is a dull pale green, and about three imperfectly spiral lines of shining granules are with difficulty distinguishable. Afterwards these lines become more conspicuous, the rest of the filament being now perfectly colourless, and their component granules larger, but their arrangement is still irregular. The threads subsequently unite here and there, not by every joint, and their connecting processes are usually nearer to one end of the joint than to the other. Such filaments are divaricated at the points of connection, rather less abruptly than in *genuflexa*, *t.* 1914. In some of the combined joints, the contents appear unchanged; in others they form a mass of larger granules than in the lines; and some have a large oval seed, which often swells the joint. Some traces of unchanged lines occur, now and then, in the fructifying joints.

We subjoin, at B, a bit of *C. bipunctata*, *t.* 1610, in its combined state, sent also by Mr. Borrer; by which, as he observes, it appears to be *Conjugata cruciata* of Vaucher.



B.





Published by Dr. Harvey & Co.

6.

CONFERVA genuflexa.

Combined Bent Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

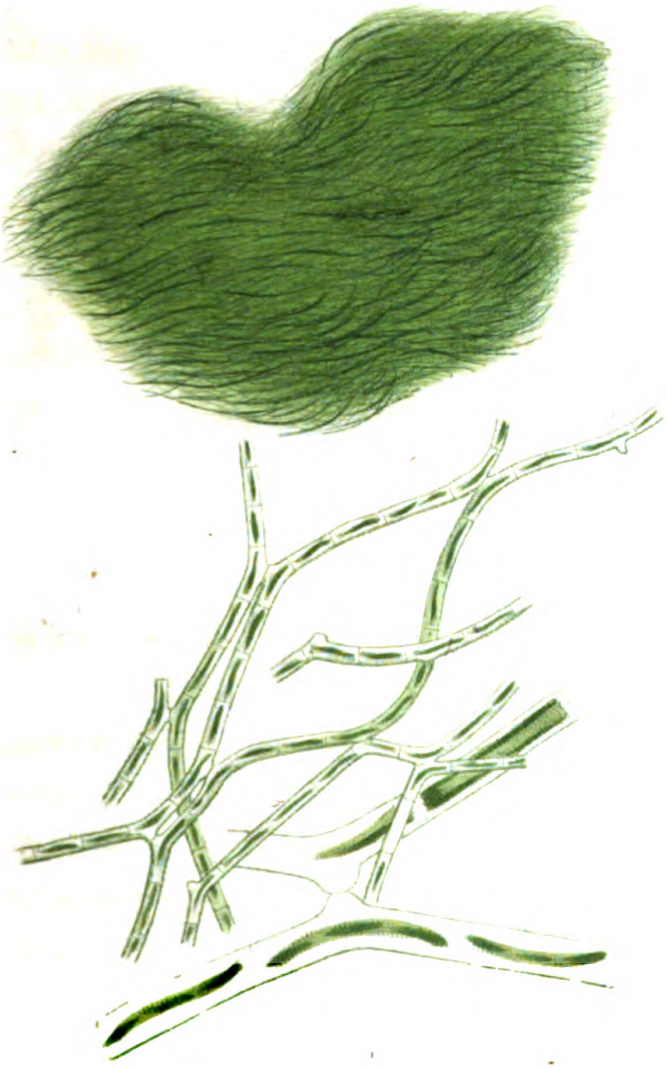
SPEC. CHAR. Light green. Filaments unbranched, slender, brittle, here and there bent, and combined by their angles. Joints cylindrical, thrice as long as broad. Colouring matter in central lines.

SYN. Conferva genuflexa. *Roth. Catal. v.* 2. 199. *v.* 3. 268. *Dillw. Conf. t.* 6.

Conjugata angulata. *Vaucher Conf. t.* 8.

A NATIVE of fresh-water ditches and pools, for specimens of which we are obliged to Mr. W. Borrer.

It floats in dense, light- or yellowish-green masses, like several species already published in this work; but is known from all others by the flexures or bends in its filaments, which, at the time as we presume of impregnation, approach each other, and their approximating joints coalesce by a little tube; afterwards they separate again. The green mass which in *C. spiralis, t.* 1656, forms spiral lines, is here more simple, central, and nearly straight, in each joint. The joints moreover are longer in proportion to their diameter, and more exactly cylindrical, than in that species.



7.

CONFERVA reticulata.

Netted Conferva.

CRYPTOGAMIA Algæ.

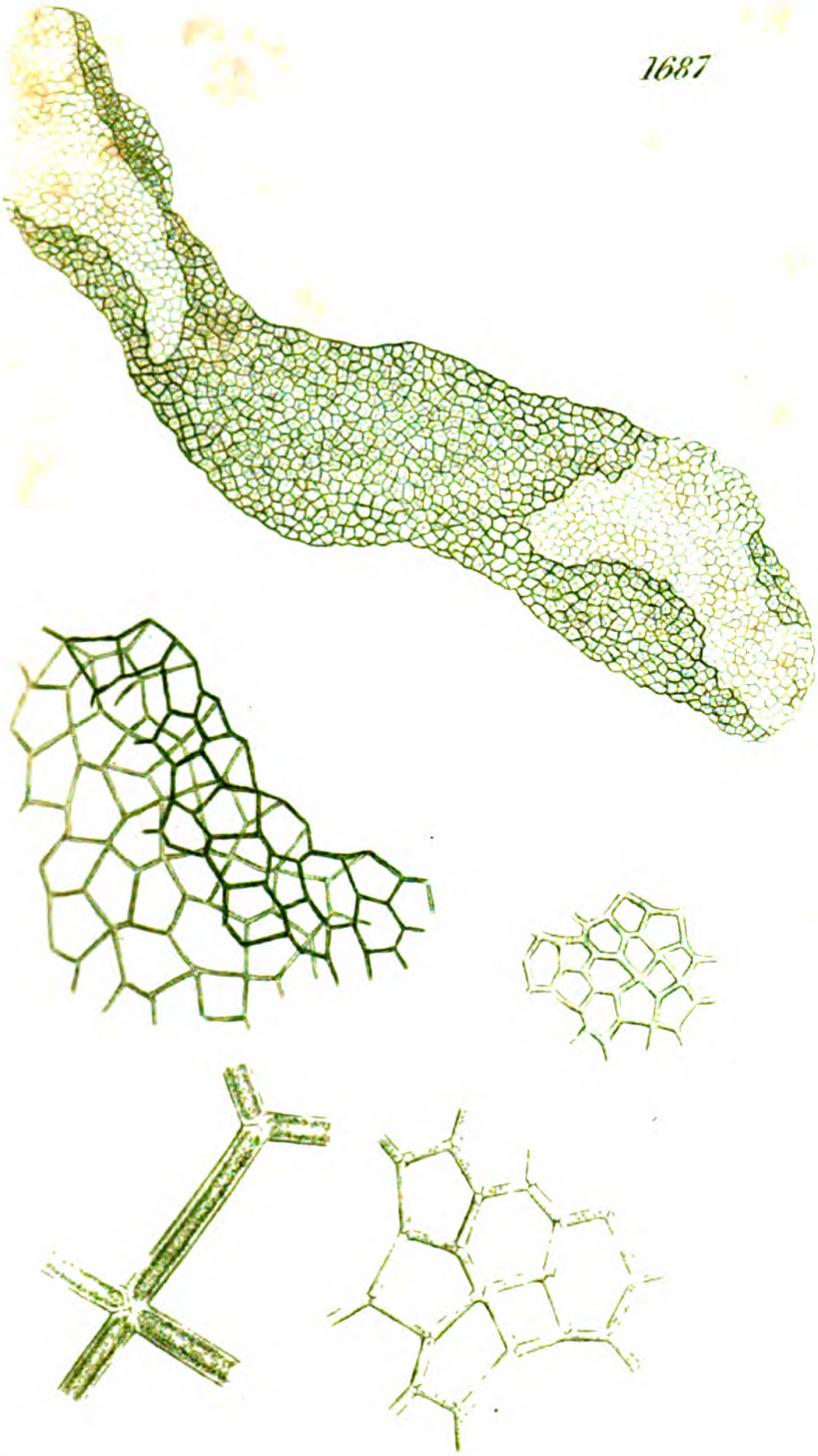
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Filaments united into the form of a tubular net.

SYN. Conferva reticulata. *Linn. Sp. Pl.* 1635. *Huds.* 596. *With. v.* 4. 132. *Hull.* 331. *Relh.* 485. *Abbot.* 275. *Dicks. H. Sicc. fasc.* 14. 25. *Raii Syn.* 59. *Dill. Musc.* 20. *t.* 4. *f.* 14.
Hydrodictyum pentagonum. *Vaucher Conf.* 88. *t.* 9.

WE were long ago favoured by the Rev. Mr. Relhan with specimens of this curious plant from Cambridge. In the pond of the Physic-garden there it abounds from June to September. Mr. Borrer has also sent the same from ditches at New Hall in the parish of Henfield, Sussex, and the late Mr. Pitchford found it at Heigham, near Norwich. It grows loosely floating in still fresh water, but is not a very general species.

Nothing can be more remarkable than its form, which is that of a green, tubular, very delicate net, open at both ends. The threads are cylindrical, tolerably even; the meshes have 4, 5 or 6 sides, but 5 is the most common number. No one has observed the mode of its propagation except M. Vaucher, who found the old plants in a stationary condition during winter, but in spring the joints swelled, and gave out simple cylindrical masses of green matter. Each mass soon became a reticulated tube, which in 2 or 3 months' time grew to the full size of the parent plant. This species is therefore annual. Perhaps Dr. Roth and M. Vaucher are justified in making a new genus of it, but no one is yet enough acquainted with its family to decide absolutely on this point. We only attempt for the present a correction of the generic character of *Conferva.*



Jan 1 1687 Published by Ja: Sowerby London

8.

CONFERVA dissiliens.

Brittle-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

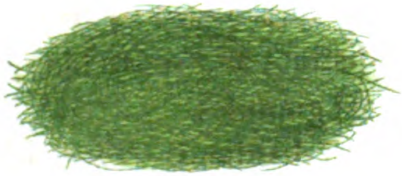
SPEC. CHAR. Simple, slender, straight, bright green, brittle. Joints twice as broad as long, white-edged, distinct and separable, with a double mass of internal granules.

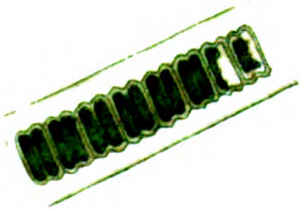
SYN. Conferva dissiliens. *Dillw. Syn.* 51. *Conf. t.* 63.

MR. BORRER finds the present species "in pools, on Henfield Common, and near Twineham, Sussex, always floating loose, in masses, mixed more or less with other *Confervæ;* never affixed to reeds, &c., as Mr. Dillwyn describes it."

This closely resembles our *C. bicolor*, *t.* 2288, under a moderate magnifier, even in being sometimes partially colourless; but differs altogether from it in structure, being one of those observed by Dr. Roth to have really separate joints, whose partitions are formed from the membrane which composes the tube itself; whilst in *bicolor*, and a few other unbranched species, as well as many of the branched ones, the thread or filament is a continued tube, containing a series of distinct vesicles. These last, of course, are not brittle at the joints.

In *C. dissiliens* the joints are either very short and broad, and finally confluent in pairs; or rather, as Mr. Borrer seems to think, the mass of green granulations contained in each joint separates, as in *C. bipartita*, *t.* 2302. The greatest diameter of its filament is one 700dth part of an inch. The joints being so distinctly defined, the colouring matter can never be rounded off in any of them, from the emptiness of its neighbour, as in *bicolor*. For these remarks we are indebted to Mr. Borrer.





9.

CONFERVA bicolor.

Party-coloured Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Simple, slender, straight, bright green. Joints thrice as broad as long, white-edged, even; several of them together here and there empty, white and pellucid.

NOTWITHSTANDING all that has been done by the labours and acuteness of Mr. Dillwyn, there are still many discoveries probably to be made in the genus *Conferva*, and there are few botanists more likely to make them, and to establish new species on sure grounds, than Mr. W. Borrer, who found the present plant growing on stones in a rapid streamlet at Henfield, Sussex. Our intelligent correspondent observes that its straight habit is exactly like *C. dissiliens*, Dillw. t. 63, and the dimensions of the joints agree with that. The great peculiarity of our *bicolor* consists in an interruption of colour here and there, seen in the fresh filaments, and by no means indicating decay. This is the more remarkable, as each joint in which the colouring matter terminates, is rounded off externally, making the extremity, on either hand, of an oval spot, formed of an assemblage of more or fewer perfectly-coloured joints. We do not understand that the filaments are so brittle as in the *dissiliens*. Mr. Sowerby found them less than a thousandth part of an inch in diameter.

CONFERVA pectinalis.

Short-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments brittle, slippery, unbranched, tapering, compressed. Joints three times as broad as they are long, their central part opaque.

SYN. Conferva pectinalis. *Dillw. Conf. t.* 24.
C. bronchialis. *Roth. Catalect. v.* 1. 186.

FOR specimens of this curious *Conferva* we are indebted to Mr. W. Borrer, who found them at Hurst Pierpoint, Sussex, growing on decayed leaves in ditches in the month of March.

It is a very minute species, the stems being not above half an inch long, and from a thousandth to a four hundredth part of an inch in diameter, tapering gradually to a point, and compressed, not cylindrical. The joints are remarkably short, their breadth being full thrice as much as their length. They are pellucid and colourless except in their central part, which when fresh is occupied, as in other species of this tribe, with opaque green matter, in the form of an oblong transverse spot. These spots begin to break, or totally disappear, soon after the plant is taken from the water. Mr. Sowerby observed the situation of this green matter as we have described it, which is analogous to its appearance in other species, but Mr. Dillwyn found it lodged near the transverse partitions of the joints. Dr. Roth's description does not help us to remove this difficulty.

Dyssodia
Tenuiloba

CONFERVA tæniæformis.

Tape-worm Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale green. Filaments capillary, simple, compressed. Joints quadrangular, thrice as broad as long, obscurely variegated, not striated; at length separating at one edge and divaricated.

FOUND by Mr. W. Borrer in pools of sea water left among the rocks by the tide at Beachy-head, Sussex, in February 1808. It forms parasitical tufts, scarcely a line high, on *Conferva fucoides*.

This is one of that singular tribe of minute *Confervæ*, of which we have figured two, *t.* 1761 and 1762, remarkable for being composed of compressed quadrangular joints, at length separating from each other transversely, only adhering by one or other of their corners. This species differs from all the rest, except *pectinalis* of Dillwyn, *t.* 24, in the extreme shortness of its joints in comparison with their breadth; but the *pectinalis* is a freshwater one, tapering to a point, and not separating so frequently as ours, neither are their green internal contents central as in the plant before us. The shortness of the joints in our plant much resembles those of some foreign species of *Tænia* or Tape-worm.

On burning this production we perceive so much of "an ancient fish-like smell," and so great an earthy residuum, that, but for the analogy of the plants above mentioned, we should think we had met with a coralline. This uncertainty prompts us the more to make the discovery known, that it may be further investigated, even at the risk of being charged with not knowing a coralline from a *Conferva*.

1883

May 1.1808. Published by Jos. Sowerby London.

CONFERVA striatula.

Disjointed Streaked Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

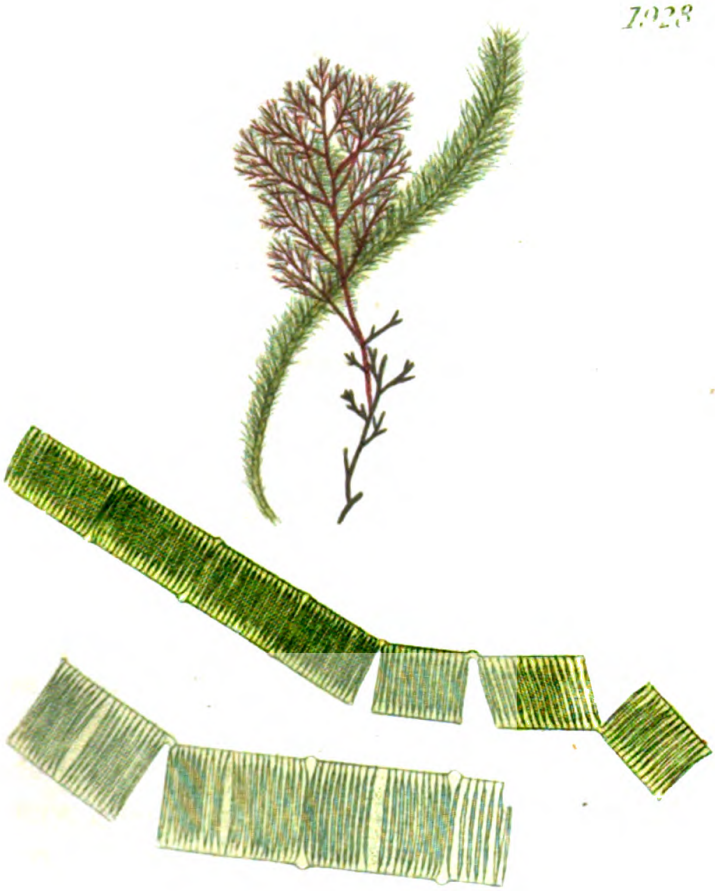
SPEC. CHAR. Pale green. Filaments capillary, simple, compressed. Joints quadrangular, rather broader than long, in pairs, transversely and uninterruptedly striated; at length separating at one edge and divaricated.

OBSERVED growing on *Fuci* and *Confervæ* at Cromer by Mr. W. J. Hooker in April 1808.

The filaments are from one to two lines in height, pale green, whitish when dry, simple, straight, erect, as slender as the finest hair, compressed but not quite flat. Joints rather broader than long, but combined in pairs, each pair, as it appears to us, separating at opposite corners, and every joint streaked transversely with parallel lines, without the longitudinal pellucid line seen in *C. flocculosa*, *t.* 1761.

The same difficulties attend this production, with respect to its vegetable or animal nature, that we have noticed in *C. tæniæformis*, *t.* 1883. They seem intermediate links between both kingdoms, and are the more worthy of notice as their allies the Corallines have excited so much attention, and were so long misunderstood. Their resemblance to the *Tænia* is striking. Were it not for the separation of their joints, they might be suspected to be young *Sertulariæ*; yet the analogy of *C. flocculosa* would ever discountenance such a supposition.

1028



V

CONFERVA Biddulphiana.

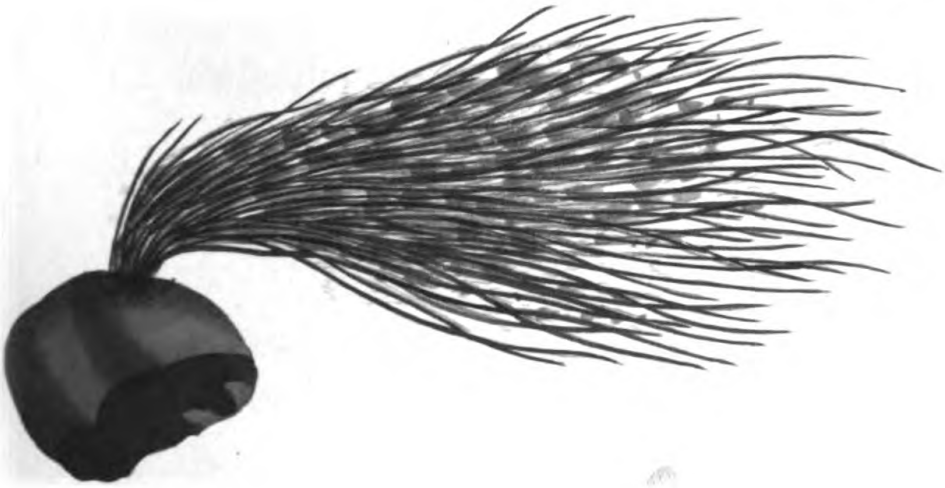
Disjointed Marine Conferva.

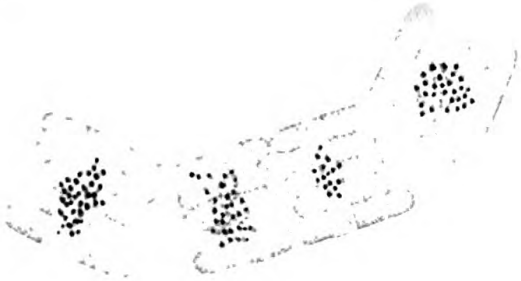
CRYPTOGAMIA Algæ.

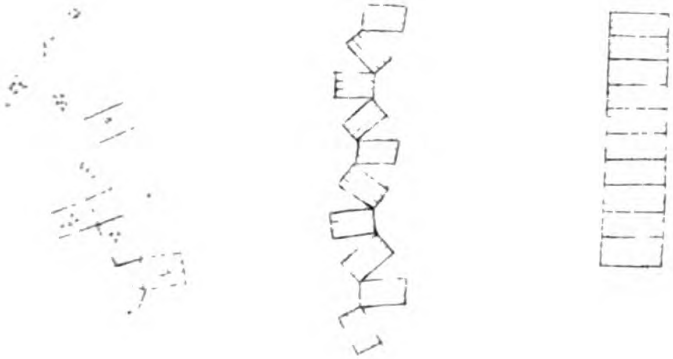
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale green. Filaments capillary, simple, somewhat compressed. Joints quadrangular, longitudinally striated; at length separating at one of their edges and divaricated.

THIS curious plant, of which we can find no description, was found by Miss Susanna Biddulph in November and December last at Southampton, entangled with every marine production of the season. It serves to illustrate and confirm the nature of the *C. flocculosa* in our last plate. Its filaments are about half an inch long, nearly 3 times as thick as those of the last mentioned, and less compressed. The joints do not separate quite so regularly in an alternate manner, and moreover differ remarkably in being crenate where they join, as well as striated or furrowed longitudinally, not transversely; while their central line is transverse, bearing an apparent mass of reddish seeds. Our plate contains exact copies of chosen specimens, which will explain, better than can be done in words, the nature of so extraordinary a production.







Published

14.

CONFERVA flocculosa.

Disjointed Fresh-water Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

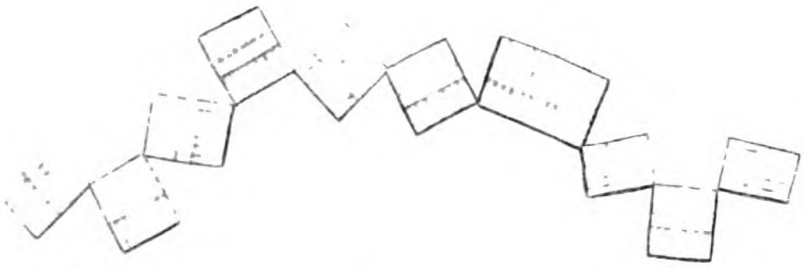
SPEC. CHAR. Green. Filaments capillary, mostly simple, compressed. Joints quadrangular, transversely striated; at length separating at their alternate edges, and divaricated.

SYN. Conferva flocculosa. *Roth. Catal. v.* 1. 192. *t.* 4. *f.* 4. *and t.* 5. *f.* 6. *Dillw. Conf. t.* 28.

FIRST discovered in England by Mr. Dillwyn and Mr. Joseph Woods junior, growing on decayed vegetables in a pool on Hampstead heath. We have received specimens from Norfolk by favour of Mr. Turner.

Well might its original discoverers mistrust their own eyes when they saw the wonderful structure of this plant. It forms light-green or brownish tufts about a quarter of an inch high, consisting of dense filaments, scarcely, if at all, branched, as fine as a human hair, compressed, at length separating at one of their edges only, (the other continuing attached to its neighbouring joint), so that the joints become divaricated in an alternate order. They are transversely and regularly striated, and marked besides with a central, colourless, pellucid, longitudinal line. Each joint is commonly about as broad as long. Of the fructification nothing is known.

1761



Edwards, Published by Jas Sowerby

15.

CONFERVA obliquata.

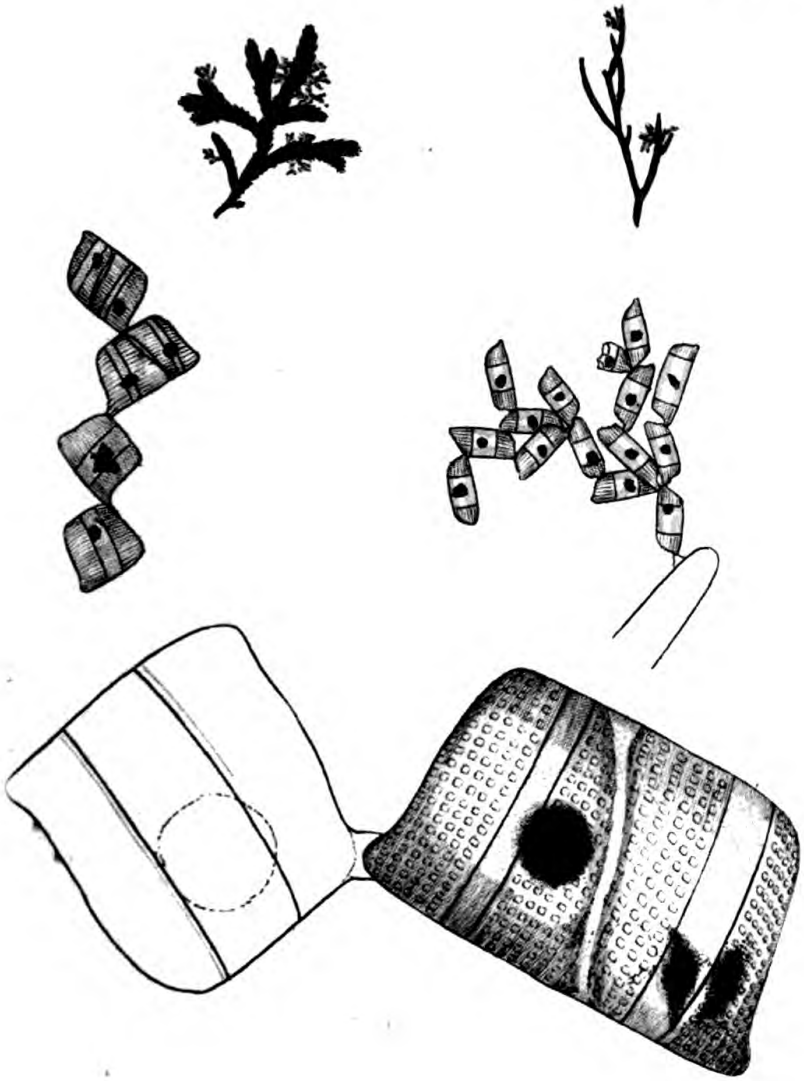
Oblique Disjointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Whitish. Filaments branched, zigzag, compressed. Joints aggregate; each group quadrangular, oblique, connected with the next by one corner. Seeds in brown central solitary dots.

WE are obliged to Miss S. Biddulph for the discovery of this extraordinary *Conferva*, which is somewhat akin to what we have named *C. Biddulphiana, t.* 1762, but, though variable in bulk, always considerably larger than that species. It grows in small whitish-brown tufts on *Fucus subfuscus, fig.* 1, or *Conferva verticillata, fig.* 2, both represented under an equal magnifying power in our plate, so that the latter seems most luxuriant. It is scarcely possible by description to give an idea of the structure of this vegetable. The joints are broad and short, when highly magnified, as at *fig.* 3, found to be curiously dotted. They are united vertically, three together, into obliquely quadrangular groups, which latter are in like manner sometimes combined vertically, but most frequently by their opposite corners, so as to form a kind of zigzag chain, and this moreover sends off frequent ramifications. About the centre of each group is a round mass of brown seeds, visible to the naked eye.



Apr. 1.1808. Published by Jas Sowerby London.

16.

CONFERVA stipitata.

Stalked Striated Conferva.

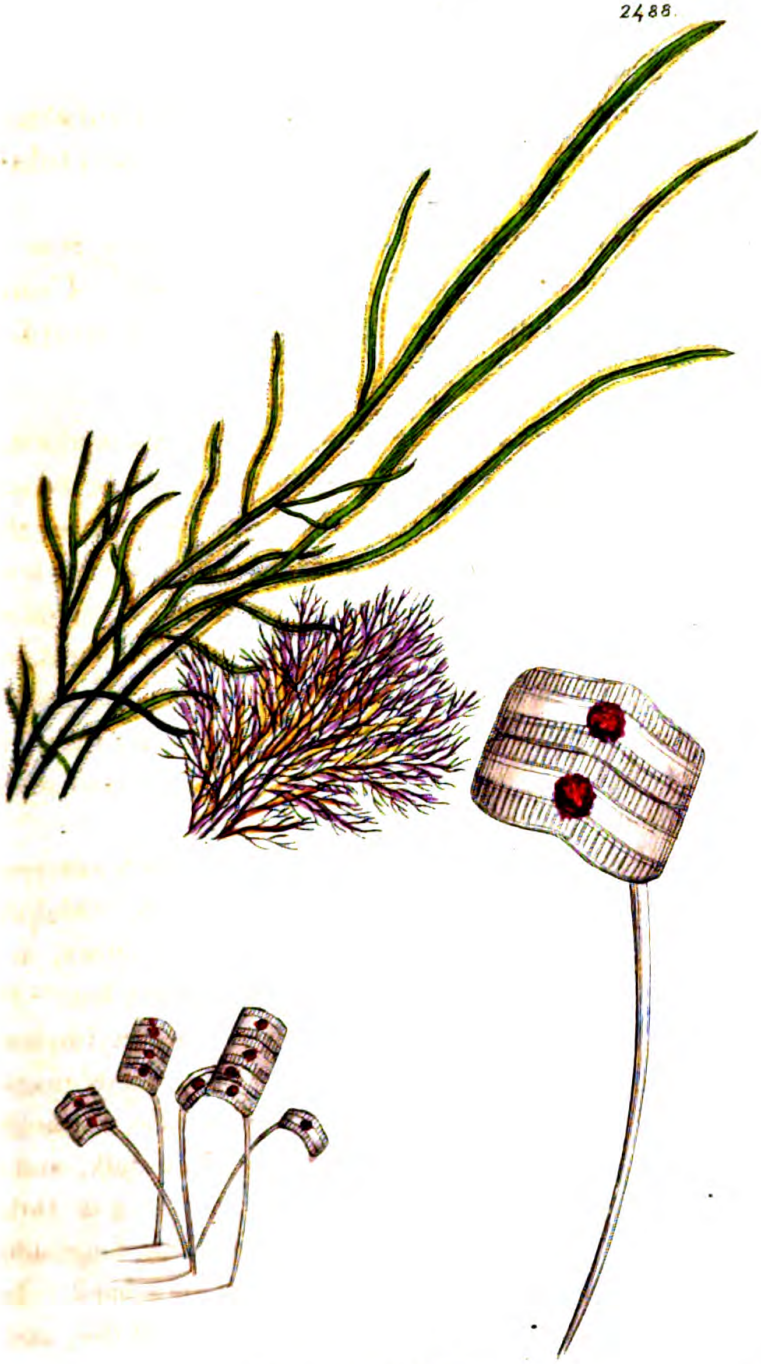
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Whitish. Frond of a very few close striated joints, twice as broad as long. Common stalk capillary, lateral, longer than the frond.

HAVING in vol. 26. t. 1869, figured a marine production, of whose vegetable nature we had then no doubt, we are induced to present our readers with another, whose great resemblance thereto will, we trust, prove our justification, though it excites a suspicion that both may belong to the animal kingdom. This suspicion arises from the scent of the present plant when burnt, which is like that of a coralline; the earthy residuum being also, as in that tribe, very abundant. With this caution, for the consideration of those who may follow us, we for the present refer this curious production to the vegetable kingdom.

It was found in July 1812, in clear rills which intersect the mud, on the coast near Southampton, by Miss S. Biddulph and Miss Hill, covering *Conferva ærea*, *rubra*, and others, as well as *Ulva compressa*, giving them an almost golden hue. When dried, the production in question assumes a pale, greyish, mucor-like aspect, and feels soft like cotton. When highly magnified the whole mass is found composed of innumerable distinct individuals, each supported on a very fine capillary stalk, and consisting of one, two, three or four close joints, twice or thrice as broad as long, rather pointed or angular upwards, longitudinally striated, with the interruption of a plain transverse band. In the centre is a round red mass of apparent seeds. If this, and our *C. obliquata*, *t.* 1869, be not *Confervæ*, they are probably the eggs of some marine insect, rather than a coralline. That they are both of the same nature nobody can doubt.



Drawn and published by J. Sowerby London

✓

17.

CONFERVA flacca.

Green Flaccid Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, flaccid, curved, even. Joints all equal, nearly twice as broad as long; their partitions pellucid.

SYN. Conferva flacca. *Dillw. Conf. t.* 49.

MR. DILLWYN has observed this *Conferva* only near Swansea. Our specimens were gathered at Yarmouth by Mr. Turner and Mr. W. J. Hooker. It grows parasitically on *Fuci* in the sea; sometimes on wood exposed to the sea water, and is in perfection in the spring.

The fronds form dense bright-green tufts, and are simple, half an inch to an inch long, soft flaccid and slimy to the touch, by no means rigid, or erect when out of the water. They are very slender. When seen under a high magnifier they appear thread-shaped and even, their joints nearly, if not quite, twice as broad as long, with constantly white pellucid edges and partitions, but the latter are not at all contracted so as to give a beaded aspect to the filament. Some few joints are now and then found enlarged and as if discharging their green contents, which are very probably the seeds.

1943

Oct. 1 1808. Publish'd by Ja.t Sowerby London.

18.

CONFERVA isogona.

Equal-jointed Verdigrise Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, straight. Joints all equal, scarcely so long as broad; their partitions pellucid and constricted.

COMMUNICATED from the piers of Yarmouth jetty by Mr. Turner and Mr. W. J. Hooker in March last.

It appears to be a nondescript species, very nearly allied to *C. ærea, t.* 1929, but differing in the following particulars. Its size is very much smaller; its colour less inclining to glaucous; its joints are all uniform and equal, their edges by far less disposed to become pellucid than in *ærea,* and never so but in decay. The interstices are indeed, as in that, colourless very soon after the plant is taken out of the water, and are at all times so constricted as to give a beaded aspect to the filament.

Sept 1 [illegible] Hardy [illegible] Lambeth

19.

CONFERVA curta.

Short Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale brown. Filaments simple, cespitose, rigid, nearly upright; tapering at the base. Joints slightly tumid, about as broad as long.

SYN. Conferva curta. *Dillw. Conf. t.* 76. *Synops. n.* 51.

COMMUNICATED to Mr. Turner by Miss Hill, a most indefatigable and faithful observer, who found it growing parasitically on *Fuci* in the sea near Plymouth. Mr. Dillwyn suspects it to be not uncommon.

The short simple fronds form dense rigid tufts, about a line high, of a very pale brownish hue. Each plant is quite unbranched, swelling upwards from a taper base; slightly beaded from the swelling of the joints, each of which is about as broad as long, the uppermost rather obtuse.

We have referred above to the very useful *Synopsis*, published by Mr. Dillwyn at the end of his work on *Confervæ*, which we regret to find he has now finally concluded. Such accurate observers, who direct their undivided attention to one subject, are invaluable in the intricate departments of cryptogamic botany. We submit with equal pleasure and confidence to this author's opinion, on points to which he has given infinitely more time and pains than we possibly could afford, and we shall reconsider our genus *Vaucheria*, *t.* 1765, 1766, about which he adopts the sentiments of Roth in strong opposition to those of Vaucher.

Nov 1 1809 published by J. Sowerby London

V

20.

CONFERVA flaccida.

Rusty Flaccid Conferva.

CRYPTOGAMIA Algæ.

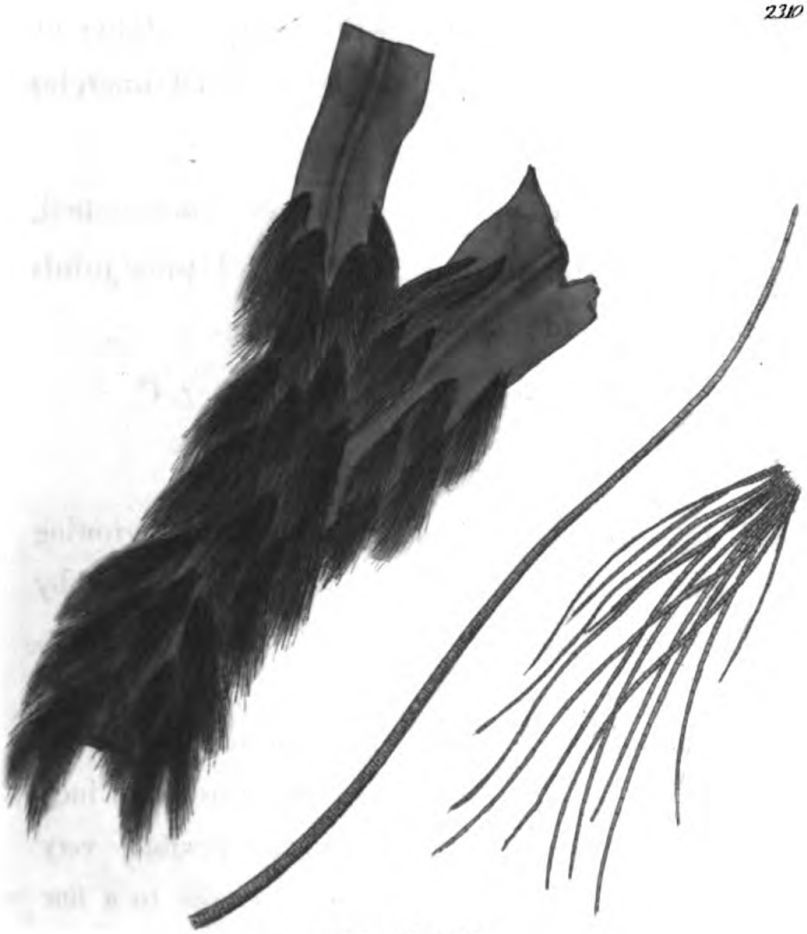
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Rusty olive. Filaments unbranched, tapering, clustered, short, flaccid. Upper joints as long as broad; lower half as long.

SYN. Conferva flaccida. *Dillw. Syn.* 53. *t.* C.

FOUND by Miss Hill on the Devonshire coast, growing parasitically on *Fucus fibrosus*. Our specimens, gathered by Mr. W. Borrer, last May, in Shoreham harbour, Sussex, grew, in like manner, on *F. vesiculosus*.

The plant to which this *Conferva* is attached, seems clothed with a soft tufted shaggy coat, each tuft, scarcely an inch long, consisting of numerous, olive-brown, flexible, very slender filaments, gently tapering from their base to a fine point. Mr. Dillwyn observed the substance to be in some degree gelatinous, adhering, though not very firmly, to either glass or paper as it dries. The joints in the lower part of each filament are about half as long as broad, the upper ones, indeed three fourths of the whole number, about twice as long.



May 1 1820 published by J. & A. Arch. London.

CONFERVA ericetorum.

Purplish Heath Conferva.

CRYPTOGAMIA Algæ.

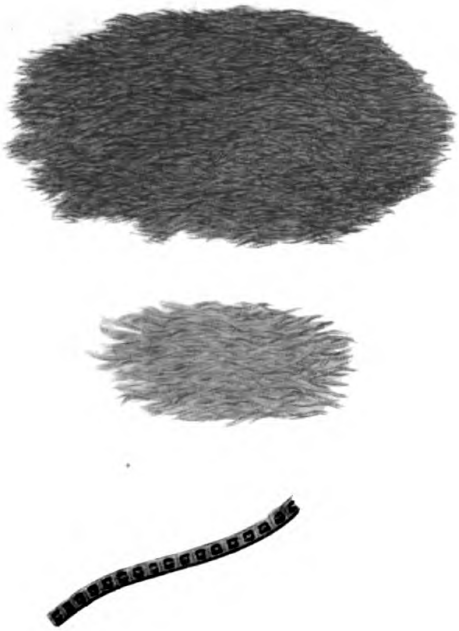
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Dull purple. Filaments simple, slender, prostrate, closely entangled, scarcely contracted at the joints, which are about as long as they are broad.

SYN. Conferva ericetorum. *Dillw. Brit. Conf. t.* 1. *Roth. Fl. Germ. v.* 3. 507. *Catal. v.* 2. 206.

SENT from moist sandy heaths in the neighbourhood of Yarmouth by Mr. D. Turner, by whom it was first discovered in Britain and communicated to Mr. Dillwyn, the ingenious author of the *Synopsis of British Confervæ* above quoted. On the accuracy of those gentlemen, who have compared it with specimens from Dr. Roth its first describer, we may safely rely for his synonyms, which we have no opportunity of verifying.

The fibres are of a dull purple colour, closely entangled, unbranched, very fine and slender, growing prostrate on the moist sandy earth, which they cover in large patches, and when once observed may easily be known again by their colour, which does not partake of the green hue usual in plants of this genus. Under a high magnifier the joints appear about as long as they are broad, regular and uniform, most coloured in their centre, scarcely contracted, as far as we can perceive, at their points of union. Mr. Dillwyn observes that this species, though so long undescribed, is common on all the moist heaths that he has examined. The fructification is unknown.



Jan.y 1 1803 Published by Ja.s Wesby, London

22.

CONFERVA fusco-purpurea.

Brownish-purple Marine Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish-purple. Filaments simple, very slender, entangled; swelling irregularly by age. Joints three or four times as broad as long, pellucid at each end, at length internally granulated.

SYN. Conferva fusco-purpurea. *Dillw. Conf. t.* 92.

SENT by Mr. W. Borrer from piles in the sea at Brighthelmstone. Mr. Dillwyn only has hitherto described it, from specimens gathered on calcareous submarine rocks by Mr. W. W. Young. It is said to cover such rocks in patches 2 or 3 square feet in extent, and conspicuous for their glossy purplish-brown colour. The filaments are clustered or entangled, simple, very fine and slender, about an inch long; regular and even when young, but afterwards swelling here and there into twice their original diameter. The joints are extremely short, pellucid and white at their extremities and sides. As they advance in age, their purple internal substance separates into a simple series of globular granules; and a similar but less accurate separation takes place whenever the plant is taken, for some time, out of its native element, as happens to the generality of this tribe.

Engraved & published by J.s Sowerby London.

CONFERVA atro-purpurea.
Dark-purple Simple Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

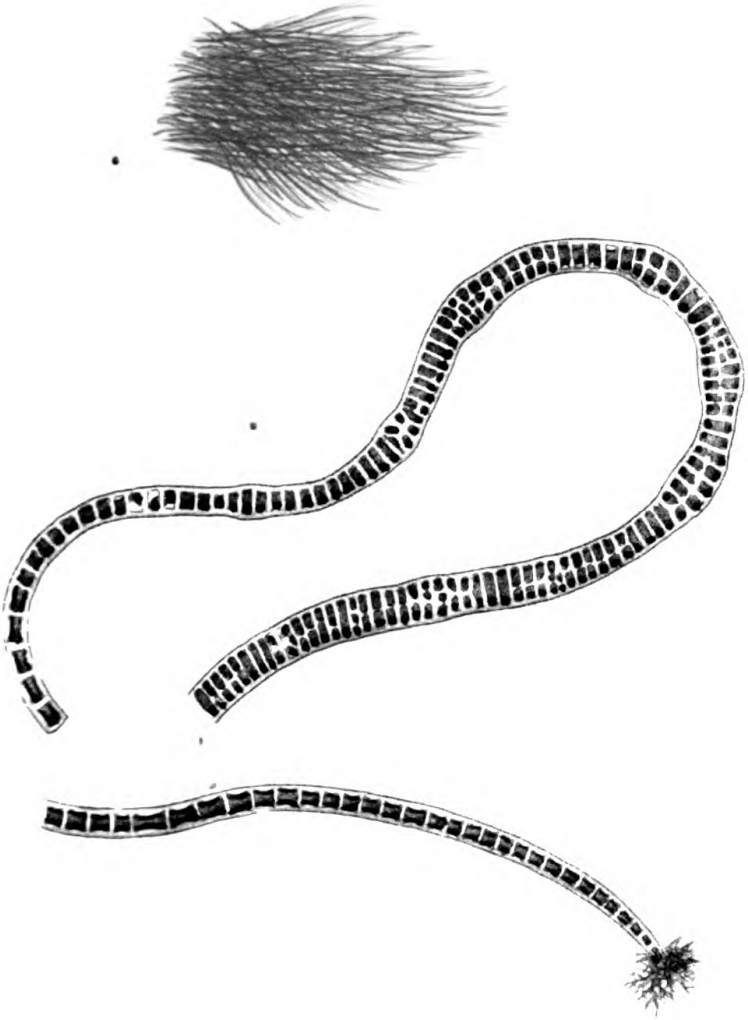
SPEC. CHAR. Deep purple. Filaments simple, at length swelling unequally. Joints about as long as broad, with a double transverse row of seeds in each.

SYN. Conferva atro-purpurea. *Roth. Catal. fasc.* 3. 208. *t.* 6. *Dillw. Conf. t.* 103. *Syn. n.* 57.

OUR specimens were communicated to our good friend Mr. Turner by Mr. Rashleigh, from Cornwall.

The root of this plant is found by the microscope to consist of a very evident tuft of fibres. Numerous fronds grow together, forming close, silky clusters, of a deep dull purple, an inch or two long. Each frond is quite simple, finer than the finest human hair, uniform in thickness till it swells in various parts irregularly as it advances in age. The joints are nearly as long as broad, pellucid, each containing an assemblage of dark purple matter, presumed to be the seeds, lodged in two transverse rows. Dr. Roth says such is its most perfect or vigorous state, and that by age or drying the purple matter occupies the whole internal part of each joint. We have only seen it dried, but the separation in general remains, and there is often a further division of the contents longitudinally.

2085.



CONFERVA nivea.

Snowy Conferva.

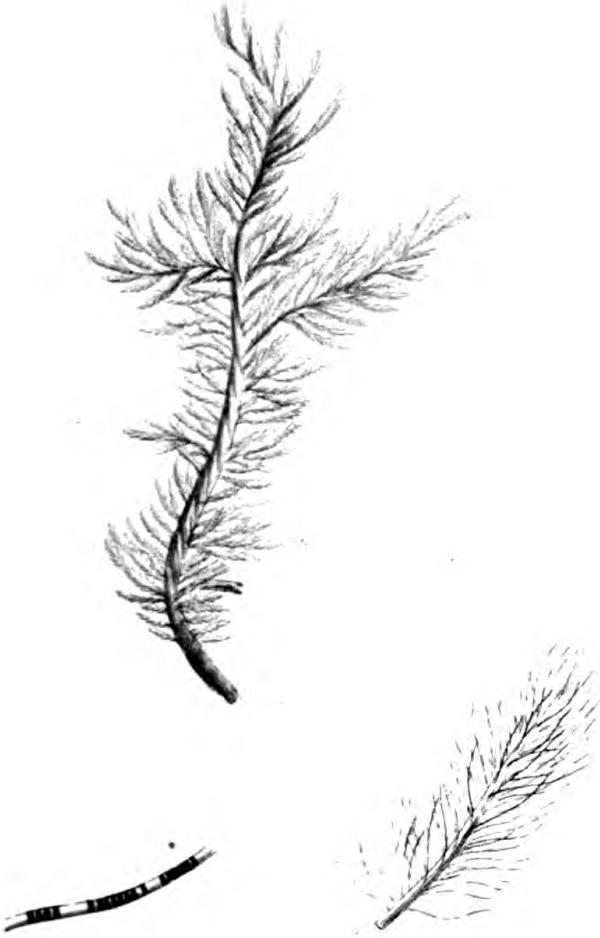
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. White, branched, slender, somewhat rigid. Ultimate branches crowded, and often obscurely whorled. Joints dark, about as broad as long.

SYN. Conferva nivea. *Dillw. Syn.* 54. *t.* C.
Byssus lanuginosa. *Willan on Sulphureous Waters*, 10. *Dillw.*

WE are obliged to William and James Backhouse, Esqrs. of Darlington for fine specimens of this *Conferva*, found growing on roots and dead leaves, in the sulphur spring at Middleton near that place, as mentioned in Dillwyn. The late ingenious Dr. Willan, it seems, has observed that hepatic gas is necessary to its growth. It appears to us moreover that there is a deposition of an earthy kind, precipitated on the plant, in consequence of its absorption of that gas, which had suspended or dissolved the earthy substance; just as *Charæ* become incrusted with calcareous matter in common hard waters. The whole plant is extremely slender, and to the naked eye appears white; but the very fine and copious ultimate branches are found, under a high magnifier, to consist of innumerable dark joints, nearly as long as broad. The incrustation usually conceals these.



As I was published by Jn.° Sowerby London

BYSSUS purpurea.

Purple Byſſus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant conſiſting of down or ſimple powder. *Fructification* unknown.

SPEC. CHAR. Filaments erect, ſimple or branched, purpliſh.

SYN. Byſſus purpurea. *Lightf. Fl. Scot.* 1000. *With. Bot. Arr. v.* 3. 276.

B. rubra. *Hudſ. Fl. An.* 605. *App.* 663.

WE are obliged for this elegant and curious production to the Rev. Mr. Hugh Davies, of Aber in North Wales, from whom the late Mr. Hudſon alſo received many of his rareſt plants. It is found on the micaceous rocks of Angleſea, forming broad uniform patches of a dark reddiſh purple colour, and ſcarcely the breadth of a hair in thickneſs, ſo very ſhort are the minute, erect, thick-ſet, and moſtly branched, filaments of which it is compoſed. When much moiſtened theſe filaments become clotted together in cluſters, and in that moiſt ſtate it exhales a kind of ſea-weed ſcent, more like the Florentine Iris root than violets, in which reſpect it agrees with the B. Iolithus of Linnæus; but the latter is really a cruſtaceous Lichen, and of a paler colour than this. How far Linnæus may have confounded them, or whether ours may be Micheli's *tab.* 89. *f.* 3. (it is ſurely not his *tab.* 90. *f.* 2.) we dare not determine. Ours cannot be called "*aurea*" (gold-coloured), neither is it at all cruſtaceous, but a true filamentous Byſſus. We think with Haller the powdery Byſſi are moſt probably Lichens.

Mr. Lightfoot found his B. purpurea on the baſe of Abbot Mackinnon's tomb in Y-Columb-kill, where a naturaliſt of our acquaintance has ſince ſought for it in vain. Perhaps therefore this ſpecies may not be perennial. We quote Mr. Hudſon on his own authority, though his name *rubra* is not very appoſite.

[illegible] July 1794

26.

CONFERVA lichenicola.

Red Lichen Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red. Filaments upright, crowded, alternately branched, roughish. Joints swelling, about as long as they are broad.

FINE specimens of this singular production, from Beech trees of the New Forest, Hants, were communicated by Charles Lyell, Esq. to Mr. Sowerby, who found it to be a new *Conferva*, growing parasitically on *Lichen Turneri, inclusus*, and other crustaceous kinds, and to whom we are obliged for a knowledge of its structure, as well as for its name. I ought indeed to have observed, at *p.* 1556, that Mr. Sowerby originally discovered and figured the jointed structure of *Byssus* (now *Conferva*) *aurea*, which honour I there gave unwittingly to my friend Mr. Dillwyn. I trust the error, and its correction, will be pardoned.

The minute plant before us looks, to the naked eye, like brick-dust scattered over the crust of the Lichens above mentioned. The colour varies somewhat from an orange red to a browner cast. The stems are scarcely a line in height, erect, forming thick tufts, which under a moderate magnifier look like velvet, but without any silky gloss. Under a microscope of high powers they are found to be alternately branched, roughish or downy, and composed of regular joints of a darker colour than their interstices, of a swelling or somewhat globose form, and each about as broad as it is long. No fruit has been detected.

June 1. 1806. Published by Jas Sowerby, London.

27.

BYSSUS aurea.

Golden Byſſus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant confiſting of down or ſimple powder. *Fructification* unknown.

SPEC. CHAR. Filaments ſimple or branched, cloſely matted together, powdery, orange-coloured.

SYN. Byſſus aurea. *Linn. Sp. Pl.* 1638. *Hudſ. Fl. An.* 606. *With. Bot. Arr. v.* 3. 276. *Relh. Cant.* 446. *Sibth. Oxon.* 338.

B. aureus Derbienſis humifuſus. *Raii Syn.* 56.

B. petræa crocea, glomerulis lanuginoſis. *Dill. Muſc.* 8. *t.* 1. *f.* 16.

THIS Byſſus thrives beſt in a pure air, always in moiſt ſhady places; and although moſt abundant and luxuriant on the calcareous rocks and banks of Derbyſhire, yet it is found occaſionally on damp limeſtone buildings, and in chalk-pits in other parts of England. We procured it plentifully from a chalk-pit near Gad's-hill, Kent, in June laſt.

It often uniformly covers a ſpace of many inches in diameter, and looks like a fine piece of orange-coloured cloth or velvet; ſometimes the ſurface is more tufted, broken and irregular, and it frequently grows in a ſtraggling manner, ſcattered over moſſes. When of any conſiderable ſize, it is a very conſpicuous and beautiful object. Its fine colour is not however permanent; for although this colour does not change (as authors report) immediately upon drying, but generally laſts till 5 or 6 weeks afterwards, yet at that period, or ſometimes earlier, the whole plant becomes of a greeniſh gray, which never changes. The cruſt is often $\frac{1}{8}$ of an inch in thickneſs, and, from a curious ſpecimen in Dr. Smith's poſſeſſion, appears to grow in a concentric manner. The fibres are very fine, thick ſet, erect, moſtly branched, and ſtrongly matted together.

CONFERVA ilicicola.

Yellow Holly Conferva.

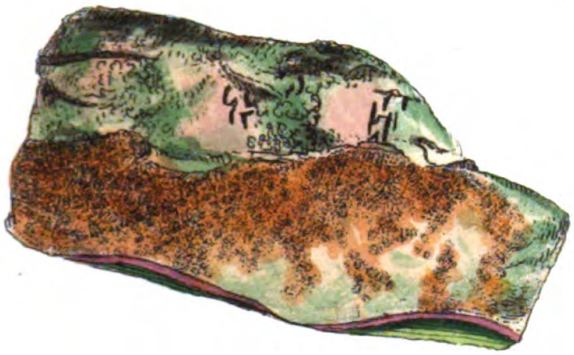
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Permanent tawny yellow. Filaments upright, tufted, alternately branched. Joints even, nearly as broad as they are long.

FOUND by Mr. Lyell on the smooth bark of hollies in the New Forest in the spring. Sometimes it invests specimens of *Lichen inclusus*.

The whole is of a deep, or rather tawny, yellow, which, after several months' experience, we have found not to change by keeping. The filaments form little tufts, scattered more or less distantly over the bark, and scarcely half a line in height. Each filament is alternately branched, equal in thickness throughout, and, as far as can be discovered, of an even surface; but being only one 2000dth part of an inch in diameter, its precise structure is not easily seen. The joints however are observed by Mr. J. D. Sowerby to be scarcely at all longer than they are broad, on which we would principally found its specific difference from *Conferva aurea*, *t*. 212, whose joints are twice or thrice as long as they are broad, frequently more, and by no means of an uniform thickness. Under high magnifiers we have sometimes seen a number of lateral sessile globules on *C. ilicicola*, but we dare not aver them to be fructification.



Sept. 1st. Published by Jas. Sowerby, London.

V

29.

CONFERVA olivacea.

Tufted Olive Conferva.

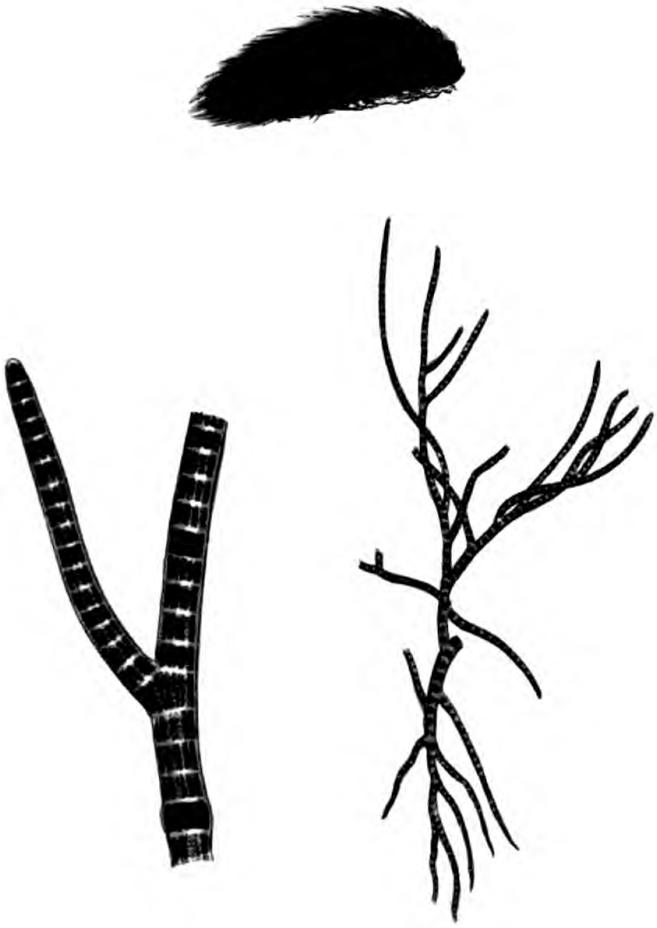
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish olive. Filaments branched, erect, tufted, entangled, somewhat rigid; branches numerous, scattered, mostly simple, obtuse. Joints rather broader than long.

SYN. Conferva olivacea. *Dillw. Syn. n.* 71. *t.* C.

MR. DILLWYN, as well as ourselves, received this new species of Conferva from Mr. Borrer and Mr. Hooker, who discovered it on marine rocks in Papa Westra, in the Orkneys. It is said to spread in patches over the rocks. The filaments are closely entangled, and, though so far erect as to form a sort of fine olive-brown turf, throw out branches in various directions. These branches are often, but not constantly, alternate, numerous, obtuse, mostly simple. Their joints scarcely so long as broad, and, after drying at least, their separations are white and pellucid. The filaments and branches are rather rigid, though extremely slender.



30.

CONFERVA radicans.

Creeping Dark Conferva.

CRYPTOGAMIA Algæ.

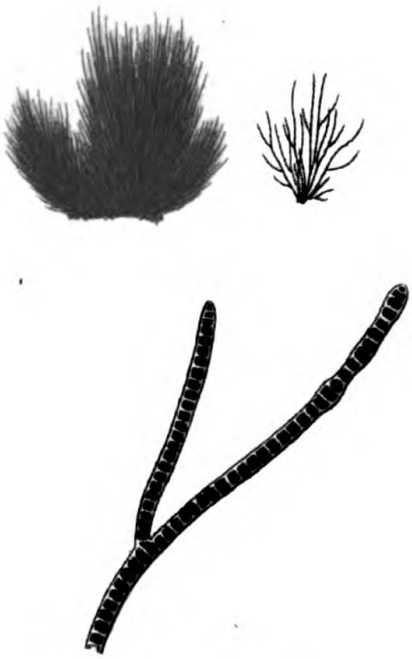
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Olive brown. Filaments branched, creeping, straight, somewhat rigid; branches obtuse. Joints nearly twice as broad as long.

SYN. Conferva radicans. *Dillw. Syn. n.* 72. *t.* C.

FOUND growing upon rocks covered by the tide at Seaton, Durham, by Mr. William Backhouse, in August 1807.

It forms dense upright tufts, from half an inch to an inch high, of a dark olive-brown colour, and rather rigid texture, at least when dry, in which state it does not adhere to glass or paper. Miss Hutchins, who first found this species in Bantry bay, and from whose dried specimens and drawings Mr. Dillwyn described it, observed the filaments to throw out roots here and there from their base, being truly creeping, though their upper part is erect. That lady alone has seen the fructification, which consists of numerous, minute, lateral, sessile or stalked, globular tubercles. The branches are scattered, capillary, obtuse. Joints almost twice as broad as long, cylindrical, not globular, though some of them here and there are thicker than the rest. Their interstices are pale and pellucid.



31.

CONFERVA scutulata.

Target Conferva.

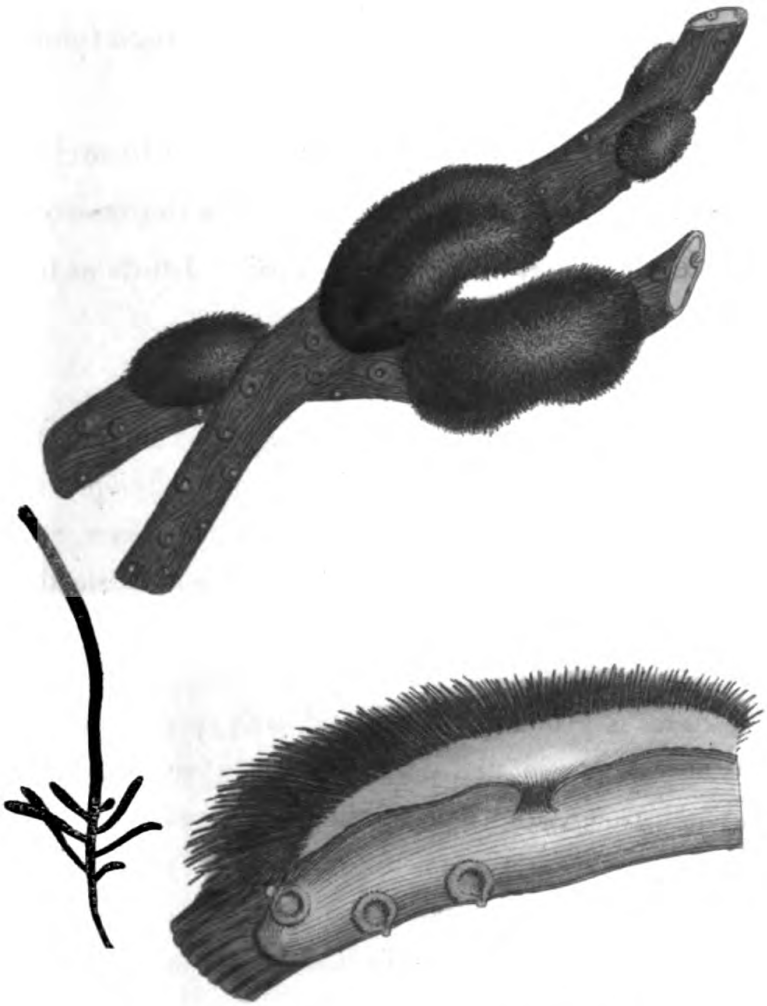
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Olive brown. Filaments branched at the base, densely combined into a depressed peltate mass, rooted in the centre. Joints as broad as long.

FOR this new and very curious *Conferva* we are indebted to Mr. W. Borrer, who found it, growing parasitically upon *Fucus loreus*, on the beach at Brighthelmston and Shoreham, Sussex, in June 1811. Miss Hutchins however, as we understand, had previously sent specimens and drawings of the same species, from the Irish coast.

The *Fucus* is generally distorted at each spot where it nourishes one of these singular parasites, whose aggregate root is central and strong, deeply penetrating into the substance of the plant that bears it, and much resembles that of an umbilicated Lichen or *Gyrophora*. In like manner the under side of the aggregate shield-like mass of the *Conferva* is all, except the centre, unconnected with the *Fucus*. The upper side is shaggy with the prominent, elongated, terminations of the individual plants of *Conferva*, whose lower parts, bearing many short blunt simple branches, are compacted into a dense, viscid, pale, apparently homogeneous, mass. The joints throughout seem to be about as broad as long.



Map. reproduced by Jos. Cundy, Lond.

CONFERVA cryptarum.

Green Cave Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

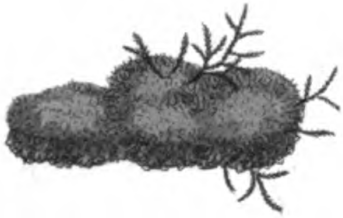
SPEC. CHAR. Green. Filaments entangled, much branched, forked, divaricated, sharp-pointed, somewhat rigid. Joints slightly swelling, twice or thrice as long as broad.

SYN. Conferva cryptarum. *Dillw. Syn.* 59. *t.* D.

WE are induced to publish this species at present, not only because of its rarity, but to do away an idea, apparently suggested by the specific name, of its being the famous *Byssus cryptarum* of Linnæus; see his Tour in Lapland, vol. i. 47 and 55. This last is very distinct, much more slender, paler, and not jointed; at least not visibly so, under a magnifier which shows the joints of the plant before us very conspicuously.

C. cryptarum has hitherto been observed in caverns only, in various parts of Ireland. Miss Hutchins gathered our specimen in caves by the sea-side near Bantry. It grows in tufts, often intermixed with *Hypnum tenellum*, *t.* 1859, and though somewhat akin to *C. velutina*, *t.* 1556, in colour and structure, it is of at least five times as coarse a texture. The branches moreover are totally different in their forked, divaricated, and recurved form, and taper points. The dry specimen is rather rigid, elastic, and pellucid, the green colouring matter settling towards the minute partitions of the joints.

2588



a wood cut by Jos. Bewick Newcastle

CONFERVA velutina.

Green Velvet Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Filaments entangled, upright, very short and slender, somewhat rigid, alternately branched. Joints slightly swelling, twice as long as they are broad.

SYN. Byssus velutina. *Linn. Sp. Pl.* 1638. *Huds.* 605. *With. v.* 4. 144. *Hull.* 307. *Relh.* 475. *Sibth.* 338. *Abbot.* 276. *Lightf.* 1001.

B. tenerrima viridis, velutum referens. *Dill. in Raii Syn.* 56. *Musc.* 7. *t.* 1. *f.* 14.

MR. DILLWYN has with the greatest propriety referred *Byssus aurea*, see *t.* 212, to *Conferva*, on account of its jointed structure, of which, as far as we know, he is the first discoverer. Mr. J. D. Sowerby having detected the same structure in the plant before us, it must be removed to the same genus.

This plant covers the earth in moist shady places with a most beautiful fine green velvet carpet, diffusing a sweet fragrance like that of the *Jungermanniæ*, not only when growing, but for some time after it is dried in a herbarium. We have found it in summer as well as in winter, on shady moist, not marshy, banks in Yorkshire, Scotland, and other places. Mr. Borrer found it in Sussex in November. We do not however believe it to be so common as authors mention. Dillenius seems, by his quotation of Buddle in Ray's *Synopsis*, to have confounded our *C. muralis*, *t.* 1554, with this; and perhaps others have done so, as they speak of it as common, and yet do not notice its very remarkable scent. The two plants are notwithstanding widely different. *C. velutina* has upright, though very short and entangled, rigid, branched filaments; with cylindrical joints about twice or thrice as long as they are broad, and very little swelling.

Feb.y 1. 1806. Published by Jas. Sowerby, London.

BYSSUS nigra.

Black Rock Byſſus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant conſiſting of down or ſimple powder. *Fructification* unknown.

SPEC. CHAR. Filaments branched, matted, powdery, black.

SYN. Byſſus nigra. *Hudſ.* 606. *Lightf.* 1003. *With. v.* 4. 144. *Hull.* 307.

B. petræa nigerrima fibroſa. *Dill. Muſc.* 9. *t.* 1. *f.* 18. *Dill. in Raii Syn.* 57.

ON ſhady overhanging rocks in the Alpine parts of our iſland this *Byſſus* is often met with. It forms patches of various ſizes, perfectly black, and may eaſily be ſcraped from the ſtone. When gathered it cloſely reſembles a piece of felt ſcraped from a hat, both in texture and colour. It conſiſts of a mat of fine, ſoft, though elaſtic, branched filaments, often covered with an equally black ſooty powder, which is probably the ſeed. Yet we do not know that this powder is produced at any particular ſeaſon excluſively. The plant appears to be perennial, and, from ſome remarks we have made in its place of growth, very long-lived. We have no ſpecimens to decide accurately what Linnæus intended by his B. *antiquitatis*, but we can ſcarcely aſſent to Lightfoot's ſuppoſition, that he originally meant our *nigra*, though he, or Murray, in *Syſt. Veg. ed.* 13, has quoted the figure of Dillenius and deſcription of Weis which belong to it. Lightfoot's account is taken, with a little variation, from the author laſt mentioned.

Mr. Sowerby found this plant on ſand-ſtone rocks, near Tunbridge, in plenty. I have gathered it on the Pentland hills near Edinburgh, and about Winandermere, Weſtmoreland; but no where in ſuch perfection as at Hafod, Cardiganſhire, on a ſhady rock oppoſite the great ſtone of Maen Arthur, one of the wildeſt and moſt romantic ſpots in Wales. It is always found on a micaceous or quartzoſe ſtone.

35.

CONFERVA ocellata.

Eyelet Conferva.

CRYPTOGAMIA Algæ.

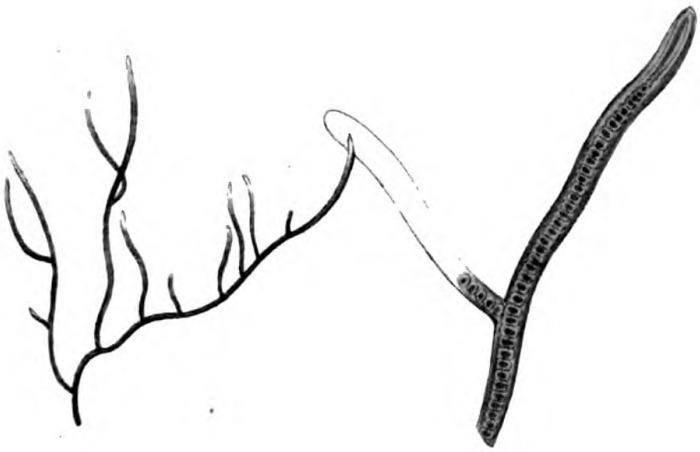
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Tawny brown, much branched, flaccid. Branches simple, mostly turned one way, obtuse. Joints twice as broad as long, internal, with a central dot.

SYN. Conferva ocellata. *Dillw. Syn.* 60. *t.* D.

COMMUNICATED by Mr. James Backhouse, from springs on the moors near Wolsingham, Durham.

This appears to be a very rare species, Mr. Dillwyn, so conversant with most of the genus, having never seen the present species more than once. It composes dense tufted masses of a dull brown, except when held against the light, in which position they appear of a horny, or dirty orange, hue. They are of a rigid substance, and do not adhere to paper in drying. The copious branches are irregular, wavy or curved; the ultimate ones bluntish, and many of them turned one way. The greatest peculiarity of the species is, that a chain-like row of vesicles runs along the centre of the frond, each of which is marked with a central dot, probably consisting of a mass of seeds.



Mr. [illegible] Lith. by J. [illegible]

36.

CONFERVA castanea.

Creeping Chesnut-coloured Conferva.

CRYPTOGAMIA Algæ.

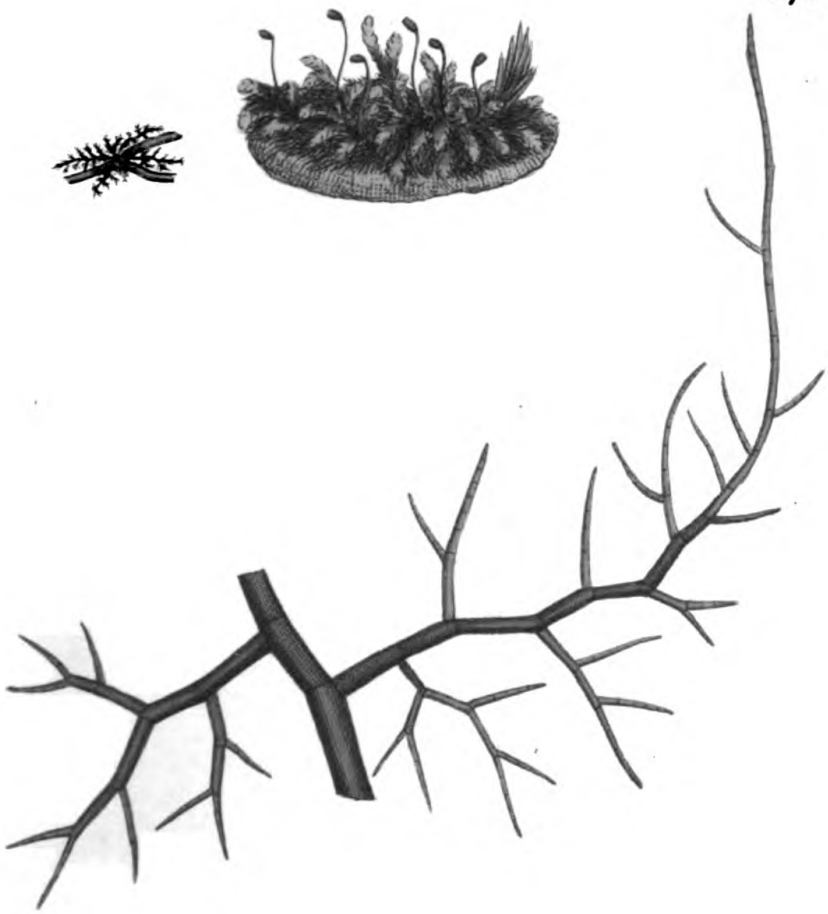
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Chesnut brown. Filaments creeping, branched, entangled, alternately bipinnate. Branches divaricated, tapering, acute. Joints elongated, even.

SYN. Conferva castanea. *Dillw. Conf. t.* 72.

MISS Biddulph, by whom we have at various times been favoured with many of those curious vegetable productions that escape the notice of vulgar eyes, discovered this *Conferva* in April 1806 near Southampton, growing among *Hypnum molluscum*. Mr. Dillwyn, who alone has made it known to the public, found the same species "on hedge banks in a "lane on a high hill between the Gower and Lougher roads, "about 4 miles from Swansea," and has illustrated it by an excellent figure. It may possibly be found in other places, for its resemblance to several other plants, and, above all, to the fibrous radicles of many mosses, may have caused it to be overlooked.

This species creeps in loose entangled patches, not only among mosses, but over dead stalks and sticks, and, as Mr. Dillwyn informs us, over stones and earth. Its colour is a clear chesnut brown, lightest in the young shoots. The creeping stem throws off many alternate procumbent curved branches, which are twice or thrice subdivided in a pinnate but alternate manner, their ultimate divisions being acute, and they all stand almost at right angles with the branch from which they spring. The joints are even; in the stem and main branches 3 or 4 times as long as they are broad, in the younger parts rather shorter in their proportion. No fructification is known.



Feb. 1.1807. Published by Jas Sowerby London.

37.

CONFERVA muscicola.

Rusty Moss Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Rusty brown. Filaments upright, crowded, much and irregularly branched. Joints even, twice as broad as they are long.

MR. LYELL, the discoverer of *Conferva lichenicola, t.* 1609, has also detected this new species, growing on *Orthotrichum striatum,* on trees in the New Forest, Hampshire. We were, at first sight, much inclined to suppose it some uncommon luxuriance of the radical fibres, so conspicuous on the stems of many mosses; but, as Mr. Sowerby has ascertained it to proceed from the very disk of the leaf, we can no longer doubt its being a new parasitical Conferva.

It forms very copious and dense tufts, of a dark rusty brown. The stems are 2 or 3 lines high, erect, much and irregularly branched, crooked, divaricated, of equal thickness throughout, glossy like human hair under a microscope; the branches ascending, obtuse, frequently pointing one way. The joints are very short, not swelling, often scarcely visible on account of their opacity.

Tufts of a somewhat similar production, but short and simple, are often found on the same kind of *Orthotrichum,* whose nature we are unacquainted with. Can they be an early state of this Conferva?

Aug. 1806 Published by Ja.s Sowerby London.

V

CONFERVA corymbifera.

Corymbiferous Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull blackish green, much and alternately branched. Joints five times as long as broad. Fruit-branches corymbose, lateral. Capsules terminal, globose.

FOUND by Mr. William Backhouse in a sluice of fresh water near Darlington last September. Our most learned friends in this tribe support us in the opinion that it is a hitherto nondescript Conferva, very remarkable for its mode of inflorescence, at least among the fresh-water kinds.

The fronds are tufted, half an inch or more in height, almost black when many together, but of a dull palish green when separately examined. They are extremely slender, much and repeatedly branched in an alternate order, the lateral branches very short, often cloven. The joints are equal, 5 or 6 times as long as broad. About the lower or middle part of the frond grow several lateral, alternate, repeatedly divided, level-topped or corymbose branches, whose joints are short and tumid, and whose ultimate divisions bear solitary, globose bodies, much thicker than the joints, which bodies we presume from analogy to be capsules of seeds.

Mar 1 1800 Published by Jas Sowerby London

CONFERVA vivipara.

Viviparous Conferva.

CRYPTOGAMIA Algæ.

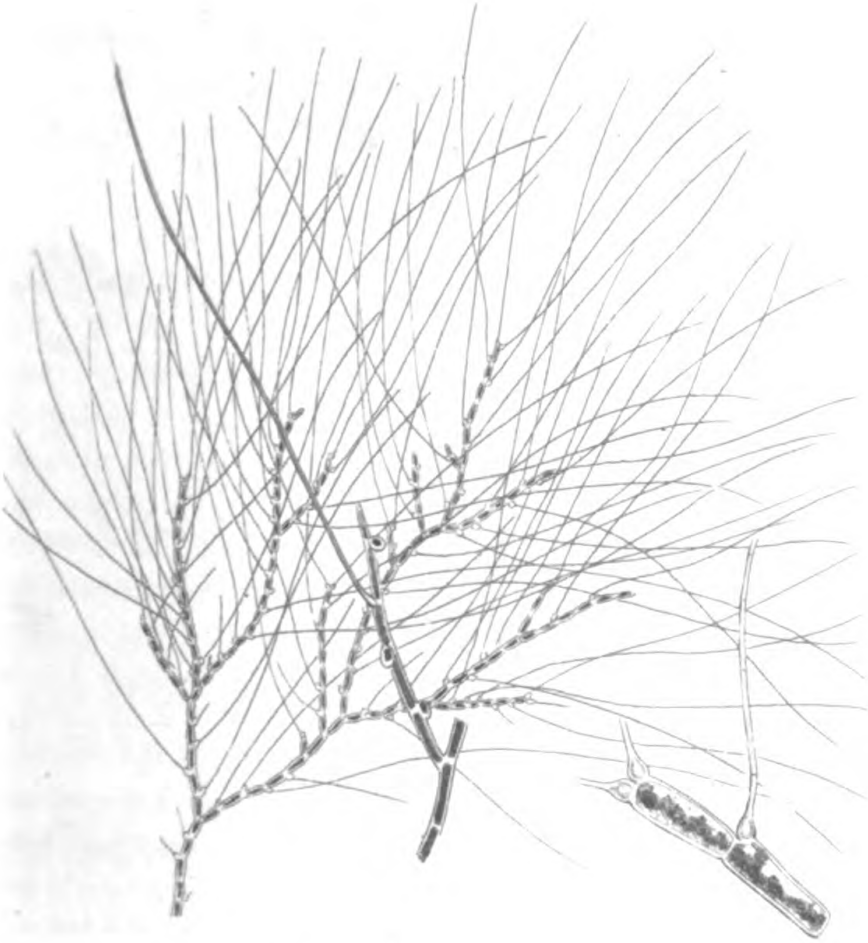
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, alternately branched. Joints five times as long as broad, swelling upwards; each bearing a lateral, very long, slender, simple branch, bulbous at its base. Capsules lateral, sessile.

SYN. Conferva vivipara. *Dillw. Conf. t.* 59. *Syn. n.* 86.
C. setigera. *Roth. Catal. fasc.* 3. 283. *t.* 8. *f.* 1.

FOUND in fresh water near Yarmouth by Mr. Turner, to whom we are obliged for specimens.

The fronds compose dense continued masses on various aquatic plants, of a light pellucid green colour, and from 2 to 6 lines high. Each stem is repeatedly and alternately branched, zigzag, the joints rather swelling upward, or club-shaped, 4 or 5 times as long as broad. From the top of each joint, on one side, springs a very long, and extremely fine, simple hair-like branch, not one tenth so thick as the main stem though its joints are of the same length, with a tumid bulb-like base. Where such slender branches are wanting, a sessile capsule, of an elliptical form, dark in the centre, is found in the place of each. These are not in our specimen, so that we have borrowed some from Mr. Dillwyn's figure. We retain his name, in preference to Dr. Roth's equally good one, published the same year, out of respect to the authority which we think his *Synopsis* may justly claim.



CONFERVA lubrica.

Slippery Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, gelatinous, very much branched; branches opposite, crowded, the ultimate ones very sharp, mostly alternate. Joints about as broad as long.

SYN. Conferva lubrica. *Dillw. Conf. t.* 57. *Syn. n.* 89.

COMMUNICATED by Mr. Turner from a rivulet at Lound near Yarmouth, where Mr. Dillwyn informs us it was first discovered by himself, and that he has since found it, much more abundantly, near Swansea.

It grows on wood or stones, in floating masses, from a span to a foot long, of a fine slightly glaucous green, very gelatinous and slippery to the touch. Each frond or filament is in the main simple, but beset throughout with numerous, opposite, compound branches of various lengths, whose ultimate divisions are very acutely awlshaped, and mostly alternate. The joints are about as long as they are broad, or rather longer.——This is most akin to *C. mutabilis, t.* 1740, but they are abundantly distinct.

2087

√

41.

CONFERVA mutabilis.

Changeable Gelatinous Conferva.

CRYPTOGAMIA Algæ.

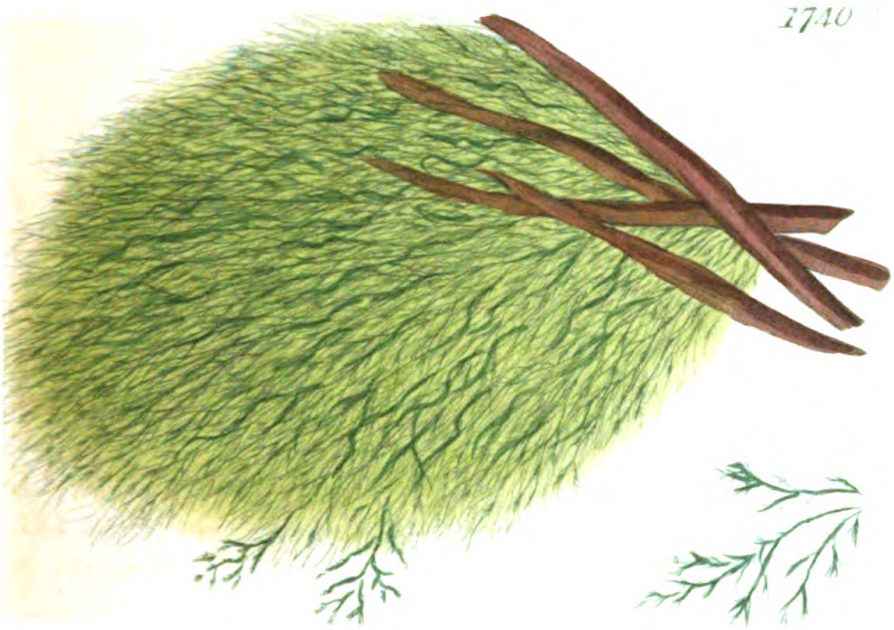
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

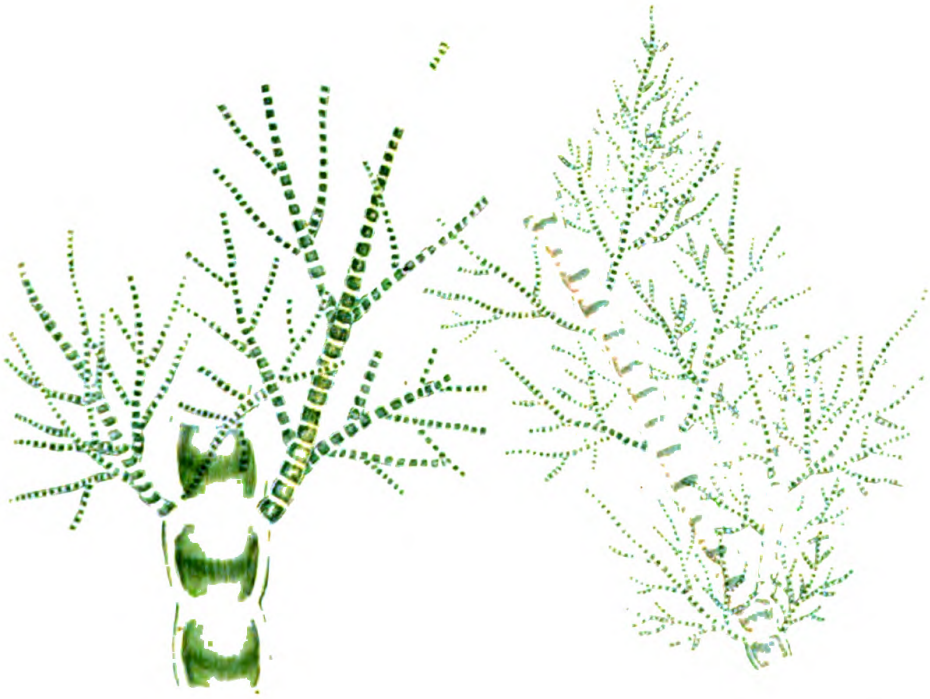
SPEC. CHAR. Green. Main stems subdivided, almost colourless. Branches darker, opposite, much branched, tufted, gelatinous in decay. Joints broader than long.

SYN. Conferva mutabilis. *Roth. Catal. v.* 1. 197. *t.* 4. *f.* 6. and *t.* 5. *f.* 1. *Dillw. Conf. t.* 12. *Relh.* 485.
C. gelatinosa γ. *Huds.* 598. *With.* 135, *var.* 3. *Hull.* 332.
C. stagnalis, globulis virescentibus mucosis. *Dill. Musc.* 38. *t.* 7. *f.* 44. *Turn. Tr. of L. Soc. v.* 7. 108.

WE received this a great many years ago from the Rev. Mr. Bryant of Heydon, Norfolk, by the name of "*C. hypnoides* of Sir Joseph Banks," and we have specimens from Switzerland, gathered by M. Du Cros, with the same denomination on the authority of Mr. Dickson. This name, though excellent, must of course give way to the printed one in the valuable work of Dr. Roth, as that is no less unexceptionable, and is moreover sanctioned by Mr. Dillwyn, to whom we are obliged for fixing the synonym of Dillenius.

This does not seem to be a rare plant in fresh-water ditches throughout England, but has been neglected as a variety of *C. gelatinosa*, *t.* 689, from which it is very distinct in the structure, and especially the elongated points, of its fine lateral branches, which turn to colourless jelly in decay. It is also much paler in hue. The main stems are remarkably pale and pellucid, what little colour they have collects in the middle of each joint, as in many others of the genus, nor do we conceive that colour to consist of seeds, which, as Mr. Dillwyn observes, are more likely to resemble those of *C. gelatinosa*. All the joints, but especially those of the dark tufted branches, are broader than long, and a little contracted where they unite together.





Mary Lilley Published by [illegible]

42.

CONFERVA gelatinosa.

Frog-spawn Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Branches beaded, with whorled compound fibres bearing the fruit and very gelatinous.

SYN. Conferva gelatinosa. *Linn. Sp. Pl.* 1635. *Hudf.* 597. *With. v.* 4. 134. *Hull.* 331. *Relh. Suppl.* 2. 21. *Sibth.* 337. *Abbot.* 275.

C. fontana nodosa, spermatis ranarum instar lubrica, major et fusca. *Dill. Musc.* 36. *t.* 7. *f.* 42. *Dill. in Raii Syn.* 62.

Chara batrachosperma. *Weis Gott.* 33. *t.* 1.

GATHERED in a clear rivulet at Hopton, Suffolk, near Yarmouth, by Mr. D. Turner last April. We have found it on Hindolveston common, Norfolk, and in other places, generally in the summer. It is always immersed in the most pellucid waters, growing attached to pebbles, and flowing with the stream.

The whole plant is extremely slimy and slippery to the touch, and very tender; its colour dark green; in some varieties paler, in others blueish. Stem very much branched, and apparently composed of thick-set bead-like joints, each of which is in fact a whorl of minute compound filaments, every compound filament sustaining one fruit.

Mr. Turner justly observes that Weis, who has given a most elaborate description and excellent figure of this plant, would never have thought it a *Chara* if that genus had been then well known, or if he had, by a residence on the sea shore, been acquainted with the fructification of real *Confervæ*; see C. *byssoides*, *t.* 547. Mr. Turner suspects that Hudson's variety *β*, *fig.* 43 of Dillenius, may be a distinct species, the ramification, when examined under a microscope, being dissimilar. —The stem of C. *gelatinosa*, highly magnified, appears to be an almost colourless transparent membrane, jointed like most of the genus.

Jan.y 1 1809 Published by J. Sowerby.

43.

CONFERVA atra.

Black Beaded Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in round, ſolitary, cloſed tubercles, projecting from the frond, but united with it.

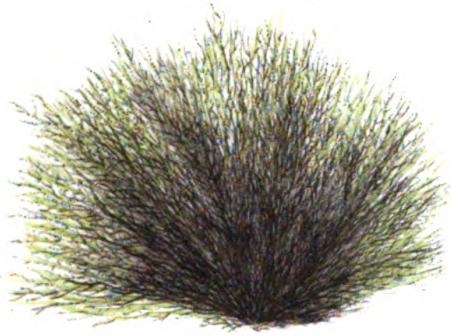
SPEC. CHAR. Branches beaded, with whorled, ſimple, jointed filaments, ſomewhat gelatinous, blackiſh in decay.

SYN. Conferva atra. *Hudſ.* 597. *With.* *v.* 4. 134. *Hull.* 332. *Dickſ. H. Sicc. faſc.* 13. 25.

C. fontana nodoſa lubrica, filamentis tenuiſſimis nigris. *Dill. Muſc.* 39. *t.* 7. *f.* 46.

WE have received this alſo from Mr. D. Turner, and cannot illuſtrate it better than in his own words.

"The fate of this very elegant *Conferva* ſeems to have been the reverſe of the foregoing, few having been more univerſally noticed than the one, and few more neglected than the other. Excepting Dillenius, whoſe figure well expreſſes its general appearance, ſcarcely any author ſeems to have deſcribed it from his own obſervation. Mr. Dickſon has found it on Wimbledon common, and our ſpecimen was gathered in the ſame brook with the preceding. It begins to appear in the end of March, conſiſting of ſhort extremely delicate filaments, irregularly branched; of a pale green; and continues increaſing till the middle of May, when it is in perfection, the ſtems being then about 1½ inch long, buſhy, of a darker green, almoſt black at the baſe, but not ſufficiently to juſtify the name, except when dried. From this period it gradually decays, loſes its finer parts, becomes rigid, and by the beginning of Auguſt completely diſappears. The ſtem is ſwollen at the joints, and whorled with minute fine jointed ſhort ſimple filaments. It differs at firſt ſight from C. *gelatinoſa* in texture and thickneſs, and from C. *fluviatilis* in both theſe reſpects, as well as colour and ramification. It cannot be confounded with any other known Britiſh ſpecies."



Jan 21. 1803 Sibthorp del. Sowerby fec.

144.

CONFERVA crispata.

Branching Cross-jointed Conferva.

CRYPTOGAMIA Algæ.

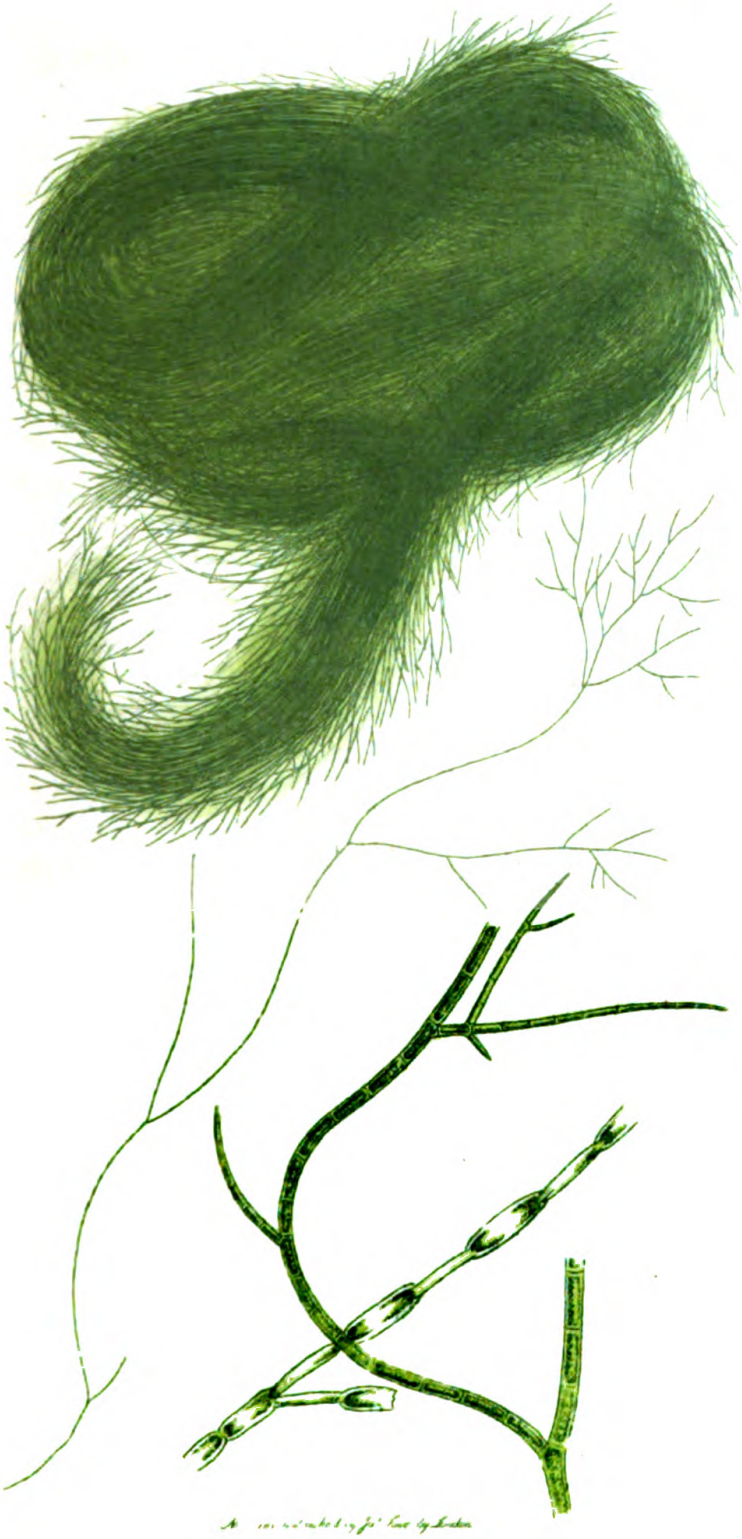
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, branched, crisped and entangled. Branches alternate, copious, acute. Joints even, several times longer than broad, alternately contracted when dry.

SYN. Conferva crispata. *Roth Catal. v.* 1. 178. *Dillw. Conf. t.* 93. *Syn.* 64. *n.* 94.

COLLECTED in pools in Sussex, July 3, by Mr. W. Borrer, who had some doubts respecting Dillwyn's synonym. The description of Roth indeed best agrees with our plant as to colour, which he says is, in summer, an extremely bright green, at which season the plant floats in large masses, including many air-bubbles. In autumn and winter it becomes of a duller or darker hue, and sinks to the bottom.

The filaments are about a foot long, or more, densely entangled, rather tough, destitute of gloss, curled and crisped, especially when old, not disentangled without difficulty or injury. We find the ultimate branches, at least, copious, not distant; their points very acute. The joints in the principal parts of the plant are perfectly even and cylindrical, four or five times as long as broad. By drying they become elliptical and compressed, decussating each other alternately, as in the true *C. capillaris* of Linnæus, hereafter, as we hope, to be described, which the present species also much resembles in general aspect, whether recent or dried, but the *capillaris* is simple.



V

45.

CONFERVA flavescens.

Yellowish-green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Yellowish-green, repeatedly branched, even; ultimate branches alternately two-ranked, short. Joints cylindrical, many times longer than broad.

SYN. Conferva flavescens. *Roth. Catal. fasc.* 2. 224. *fasc.* 3. 241. *Dillw. Syn. n.* 96. *t.* E (not D).

GATHERED by Mr. W. J. Hooker in ditches at Cley, and by Mr. Turner in salt-water marshes about Yarmouth. The tufts are large, erect, a span high, of a light yellowish green. The plants crowded, very much and repeatedly branched throughout, slender, capillary, even; the larger branches opposite or forked; the ultimate ones short, simple, spreading two opposite ways in short alternate rows. Joints cylindrical, about 6 or 8 times as long as they are broad. The fructification is supposed by Dr. Roth to be internal, within each joint.

Mr. Dillwyn mentions this species as found also in the New River at Stoke Newington, by Mr. Joseph Woods.

√

46.

CONFERVA fracta.

Broken Divaricated Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, much branched and entangled. Branches scattered, divaricated. Joints twice as long as broad, cylindrical; at length elliptical. Capsules roundish, sessile.

SYN. Conferva fracta. *Fl. Dan. t.* 946. *Dillw. Conf. t.* 14. *Syn.* 65. *n.* 97.

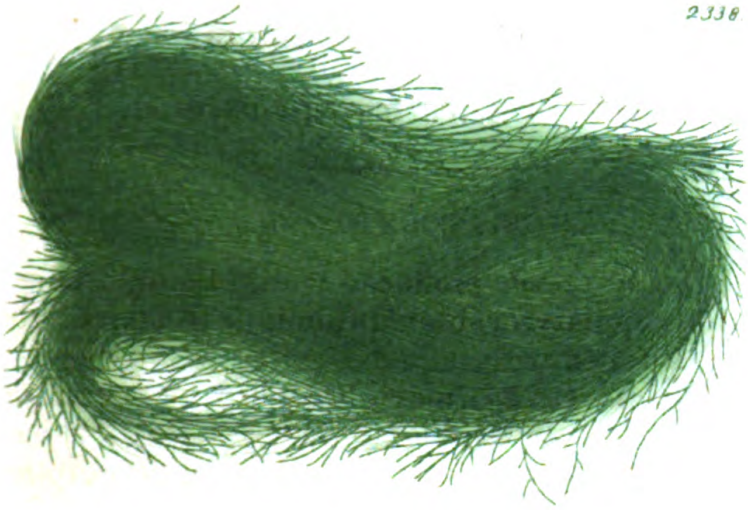
C. vagabunda. *Linn. Sp. Pl.* 1637. *Huds.* 601. *With. v.* 4. 139. *Hull.* 334.

C. divaricata. *Roth. Catal. v.* 1. 179. *t.* 3. *f.* 1.

C. marina trichoides, lanæ instar expansa. *Dill. in Raii Syn.* 60. *Musc.* 30. *t.* 5. *f.* 32.

DILLENIUS had this *Conferva* first from Sussex, where Mr. W. Borrer finds it common in marshes, pools and ditches; nor does it occur near the sea only, Mr. Dillwyn having observed the same species in the Lock fields near London, bearing lateral globular sessile tubercles or capsules. These we have not met with. To this author we are obliged for settling the Linnæan synonym, which depends entirely on Dillenius, and which we should now have restored, as the true specific name, had it been better latin, or more expressive, than it is. In such cases convenience, sense and propriety, may surely, at the discretion of fit judges, take place of rigid authority.

The filaments float, in densely entangled masses, on the surface of salt-water ditches, or stagnant pools of any kind. They accord, in general resemblance, with *C. flexuosa, t.* 1944, and *flavescens, t.* 2088, but the branches are not regularly two-ranked, nor the joints of so long a proportion. The whole plant is very much divaricated, somewhat rigid, and many of the joints following one another in different parts of the main branches, become tumid and elliptical, as if pregnant with seeds, or perhaps with what is equivalent to pollen, if we may form any guess, by analogy, from *t.* 2337.



47.

CONFERVA flexuosa.

Green Zigzag-branched Conferva.

CRYPTOGAMIA Algæ.

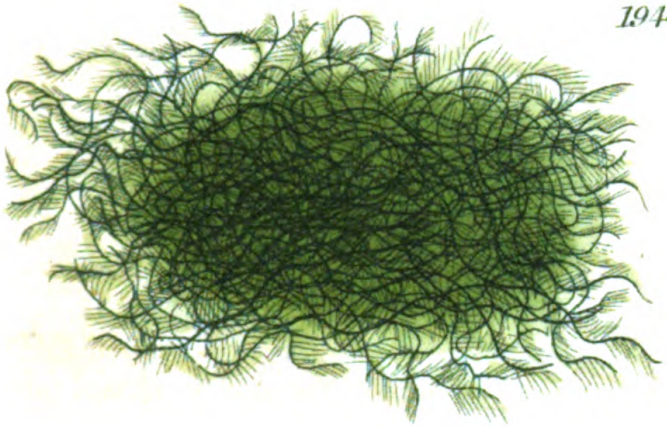
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Frond capillary, once or twice branched, zigzag. Ultimate branches alternately two-ranked, spreading. Joints cylindrical, elongated, with obsolete partitions.

SYN. Conferva flexuosa. *Fl. Dan. t.* 882. *Dillw. Conf. t.* 10.

FOUND long ago by Mr. Turner at Yarmouth; and by Mr. W. J. Hooker in salt ditches at Cley, Norfolk, in April 1807.

The filaments form entangled green masses at the bottom of the water; the principal ones being once or twice branched, finer than a hair, of a dark blackish green. The ultimate branches, very conspicuous to the naked eye, are of a pale yellowish green, disposed, several together, in a row pointing toward one side, the next row being directed the contrary way. They are at first simple, but each afterwards produces a series of short unjointed shoots, all pointing forwards. The joints of this plant are not visible except under a microscope, and then not very striking. Each is 5 or 6 times as long as broad, cylindrical, with partitions of their own green colour, from which however the green contents of each joint seem to separate soon after it comes out of the water, and when dry the whole becomes pellucid with scattered masses of green.



Published by J. Sowerby London.

V

48.

CONFERVA diffusa.

Diffuse Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, much branched, diffuse, somewhat zigzag; the ultimate branches frequent, short, blunt. Joints four times as long as broad, of an uniform colour, with pellucid partitions.

SYN. Conferva diffusa. "*Roth. Catal. fasc.* 2. 207. *t.* 7." *Dillw. Syn.* 65. *Conf. t.* 21.

COLLECTED in the sea at Brighthelmstone by Mr. W. Borrer. It springs from a minute callous base, forming loosely entangled, dullish green, tufts, from 2 to 6 inches long, rather rigid and harsh to the touch. The filaments are as thick as horse-hair, branched from the very bottom, but not very copiously nor regularly, their branches zigzag, divaricated and spreading amongst each other; being often, as Mr. Dillwyn remarks, as much entangled as *Fucus plicatus*. The ultimate branches are numerous, short and simple, obtuse, occasionally alternate or following each other, all originating, as in other species, from the partitions, which are narrow, white and pellucid. The joints are even (except when dried) 3 or 4 times as long as broad, of an uniform green, except that when investigated, against the light, with a microscope, the thickness of the white skin gives them the appearance of a pellucid border, caused by some shrinking of the green mass within.

2249

J. Th. Cordy Lavin

49.

CONFERVA rupestris.

Green Rock Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull green. Filaments much branched, clustered, rigid, straight, obtuse. Joints elongated, even. Partitions colourless.

SYN. Conferva rupestris. *Linn. Sp. Pl.* 1637. *Huds.* 601. *With. v.* 4. 140. *Hull.* 334. *Relh.* 485. *Dillw. Conf. t.* 23.

C. marina trichodes ramosior. *Dill. Musc.* 28. *t.* 5. *f.* 29.

C. marina trichoides, seu muscus marinus virens tenuifolius. *Dill. in Raii Syn.* 60.

THIS is a very common species, and familiar to most observers of marine plants. It occurs frequently on the sea shore, growing in dense tufts upon rocks, pebbles, or dead shells, and is known by its dull verdigrise (not olive) green, and a slight rigidity or harshness when handled.

The stems are from 3 to 6 inches long, very much and repeatedly branched, slender and even; the branches mostly alternate, erect and straight; sometimes opposite or clustered. Joints cylindrical, at least twice or thrice as long as they are broad, often much more. At each end they are pellucid and colourless. In drying the green matter often collects most at the upper end of each joint, which so becomes swelled. The fructification seems not to have been discovered.

What Hudson and his followers have made a variety of this, and which is figured by Dillenius, *t.* 5. *f.* 28, was judged by Mr. Turner when at Oxford to be a new species, which the account of it in Dillenius abundantly justifies.

Feb. 1st 1817. Published by Jas. Sowerby, London.

50.

CONFERVA glomerata.

Green Cluster Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, very much branched. Branches alternate, clustered, pencil-shaped; the ultimate ones directed to one side. Joints cylindrical, five times as long as broad; their partitions pellucid.

SYN. Conferva glomerata. *Linn. Sp. Pl.* 1637. *Huds.* 602. *With. v.* 4. 140. *Hull.* 334. *Lightf.* 993. *Sibth.* 337. *Abbot.* 275. *Dillw. Conf. t.* 13. *Fl. Dan. t.* 651. *f.* 2.

C. fontalis ramosissima, glomeratim congesta. *Dill. in Raii Syn.* 59. *Musc.* 28. *t.* 5. *f.* 31.

C. viridis capillacea, brevioribus setis, ramosior, sive C. minor ramosa. *Moris. v.* 3. 644. *sect.* 15. *t.* 4. *f.* 2.

FOUND in very clear springs and rivulets in various places. Mr. Borrer sent us the specimen here represented from Sussex.—The whole plant is of a bright shining green, very smooth and slippery, but not viscid or gelatinous to the touch. The principal stems, which are several inches long, send off numerous threadshaped branches, and these bear fine clustered subdivisions, ultimately terminating in ranges of little short branches all directed one way, which give the plant a peculiar clustered or tuft-like aspect. The joints are very even, about 5 times as long as broad, with clear colourless partitions. Fructification hitherto unknown. Mr. Dillwyn presumes it, from analogy, to be capsular.—We were rather puzzled by this gentleman's criticism of Linnæus's Species Plantarum, the second edition of which is quite correct in quoting Dillenius, as above, though in the first, by an error of the press, *f.* 34 is put for 31. Mr. Dillwyn, it seems, has been using Reichard's edition, in which is the gross error, justly reprehended by him, of citing t. 5. f. 32, and f. 28, 29, none of which has any agreement with this plant. So important is it to study authentic editions!

51.

CONFERVA lætè-virens.

Light-green Bushy Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Bright pale green, much branched, rather rigid; ultimate divisions pointing to one side. Joints thrice as long as broad, with pellucid partitions.

SYN. Conferva lætè-virens. *Dillw. Conf. t.* 48. *Wood in Rees's Cyclop. n.* 72.

SENT by Mr. W. Borrer, in July last, fresh from the sea at Brighthelmston. It was first observed and described by Mr. Dillwyn, who finds it very common on the shores of South Wales, growing either on other sea plants or on stones, and often nearly filling the basons among the rocks, where "its light green colour, and bushy mode of growth," distinguish it.

The fronds float horizontally, and are very much branched and tufted, somewhat rigid; their fine ultimate divisions pointing, many together, all to one side, then several to the other side. The joints are about thrice as long as broad, cylindrical, with pellucid partitions. No fruit has been as yet detected.

Lebrun & Published by Ja.s Sowerby London

CONFERVA albida.

Whitish Cottony Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Greenish white, opaque. Filaments in dense tufts, much branched, capillary; branches clustered, about four together; their divisions opposite, zigzag; ultimate ones somewhat parallel. Joints even, four times as long as broad.

SYN. Conferva albida. *Huds.* 595. *With. v.* 4. 131. *Hull.* 331. *Dillw. Syn.* 32 and 66. *n.* 104. *t.* E.

C. marina tomentosa, tenerior et albicans. *Dill. in Raii Syn.* 59. *Musc.* 19. *t.* 3. *f.* 12.

BY a specimen from the Dillenian herbarium, Mr. Dillwyn has verified the synonyms of this species, and we are enabled, by the favour of Mr. W. Borrer, to exhibit it more completely than it has ever yet been, as well as to subjoin the elongated and less spreading variety, found by himself on the Sussex coast; see *Dillw. Syn.* 66.

This is probably not a rare species. Miss Hutchins observed it in June and July, in Bantry bay, as Mr. Borrer did at Brighthelmston. Its cotton-like opacity, or freedom from all gloss, is remarkable, and the dense tufted habit, caused by the copious spreading subdivisions, which are interwoven into close masses, strengthens the resemblance to that substance, as does the white colour it soon assumes, though greenish in a young and healthy state. Our specimens well answer to the characters given in the valuable work on *British Confervæ*, as well as in Hudson's *Flora*.

53.

CONFERVA pellucida.

Pellucid Three-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green, erect, much branched. Branches mostly ternate, cylindrical. Joints even, cylindrical, four times as long as broad.

SYN. Conferva pellucida. *Huds.* 601. *With. v.* 4. 139. *Hull.* 334.

SENT from Yarmouth by Mr. Turner in August last.

It is cast up on the beach in large green shining pellucid tufts, about 6 inches tall, which are somewhat wiry and elastic to the touch. The lower part of the frond is naked and stem-like, of a brown or purplish cast; the upper much and repeatedly branched, the branches commonly three together, the ultimate ones opposite or alternate; all a little spreading, exactly thread-shaped, bluntish. Joints exactly cylindrical, about 4 times as long as broad, of an uniform pellucid green, with partitions somewhat of a darker hue. The fructification is unknown to us.

Published by Jas. Sowerby, London.

54.

CONFERVA ægagropila.

Globe Conferva, or Moor Balls.

CRYPTOGAMIA Algæ.

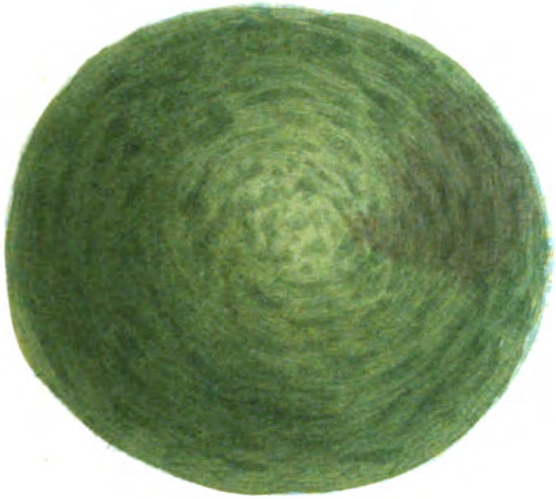
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Green. Stems jointed, repeatedly branched, clustered into a globe and divaricating from the centre.

SYN. Conferva ægagropila. *Linn. Sp. Pl.* 1637. *Huds.* 604. *With. v.* 4. 142. *Hull.* 335.

SPECIMENS of this singular production have been sent us from North Wales by the Rev. Mr. Davies, and from a large pool in Shropshire called Culmere, and another named Whitemere, by the Rev. Mr. Williams. They are the growth of alpine lakes in many different countries, and lie in great abundance at the bottom of the water. Their size is from that of a pea to 3 or 4 inches in diameter, and their form always pretty exactly sphærical. Internally they are hollow, and quite destitute of any nucleus. When separated they are found to consist of innumerable green pellucid jointed filaments, repeatedly branched, and firmly entangled together. The joints contain a green fluid substance, which by drying settles in an opaque form at their extremities, as in others of this genus. No traces of real fructification have been observed, though the extreme points of the filaments have an appearance which might be mistaken for such. It should seem that several of these filaments spring from one centre, perhaps fixed to some earthy particle, which, like the Dodder, they soon leave, and their lower parts wither away, while by branching and extending themselves upwards they form a gradually enlarging globe.

Mr. Williams informs us of these balls being used to wipe pens upon. The specific name alludes to their resembling the hairy balls found in the stomachs of goats. Sir William Watson has given the first English account of this plant in the 47th vol. of the Philosophical Transactions.



Vol. 1 1816 Published by Baldwin London

CONFERVA arcta.

Close Green Conferva.

CRYPTOGAMIA Alge.

Gen. Char. Seed produced within the substance of the articulated or jointed frond, or in closed tubercles without it.

Spec. Char. Bright green, repeatedly branched. Filaments straight and parallel; branches irregularly opposite, but little spreading. Lower joints as long as broad, upper many times longer; all slightly tubular.

Syn. Conferva arcta. *Dillw. Syn. n. 108. t. E.*

DISCOVERED in the same Jersey bay by Miss Hutchins, from one of whose specimens, sent to Mr. Turner, our drawing, as well as Mr. Dillwyn's, is made. It grows in close straight tufts, 2 or 3 inches high, of a bright green, paler and blueish when separated. Filaments articulate, flaccid when dry, much and irregularly branched in their upper part chiefly, the branches but little spreading, sometimes almost parallel to each other. The joints are very slightly tumid, appearing crowded internally when dry; but their contents are not, in that state, so much condensed as in many other species. The lower joints are scarcely at all longer than broad, but the upper ones are gradually more so, and the length of the ultimate branches is 7 or 8 times as great as their diameter.

It is necessary to mention that our C. isogona, *t.* 1930, must in future be called C. Vaucheriæ, under which name it appears in Mr. Dillwyn's n. 108. We had no idea of the worthy author's intention, and we therefore rely on his pardon and that of his friend.

[illegible]

56.

CONFERVA lanosa.

Woolly Green Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Yellowish green, repeatedly branched. Filaments somewhat beaded. Branches remote, alternate. Lower joints twice as long as broad; upper much longer; all slightly tumid.

SYN. Conferva lanosa. *Roth. Catal. fasc.* 3. 291. *t.* 9. *Dillw. Syn. n.* 109. *t.* E.

COMMUNICATED from Cromer by Mr. Turner. We have it also from the Rev. H. Davies. By what Mr. Dillwyn remarks, it appears to be not uncommon, growing on rocks, or on large marine plants, in the sea.

It forms dense tufts, springing from a flat disk (according to Roth), not above an inch high, of a yellowish green when fresh; when dry more white and opaque, so that it may be passed over as a faded or bad specimen, in which state we think we have seen it, of a small size, not unfrequently on other plants. The filaments are rather beaded, in texture feeling like cotton, much and alternately, rather distantly, branched. The joints are slightly tumid; the lower ones scarcely twice as long as broad; the upper much longer, though unequal in that respect. This difference seems to have escaped Dr. Roth, but Mr. Dillwyn assures us his specimens agreed with those of that learned botanist.

Jan 1, 1816 published by J. Sowerby London.

CONFERVA riparia.

Entangled Shore Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments much branched, divaricated and entangled towards their extremities; simple below. Joints twice as long as broad, the seeds settling towards each end.

SYN. Conferva riparia. *Roth. Catal. fasc.* 3. 216. *Dillw. Syn. n.* 111. *t.* E.

COLLECTED by Miss Hutchins in Bantry bay, and sent us by Mr. Turner. We have not seen it fresh, but our dried specimens confirm Dr. Roth's account of the seeds settling finally towards each end of the joints.

It composes dense tufts of a bright green, but the filaments are chiefly branched towards the end, where they are excessively entangled, their branches being numerous and divaricated. All the filaments are capillary, and even; their joints about twice as long as broad, not at all tumid. Roth's name is not very discriminative. Mr. Dillwyn however says he has found this same species in salt pools *by the side of* the Yare near Yarmouth, which renders it the more appropriate.

Jas. Sowerby delin. & by Jos. Sowerby London

[illegible]

[illegible] granulosa.

Granular Olive Conferva.

[illegible] Age.

Gen. Char. Seeds produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Olive-green, very much branched, slender. Branches scattered, compound, spreading, with pellucid taper points. Joints as broad as long, turnid when old. Capsules lateral, scattered, sessile, obovate.

ABUNDANT in submarine plants at Brighthelmston and Shoreham, where Mr. W. Borrer collected these specimens early in July. Our liberal correspondent remarks an affinity in this species to *C. nidamentosa*, n. 2[illegible], which it resembles in colour, but the ramification is evidently different. The branches are often lengthened out into slender colourless points, whose joints are twice as long as broad: while those of the other parts are scarcely more than half that length. The latter become turnid with age, assuming somewhat of a beaded appearance. Here and there occur, at the sides of the branches, small, solitary, sessile, obovate, brown and opaque seed-vessels; at least so they appear to be: but those who are at all conversant with the "wonders of the deep" will never speak dogmatically on this subject, knowing how infinite is the variety of animal as well as vegetable productions, hitherto unclassed by the most curious naturalist, and how Proteus-like their appearances, as they attach themselves, in different states, to objects with which we may chance to be acquainted. We still therefore, with our worthy friend Dillwyn's leave, doubt, for him and for ourselves, on some of these subjects; *see Conferva dichotoma*, his *t.* 15, our *t.* 932.

Mac. Cow. pinnatifida

59.

CONFERVA siliculosa.

Small-podded Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. "Yellowish brown, very much branched, slender, all the branches generally alternate, and pointed. Joints about as broad as long. Capsules pod-shaped."

SYN. Conferva siliculosa. *Dillw. Syn. n.* 112. *t.* E.
Ceramium confervoides. *Roth. Catal. v.* 1. 151. *t.* 8. *f.* 3. *v.* 3. 148.

GATHERED by Mr. W. Borrer, in May last, upon timber in the sea at Brighthelmston.

Even Mr. Dillwyn doubts whether this be a distinct species from *C. littoralis, t.* 2290, though on account of the opinion of Mr. Hooker, as well as of Dr. Roth in the 3d vol. of his *Catalecta,* he has admitted it into his list, and that our work may not be defective as to any British plant, we follow his example, and take advantage of his specific character.—The branches seem to want that twisted appearance observable in *littoralis,* nor do their points project in a spreading manner; but the chief difference, it seems, lies in the fruit, which in the present case consists of stalked lanceolate pods, not of globular sessile capsules. We find these supposed pods very thickly jointed, at least in appearance;—may they prove in reality young branches? Whether they be so or not, the occurrence of two different shapes of fruit in some other *Confervæ,* as indicated by Mr. Dillwyn, makes us the more doubtful concerning this.

Engraved published by J. Sowerby London

60.

CONFERVA littoralis.

Common Soft Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

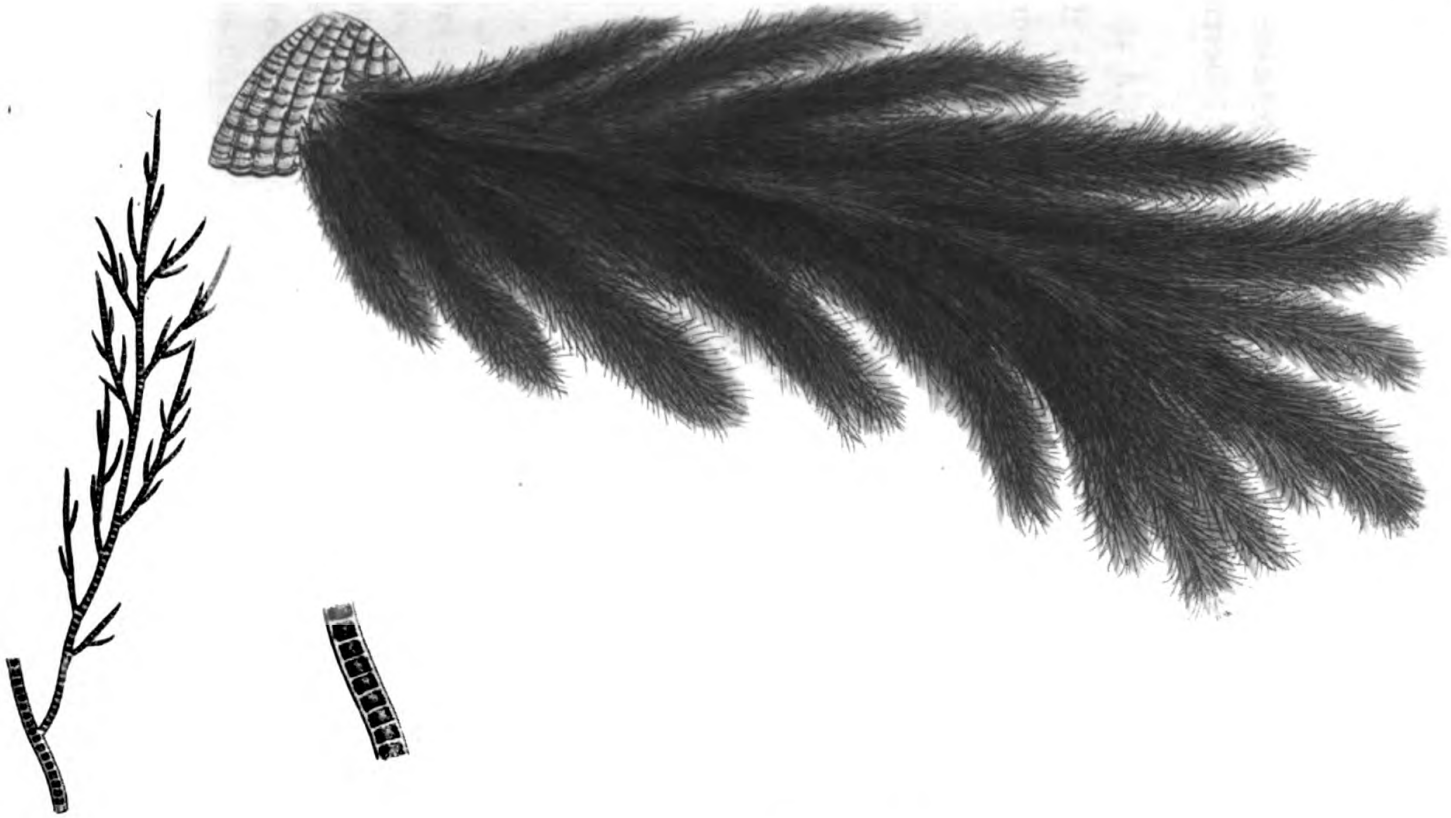
SPEC. CHAR. Olive-brown, very much branched, slender, wavy, densely entangled and twisted; the points tapering and prominent. Joints cylindrical, twice as broad as long.

SYN. Conferva littoralis. *Linn. Sp. Pl.* 1634. *Huds.* 594. *With. v.* 4. 130. *Hull.* 331. *Lightf.* 979. *Dillw. Syn.* 32, 70. *Conf. t.* 31.

C. marina capillacea longa, ramosissima, mollis. *Dill. in Raii Syn.* 59. *Musc.* 23. *t.* 4. *f.* 19.

Ceramium confervoides. *Roth. Catal. v.* 1. 151.

COMMON on the sea shore, growing strongly attached, in dense tufts about 6 inches long, to rocks, stones, shells, or the larger submarine plants. Its colour is a rusty brown, or tan colour, with tints of a green or purplish cast. The substance is very tender and soft, but not gelatinous. Filaments slender, with innumerable ramifications, growing twisted and entangled together like ropes, while the taper very acute ultimate divisions project on all sides, giving a feathery appearance. The joints were not detected by Dillenius. They are twice as broad as long; their partitions, according to Roth and Dillwyn, two excellent authorities, dark; we find them pale, and are told they vary, according to age or circumstances, in this respect. The fructification, in the form of little lateral globes, drawn by Mr. Dillwyn, we have not seen. He appears to have found it but once.



Pubd. 1 Jan. published by J. & T. Sowerby London.

61.

CONFERVA brachiata.

Cross-armed Soft Conferva.

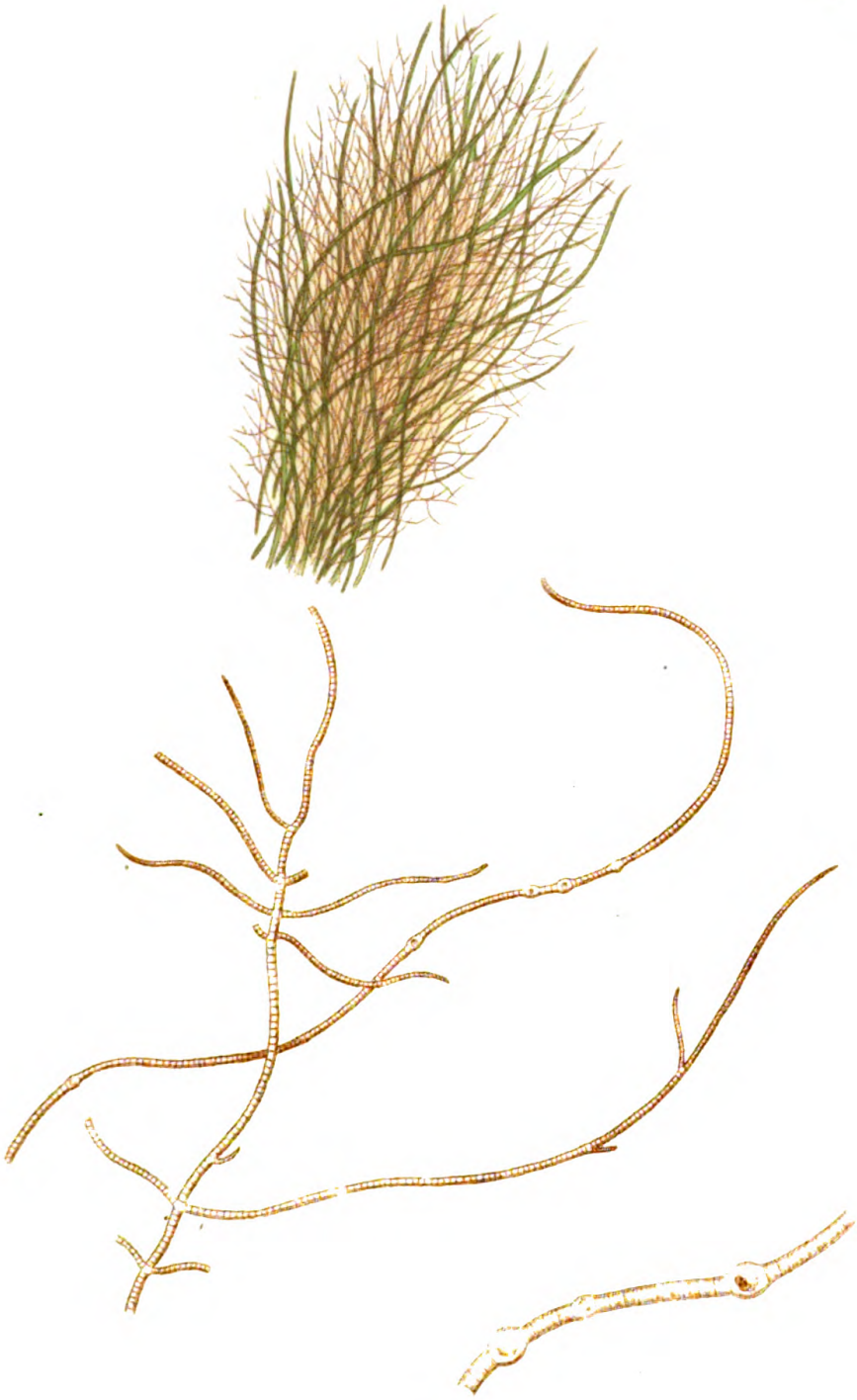
CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Light brown, very much branched, slender, wavy, entangled; the branches opposite, crossing each other, widely spreading, with taper points. Joints cylindrical, twice as broad as long.

FOUND by Mr. Hooker, in salt marshes at Cley, Norfolk, in April 1808, growing amongst *Ulva compressa*. Mr. Turner had long before (in March 1801) gathered the same in ditches, near the river, at Caistor, by Yarmouth.

We have hitherto refrained from publishing this plant, because it was supposed to be possibly one of the many varieties of *C. littoralis*, t. 2290. On a careful examination however, it seems, that the widely spreading direction of its chief branches, which are opposite, and cross each other in pairs, is a clear and sufficient mark of distinction. The colour is a pale tawny or sandy brown. Joints in shape and size agreeing with *littoralis*. Some of them are, now and then, singularly tumid and globose; an appearance to be attributed perhaps to disease, scarcely to impregnation.



No. 1019. Drawn by Jos. Dickinson.

CONFERVA fœtida.

Fœtid Pale Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale olive. Filaments clustered longitudinally, branched, separating at the extremities; internally beaded and granulated.

SYN. Conferva fœtida. *Dillw. Conf. t.* 104. *Syn. n.* 114. *Villars Dauph. v.* 3. 1010. *t.* 56?
Ulva fœtida. *Vaucher Conf.* 285. *t.* 17. *f.* 3.

WE are obliged to our friend Mr. W. J. Hooker for fresh specimens of this plant, discovered by himself in April 1808, growing on decayed *Confervæ*, of other species, in the salt marshes at Cley, Norfolk. He also pointed out to us the synonym of Vaucher, to which Mr. Dillwyn, who met with the same on the coast of Glamorganshire, assents. We think it most probable that Villars's plant is the same, his figures, in the *cryptogamia* especially, being never very expressive.

Many flaccid slippery filaments, springing from one root, adhere laterally together, separating and branching off here and there in an irregular manner, and terminating acutely. When these aggregate stems or branches are examined microscopically, longitudinal rows of beaded filaments are discernible, which also run laterally into each other. The whole is of a light olive brown, or greenish, and very fœtid, like some half corrupted marine animals, or like the fresh-water sponge.

2101.

Jun 1. 1802 published by J. Sowerby London

63.

CONFERVA paradoxa.

Chequered Conferva.

CRYPTOGAMIA Algæ.

Gen. Char. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

Spec. Char. Pale green, repeatedly branched, very slender, tubular, composed of laterally-combined filaments; ultimate branches simple. Joints as broad as long.

Syn. Conferva paradoxa. *Dillw. Syn.* 70. *n.* 115. *t.* F.

THIS plant was, according to Mr. Dillwyn, first discovered by Mr. Templeton in the sea near Bangor. Our specimens were communicated in July 1811, by Mr. W. Borrer, from the beach at Brighthelmston, and, being in a perfectly fresh state, they enable us to give a more complete representation of the structure of so remarkable a production, than could be made from a dry specimen; which consideration will account for, and excuse, any differences between Mr. Dillwyn's plate and ours.

The whole plant composes dense tufts, four or five inches long, of a light yellowish green hue, and slippery tender substance. Each frond is very much and alternately branched, but little spreading, extremely slender, closely adhering to paper in drying, and in that state very slightly glossy. Under a high magnifier these fine capillary fronds prove to be tubular, composed of an indefinite number of jointed filaments, closely united laterally, their joints square, whitish, each with a green central globule of seeds. These filaments are most numerous in the principal stem, fewer in proportion as we examine higher up, and finally simple or solitary in the ultimate branches; which justifies Mr. Borrer's and Mr. Dillwyn's idea of the conformation of this vegetable, and of its analogy with *C. fœtida*, *t.* 2101. There is however much to favour the opinion of a very intelligent lady, Miss Hutchins, that it is an *Ulva*, near *ramulosa*, *t.* 2137; but the latter, spreading gradually upwards, from a narrow base, seems formed on a different principle.

√

64.

CONFERVA nana.

Pointed Dwarf Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Light reddish or greenish brown, tufted, erect, much branched. Branches scattered, taper-pointed. Joints twice as long as broad.

SYN. Conferva nana. *Dillw. Conf. t.* 30. *Syn.* 71. *n.* 116.

WE received this from Ireland by favour of Miss Hutchins, through the hands of Mr. J. T. Mackay. It is a fresh-water species growing on *Fontinalis*, and forming little dense upright tufts, in our specimens of a light reddish brown. Mr. Dillwyn represents them greener; but perhaps this has arisen from the printing of his plate in green, which we have but too often known to produce error. The filaments are doubly, but irregularly, branched; their ultimate divisions short, scattered or alternate, always taper-pointed, which is an essential character. Their surface is even; the joints twice as long as broad. The colouring matter seems unequally diffused, but this is probably owing to the specimen having been dried. It adheres to paper.

65.

CONFERVA repens.

Red Creeping Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red. Filaments creeping, crowded, capillary, even, branched. Joints cylindrical, twice as long as they are broad.

SYN. Conferva repens. *Dillwyn. Conf. t.* 18.

COMMUNICATED from Yarmouth by Mr. Turner. It is said by Mr. Dillwyn, who alone, as far as we know, has described it, to be not unfrequent in the autumnal months, growing on *Fucus rotundus, lumbricalis,* and *crispus,* as well as on *Conferva elongata.*

The colour is a more or less vivid and beautiful red. The fronds creep in minute, dense tufts, like velvet or plush, over the round stalks of the abovementioned sea-weeds, adhering by short roots or fibres, and are branched; the branches simple or compound, capillary, obtuse, nearly of equal thickness throughout, their joints cylindrical, and scarcely swelling in any part, full twice as long as they are broad, the interstices not contracted, but visible by means of their colourless transparency. The fructification has not been observed.

We entirely omit the synonym of Dillenius, *tab.* 4, *fig.* 21, on the authority of Mr. Turner, *Trans. of Linn. Soc. v.* 7. 106.

Tunbr. 1808. Published by Jas. Sowerby, London.

66.

CONFERVA Daviesii.

Daviesian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Crimson, much branched: branches scattered, taper-pointed. Joints even, thrice as long as broad. Capsules lateral, ascending, clustered, obovate.

SYN. Conferva Daviesii. *Dillw. Syn.* 73. *n.* 122. *t.* F.

NAMED by Mr. Dillwyn in honour of our mutual friend the Rev. Hugh Davies, who found this elegant little species on the Welch coast. Miss Hutchins has collected it in Ireland, and Mr. W. Borrer at Brighthelmston. The latter only has found the fruit, with which he favoured us last July.

C. Daviesii grows in tufts, about a quarter of an inch high, on the larger sea-weeds, and its crimson colour often renders it very conspicuous on such as are of a less gaudy hue. The fronds are very much branched in an irregular manner; their ultimate subdivisions tipped with exquisitely fine colourless points. Their joints are even, thrice as long as broad. The fructification is copiously arranged along the upper side of the branches, in nearly sessile groups of two or three small, obovate capsules, all directed upward, each capsule containing a mass of crimson seeds. In some there appears a division, as in our *C. interrupta, t.* 1838; near to which species, and *pedicellata, t.* 1817, the present ought to be arranged.

2329.

Sept. 10. published by Jas. Sowerby London.

CONFERVA Rothii.

Rothian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Bright red. Filaments erect, closely tufted, much branched. Branches alternate; the upper ones crowded. Joints twice as long as broad.

SYN. Conferva Rothii. *Turton. Syst. Nat. v.* 6. 1806. *Dillw. Conf. t.* 73.
C. violacea. *Roth. Catal. v.* 1. 190. *t.* 4. *f.* 1.

WE first received a specimen of this beautiful little *Conferva* from Mr. Robert Brown, Libr. L. Soc., who gathered it in a limestone cave on the northern coast of the county of Antrim, near Bally castle, in 1799, and who aptly named it *phœnicea*. Dr. Turton however having published it by the name of its first finder, the celebrated Roth, we readily adopt that denomination, and the reference to Dr. Turton, from Mr. Dillwyn's work. The term *violacea* is preoccupied by Hudson. Mr. Sowerby obtained the specimen in his plate from the Rev. Hugh Davies, who gathered it on the north-east coast of Anglesea, and who is the original discoverer of the plant in Britain.

It grows in oblong patches, of a bright red, when dry assuming more of a crimson or purplish cast. The filaments are very fine, erect, crowded, half an inch or somewhat more in height, divided in their lower part into distant alternate branches, and in the upper into more crowded ones, all the terminations of which are acute. The joints are even, or but little swelling, about twice as long as broad. We know nothing of the fructification.

1702

Pet. Collinson Published by Ja. Sowerby Lond.

✓

CONFERVA interrupta.

Interrupted Purplish Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

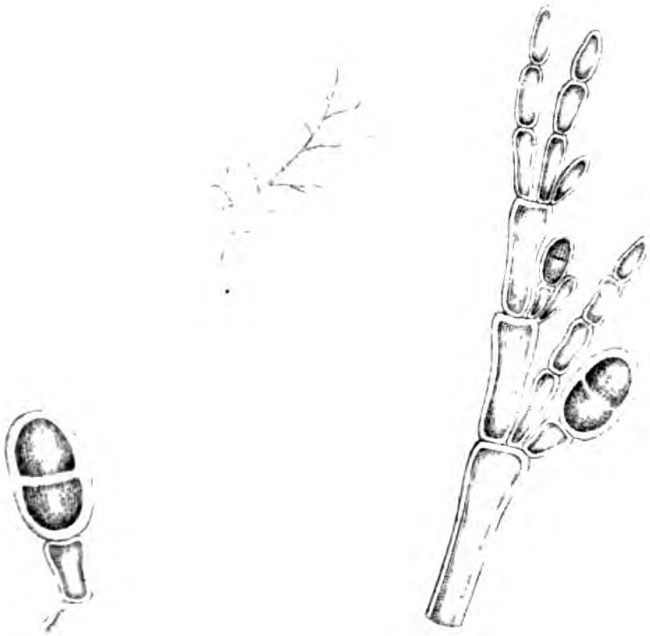
SPEC. CHAR. Purplish, much branched, forked, capillary. Joints four times as long as broad, slightly swelling upwards. Capsules on short lateral stalks, elliptical, with a transverse separation.

WE have found no description in authors of this curious little *Conferva*, which was discovered by Mr. W. Borrer on the Brighthelmston coast in July last.

The fronds are of a dull brownish rose-colour, about an inch high, very much branched in a clustered or proliferous manner; the joints about four times as long as broad, dilated upwards and obtuse. The capsules grow on short, lateral, solitary stalks, at the summits of the joints on the outer side, and are elliptical, very peculiar for being, when ripe, distinctly divided by a transverse partition into two cells or masses of dark-red seeds.

In many points this plant resembles *C. pedicellata, t.* 1817, but is scarcely one third so large, nor are its joints so long, nor the summits of the branches so taper, not to mention its divided fruit.

1838



Jc . . R. S. Published by Ja.s Sowerby, London

CONFERVA pedicellata.

Fruit-stalked Purplish Conferva.

CRYPTOGAMIA Algæ.

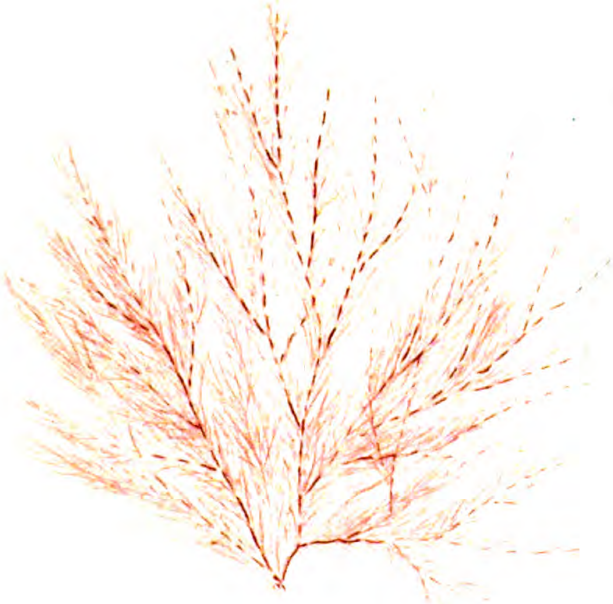
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish, much branched, forked, capillary. Joints many times longer than broad, slightly swelling upwards. Capsules obovate, on short stalks, solitary, from the forks of the branches.

FOR this also we are entirely obliged to Mr. W. Borrer, who discovered it on Brighthelmston beach in July 1807. We have in vain sought for a description in Roth, or any other competent writer, to which it could be referred.

The colour is a very pale dull rose-colour. The root fibrous. Fronds about 3 inches high, finer than the human hair, forming thick straight tufts like *C. stricta, Dillw. Conf. t.* 40, acutely forked at almost every joint. Joints very long; the smaller cylindrical; the larger ones swelling towards their upper end. Capsules obovate, containing a mass of dark-red seeds, and each standing on a short stalk, proceeding, mostly solitary, from some of the upper forks of the frond. Mr. Borrer is inclined to think the base of the capsule is, in a manner, articulated with its proper stalk. Sometimes these stalks have a lateral direction, as may be seen in our figure. This, like *C. multifida, t.* 1816, would come under Dr. Roth's *Ceramium*, a genus which perhaps may be established, when the subject has more generally been studied, and sufficient facts are collected for any theoretical botanist to decide upon it.

1817



Lin. Soc. Publ. by Longman & Co. Paternoster Row

70.

CONFERVA corymbosa.

Corymbose Red Conferva.

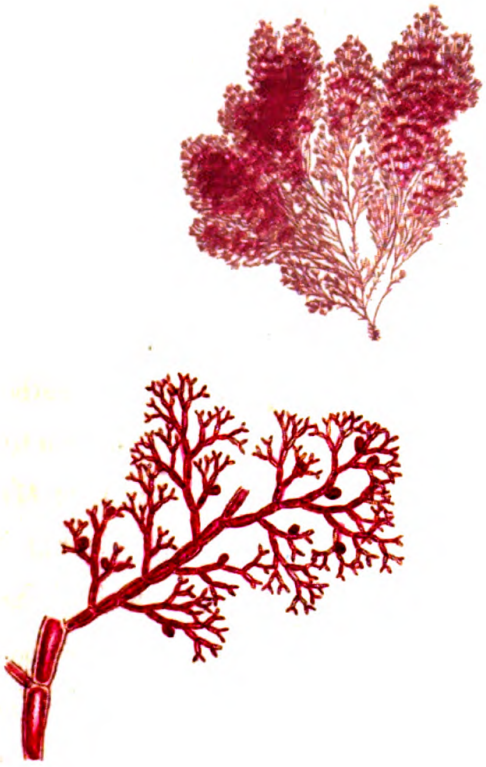
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Rose-coloured, repeatedly branched, corymbose, slender and tufted. Joints slightly swelling upward, with pellucid partitions. Branches forked. Capsules solitary, obovate, lateral.

FROM the beach at Brighthelmston, gathered there by Mr. W. Borrer early in July, with the fructification. We have received the same species, by favour of Mr. Gibbs, from Kingsbridge, Devon, and believe it is what Miss Hutchins found at Bantry bay, mentioned under *C. Hookeri* in Dillwyn; see his *t.* 106; though the two species, when properly examined, are totally dissimilar.—The present more resembles our *C. rosea*, *t.* 966, in general aspect and colour, varying however in being more or less pale occasionally, and is still more allied to *pedicellata*, *t.* 1817. From the latter, nevertheless, its much shorter joints, corymbose rounded figure, and sessile fruit distinguish it. From *rosea* it differs altogether in ramification, being dichotomous throughout, not alternately decomposite. The fruit indeed seems, as in that, rather lateral than axillary.

2352.



Nov 1 1811 published by Jas Sowerby London

V

CONFERVA setacea.

Crimson Setaceous Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Crimson, alternately and repeatedly branched, taper-pointed. Joints a little swelling, four times as long as broad. Lateral shoots bearing tufts of filaments, containing many globular seeds.

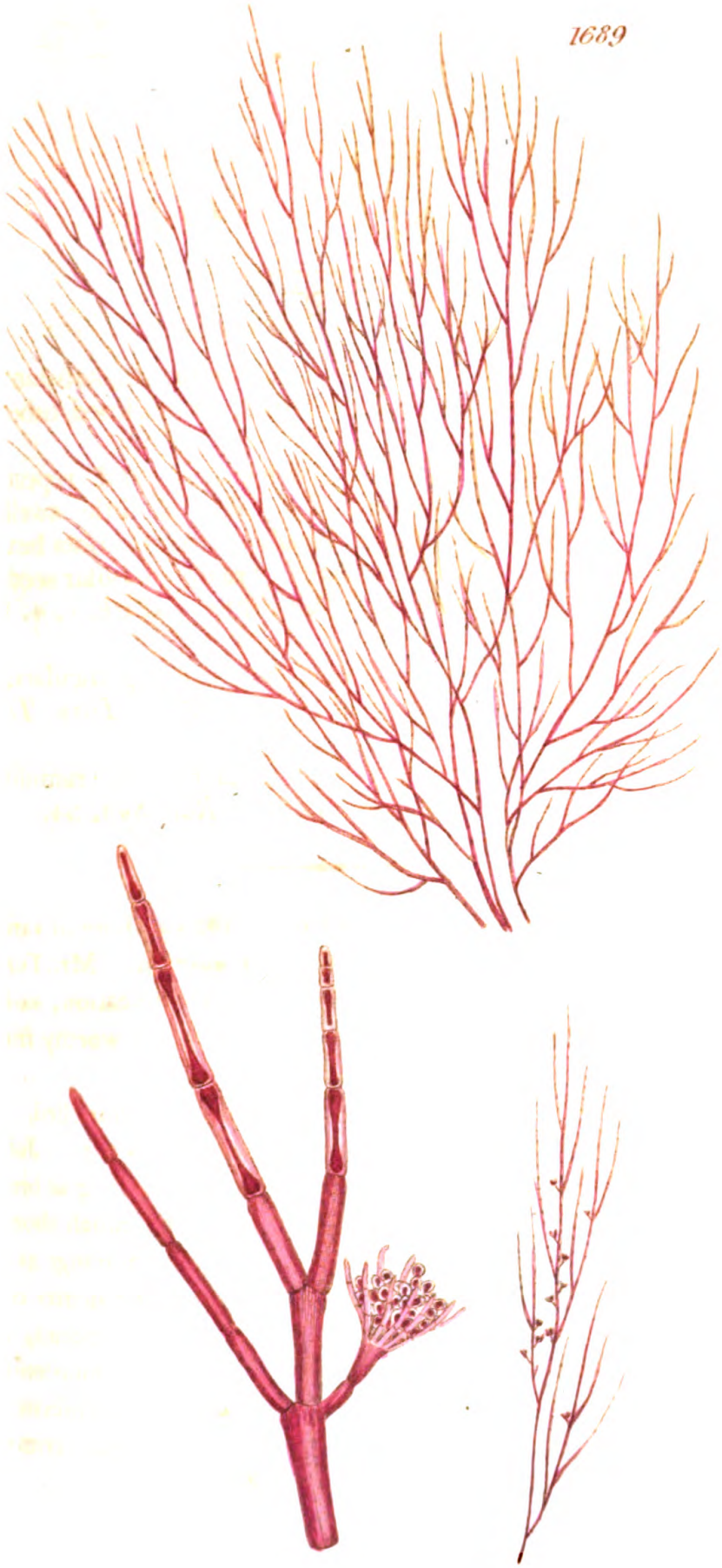
SYN. Conferva setacea. *Huds.* 599. *With. v.* 4. 137. *Hull.* 333.

C. marina gelatinosa, corallinæ instar geniculata, tenuior. *Dill. Musc.* 33. *t.* 6. *f.* 37. *Turn. Tr. of L. Soc. v.* 7. 107.

Corallina confervoides gelatinosa rubens, ramulis et geniculis perangustis. *Dill. in Raii Syn.* 34.

A BEAUTIFUL species, cast up on the sea shore in various parts of our island in summer and autumn. Mr. Turner communicated it from Yarmouth. The fructification, said to be very rare, was sent us from Anglesea by our worthy friend the Rev. H. Davies.

The frond is very bushy, and repeatedly branched, the branches alternate, taper-pointed, but not acute. Joints cylindrical, very little swelling, about 4 times as long as broad, though many joints are found, here and there, much shorter. The colour is an uniform crimson, changing to orange as the plant lies on the beach. By drying the colouring matter contracts into the centre of each joint, as in other species, nor can its original position be restored by subsequent moistening. The short lateral branches of some specimens terminate in tufts of fine filaments, containing globular dark-crimson bodies, presumed to be the seeds.



Jan. 1807. Published by Jas. Sowerby, Lond.

72.

CONFERVA corallina.

Coralline Red Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Crimson, much branched. Joints swelling upwards, thrice as long as broad; the fertile ones fringed at the summit with short, incurved, simple filaments, enfolding numerous clustered seeds, imbedded in mucus.

SYN. Conferva corallina. *Linn. Syst. Veg. ed.* 14. 973. *With.* 136. *Hull.* 333. *Lightf.* 988. *Roth. Catal. v.* 3. 225.

C. corallinoides. *Linn. Sp. Pl.* 1636. *Huds.* 598.

C. geniculata. *Ellis in Phil. Trans. v.* 57. 425. *t.* 18. *f.* f. F.

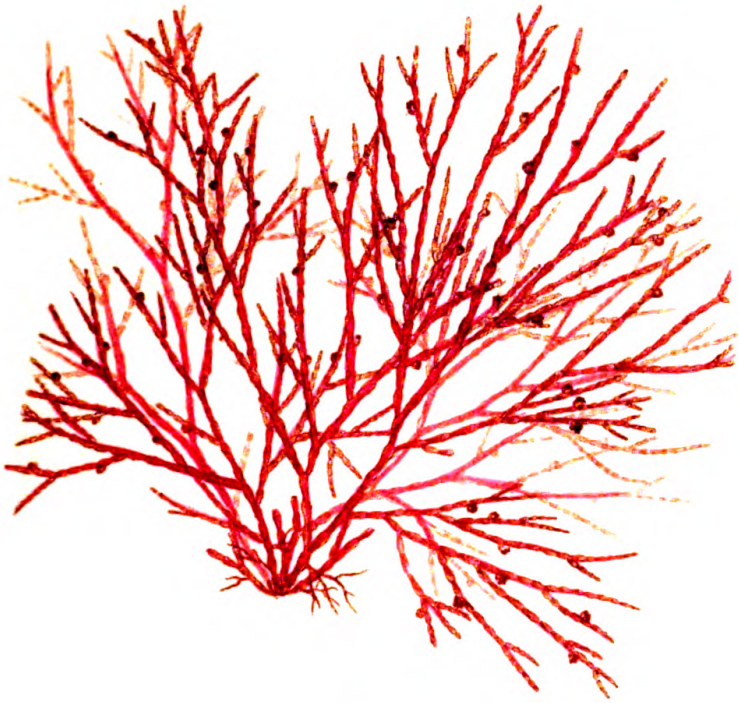
C. marina gelatinosa, corallinæ instar geniculata crassior. *Dill. Musc.* 33. *t.* 6. *f.* 36.

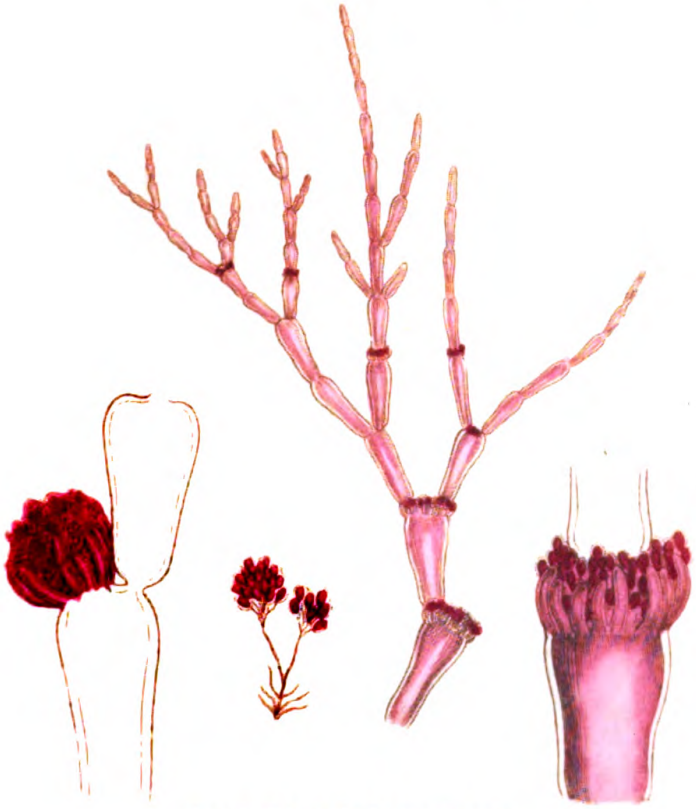
Corallina confervoides gelatinosa alba, geniculis crassiusculis pellucidis. *Dill. in Raii Syn.* 34.

GATHERED on Brighthelmston beach in July by Mr. W. Borrer.

The fresh plant is of a beautiful crimson, but turns whitish, or greenish brown, in drying. Root fibrous. Frond 2 or 3 inches high, repeatedly but irregularly branched, much thicker than the last, being about half a line in diameter. Joints about thrice as long as broad, almost pearshaped; the fertile ones either fringed all round their summits with short, unequal, inflexed, unjointed filaments, or crowned laterally with a tuft of such filaments: in either case the frond is continued beyond them, repeatedly fructifying in the same manner. Mr. Borrer has generally, not always, found the lateral fruit on a separate plant from such as surrounds the stem. The copious deep-crimson seeds, in branched clusters imbedded in jelly, are lodged within the circle of short filaments, and turn green when dried. The jelly is thought by Mr. Borrer to be more or less perceptible, according as the seeds are more or less advanced.

1815





Nov 1 1807. Published by Jas Sowerby London.

✓

CONFERVA barbata.

Bearded Red Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale crimson, repeatedly branched. Joints swelling upwards, five times as long as broad; the upper ones beset with opposite, branched, pale fibres. Lateral shoots bearing tufts of simple filaments, enfolding many seeds imbedded in mucus.

SYN. Conferva florifera. *Ellis in Phil. Trans. v.* 57. 425? No description nor figure.

FOUND on the beach at Brighthelmston, in July 1807, by Mr. W. Borrer, of whose remarks we have profited in the following description.

The fronds are about 2 or 3 inches high, of a pale rose-colour, repeatedly branched or forked at most of the articulations, the lowermost branches especially divaricated. Joints a little swelling upwards, 5 or 6 times as long as broad, the lower ones more exactly cylindrical; those about the summit bearded with opposite, long, branched, pale, very fine fibres. Fructification at the ends of short, lateral, single-jointed branches, as in *C. setacea*, *t.* 1689, consisting of rosaceous tufts of inflexed unjointed filaments, enfolding a mass of dark-red, globular seeds, lodged in a colourless mucus or jelly.

We have not been able to refer this to any described species, even in the rich history of the genus in Dr. Roth's *Catalecta*, *v.* 3, just come to our hands. Though much smaller in all its parts, and distinguished by the pale filaments about the upper parts of the branches, it bears considerable affinity to *C. setacea* above mentioned. Miss Biddulph has recently made some curious observations on the fructification of the latter, which appears to be of two kinds. In one the seeds are ranged singly along the little tufted jointed filaments, each accompanied by two bristles; in the other each filament bears, near its base, an oval congeries of small dots in several rows. Considering the varying fruit of some *Fuci*, see *t.* 1242, we cannot say whether these are monoecious flowers, or only the same flower in different stages.

Nov 1.1810; Published by Jas Sowerby London

74.

CONFERVA multifida.
Tufted Red Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Crimson, repeatedly branched: little branches opposite or ternate, very short, tufted, alternately compounded. Joints cylindrical, four times as long as broad. Capsules sessile on the tufted branches.

SYN. Conferva multifida. *Huds.* 596. *With. v.* 4. 132. *Hull.* 331.

OBSERVED by Mr. W. Borrer on the beach near Newhaven, Sussex, July 1, 1807, and several times since at Brighthelmston. We presume, with Mr. Borrer, that it must be *C. multifida* of Hudson, with whose description it agrees in every point, though we have never seen any specimen of Hudson's plant under his own authority or that of any of his correspondents, nor does any other person than himself appear to have described or known the species before us. Mr. Borrer's observations upon it are to the following effect.

The appearance of this species in the water is similar to that of *C. byssoides*, *t.* 547. Its hue a full, but very fugacious rose-colour. Root fibrous. Fronds several, 4 or 5 inches long, about as thick as horsehair. Branches mostly opposite, unequal, spreading almost at right angles, variously subdivided. Joints all exactly cylindrical, those of the main stem and branches full 4 times as long as broad. From each articulation of the stem and branches spring 2 or 3 opposite dense short tufts of little branches alternately subdivided, their divisions acute, ascending, incurved, jointed, the principal ones bearing on their upper side, near the base, one or more sessile roundish dark-red capsules, or seeds, for we cannot tell whether their internal structure be simple or compound.

1816

Nov. 1807. Published by Jas. Sowerby London.

V

75.

CONFERVA equisetifolia.

Red Sponge Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red, branched, cylindrical. The branches clothed with whorled, imbricated, forked, jointed filaments.

SYN. Conferva equisetifolia. *Lightf.* 984. *With. v.* 4. 133. *Hull.* 332.

C. imbricata. *Huds.* 603.

Muscus marinus hirsutus, flagellis longioribus, rariùs divisis, ruber. *Moris. Hist. v.* 3. 650. *sect.* 15. *t.* 9. *f.* 7.

MR. WOODWARD and Mr. Turner have both observed this Conferva on the beach at Yarmouth. The latter assures us it is often found there. Lightfoot speaks of it as rather rare in Britain. We are not sure that his name, *equisetifolia*, which has been generally adopted, is preferable to the rejected one of Hudson.

The whole plant is 3 or 4 inches long, much and alternately branched, of a bright red when young, but in the older parts turning purple or brown. All the branches are cylindrical, and uniformly clothed with densely imbricated whorled filaments, which when magnified prove to be forked, and curiously jointed; the joints are contracted, and redder than the other parts. No fructification has yet been detected.

July 1. 1808 Published by Jas Sowerby, London.

V

76.

CONFERVA verticillata.

Whorled Spongy Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brown. Frond cartilaginous, variously branched, beset with close whorls of slender, incurved, simple or forked filaments. Joints about as broad as long.

SYN. Conferva verticillata. *Lightf.* 984. *Huds.* 653. *With. v.* 4. 133. *Hull.* 332. *Dillw. Conf. t.* 55.

NOT at all unfrequent on the Scottish or English coasts, though overlooked by Hudson, or rather confounded by him with his *C. spongiosa*, the *Fucus hirsutus* of Linnæus, which agrees with our plant at first sight, but differs essentially in the irregular disposition and simple form of the little branches which clothe the main stem of both these *Confervæ* in so peculiar a manner.

The main stem of *C. verticillata* is round, wiry, black, irregularly branched, somewhat zigzag and spreading, obscurely jointed. The joints are a little contracted, scarcely longer than broad. Each part where they unite is beset with a dense whorl of fine, rigid, incurved, simple or forked, jointed, flattish filaments, which being much longer than their corresponding joints, lie imbricated over the whorl above them, and give the whole plant a spongy appearance, and a harshness to the touch. We are ignorant of the fructification.

Mar. 1. 1807 Publishd by Jas Sowerby London.

CONFERVA spongiosa.

Scattered Spongy Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Olive brown. Frond cartilaginous, variously branched, densely beset with scattered, incurved, slender, simple filaments. Joints about as broad as long. Capsules obovate, stalked.

SYN. Conferva spongiosa. *Huds.* 596. *With. v.* 4. 132. *Hull.* 332. *Lightf.* 983. *Dillw. Syn. n.* 133. *Conf. t.* 42.

Fucus hirsutus. *Linn. Mant.* 134.

F. teretifolius spongiosus pilosissimus. *Raii Syn.* 46.

FOUND on various parts of the British sea shores. Miss Biddulph has obligingly communicated it in fruit from Southampton, see *fig.* 1; along with *C. verticillata* in the same state, which we subjoin at *f.* 2, as an addition to our *t.* 1718.

C. spongiosa differs from *verticillata* in being more of an olive or greenish hue, and especially in the fine filaments which clothe its stem and branches being scattered, not whorled, as well as constantly simple. The capsules are stalked, obovate, situated on the shorter filaments of the branches, whereas those of the *verticillata*, not known to Mr. Dillwyn, are observed by Miss Biddulph to proceed from the filaments of the old stem only, and to be of an elliptic-oblong shape.

Jan. 1. 1812 published by Jas. Sowerby London.

78.

CONFERVA villosa.

Hairy Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Oppositely branched, and obscurely jointed, studded with hairy warts. Branches nearly simple, distant.

SYN. Conferva villosa. *Hudſ.* 603. *With.* *v.* 4. 141.

SENT from Yarmouth beach with the preceding *Fucus*, and accompanied by an equally excellent drawing by the same lady. It is given as the C. *villosa*, on the authority of an original specimen in Sir J. Banks's herbarium. We cannot describe its characteristic marks better than in Mr. Turner's own words.

" C. *villosa* is one of our scarcest plants, and was hardly ever " found at Yarmouth before this summer, 1798. It is a very " remarkable link in the chain of marine vegetables, not being " jointed in the stem, but studded with knobs like C. *fluviatilis*, " while in the youngest shoots there are faint appearances of " *dissepimenta*, visible only with a microscope. In texture it is " similar to *Fucus pedunculatus* (see *t.* 545), for which it may " easily be mistaken as it lies on the beach, and which it very " closely resembles in the down that springs from the knobs in " the stem, and which completely covers the lesser shoots. Its " branches are few, remarkably opposite, and generally starting " from the stem at right angles."

It is not improbable that the fructification may be situated in the knobs of the stem, and that it may be viviparous, the hairs of those knobs being no other than young plants. This must be confirmed or refuted by repeated examinations made at different seasons of the year.

79.

CONFERVA fluviatilis.

Horse-tail Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull green. Filaments repeatedly and alternately branched, somewhat rigid, tapering at each end, regularly swelling at intervals, hollow, without any internal partitions.

SYN. Conferva fluviatilis. *Linn. Sp. Pl.* 1635. *Huds.* 597. *With. v.* 4. 134. *Hull.* 332. *Lightf.* 985. *Dillw. Conf. t.* 29. *Roth. Catal. v.* 1. 201. *Dicks. H. Sicc. fasc.* 17. 25.

C. fluviatilis lubrica setosa, equiseti facie. *Dill. Musc.* 39. *t.* 7. *f.* 47.

β. C. torulosa. *Roth. Catal. v.* 1. 200.

C. fluviatilis nodosa, fucum æmulans. *Dill. Musc.* 39. *t.* 7. *f.* 48.

FOUND in clear rapid streams, and therefore more especially in mountainous countries. Mr. W. Borrer sent it from the Winter-bourne, a rapid rivulet at Lewes, Sussex, in April last.

Several stems, 4 to 6 inches long, grow horizontally from one callous root which attaches itself to rocks or pebbles. The colour of the whole plant is a dull semipellucid green. Each stem, or filament, is more or less branched, tapering toward each extremity, solid for a small distance above the base, but otherwise tubular throughout, formed of a very cellular coat, and, as far as we have observed, uninterrupted by any internal transverse partitions. Mr. Borrer has detected tufts of fine branched jointed divaricating fibres, lining the inside of the tube, and greatly similar to what have been described by previous writers as scattered over the outside, especially at the swellings regularly distributed along the fibres, which give the plant an appearance of being jointed.

1763

CONFERVA verrucosa.

Rough-warted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Branches irregularly scattered and subdivided, scarcely jointed, studded with rough warts.

FOR this we are obliged to Miss Biddulph, who found it at Southampton in the summer of 1800. Mr. Turner informs us that he has had it for some years from the Cornish coast, and considering it as a new species allied to *C. villosa, t.* 546, has designated it by the above name. It grows on *Fuci* or other *Confervæ* in the sea, and belongs, with *C. villosa*, and *C. fluviatilis* of Linnæus, to a genus of M. Vaucher's called *Polyspermum.*

The frond is 3 or 4 inches high, pale reddish brown, capillary but uneven, much and very irregularly branched, somewhat twisted, not perceptibly jointed, except perhaps in the youngest shoots, where we can sometimes perceive at least an interruption of colour at intervals. The whole is beset with scattered warts, but slightly prominent, rough with little projecting bristles. These, according to Vaucher's account of *C. fluviatilis,* are jointed fibres in which the seeds are lodged. *Fucus pedunculatus* (see our *t.* 545) should seem to belong to the same genus with these plants.

Jan. 1. 1807. Published by Jas. Sowerby, London.

81.

CONFERVA ciliata.

Ciliated Forcipated Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale red, dichotomous, forcipated at the tips. Joints short, fringed at their partitions. Capsules lateral, roundish, beset with short branches.

SYN. Conferva ciliata. *Ellis in Phil. Trans. v.* 57. 425. *t.* 18. *f.* h H. *Huds.* 599. *With. v.* 4. 137. *Hull.* 333. *Lightf.* 998. *Dillw. Syn. n.* 137. *Conf. t.* 53.

THIS beautiful little *Conferva*, whose singularly elegant appearance under a microscope can never leave its species in doubt, is found commonly enough on the sea coast, growing either on stones, or on various submarine plants, in reddish tufts, scarcely two inches high. Each frond grows from a callous root, and is very much branched and forked, the tips incurved like a pair of forceps. The joints are about as broad as long, pellucid, often nearly colourless. Partitions red, fringed with short, white, spreading, pellucid spines. Seeds red, dense, in globular lateral capsules, sessile amongst a few short branches.

Mr. Ellis first published any account of this plant. Linnæus had a specimen, but left it undescribed.

Jane Ivory delineavit by J. Stewart Sculpsit

CONFERVA diaphana.

Red-dotted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, capillary, repeatedly forked, divaricated; the ultimate divisions like a pair of forceps. Joints short, pellucid, deep red at each end. Capsules lateral, solitary, globose.

SYN. Conferva diaphana. *Lightf.* 996. *Huds.* 653. *With. v.* 4. 139. *Hull.* 334. *Dillw. Conf. t.* 38. *Dicks. H. Sicc. fasc.* 18. 25.

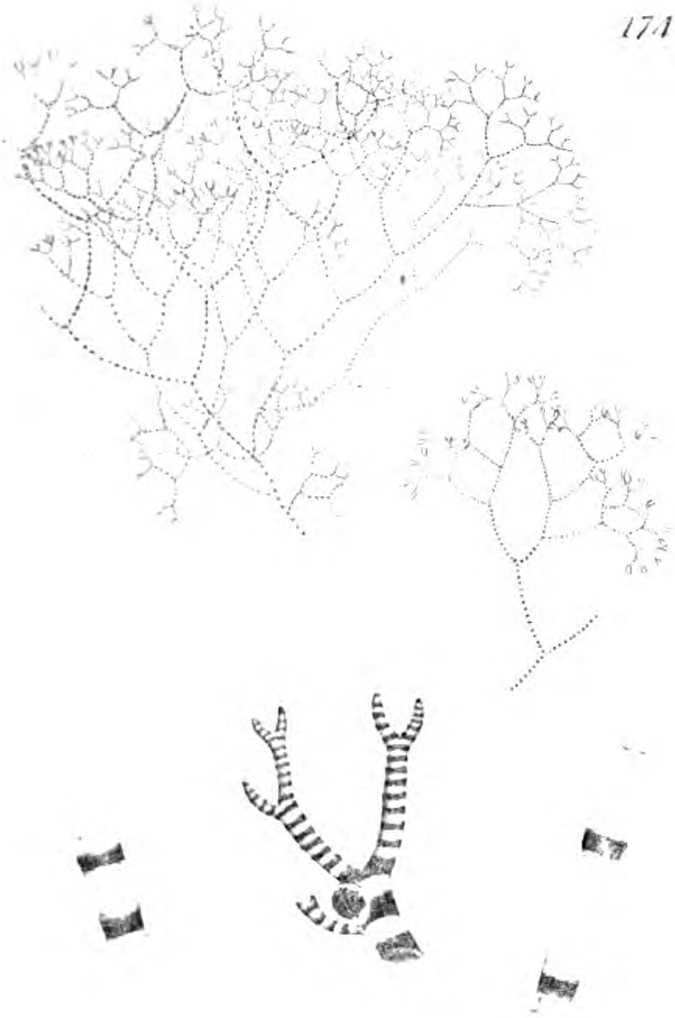
C. nodulosa. *Huds.* 600.

C. marina nodosa lubrica, ramosissima et elegantissima rubens. *Dill. Musc.* 35. *t.* 7. *f.* 40. *Raii Syn.* 62. *t.* 2. *f.* 3. *Turn. Tr. of L. Soc. v.* 7. 108.

RECEIVED from the Sussex coast, by favour of Miss Biddulph, in November last. It is frequently found in rocky or pebbly basons on the shore, or growing upon the larger marine plants.

Nothing can be more elegant than this species. Its whole stem and branches are finer than hair, repeatedly forked and regularly divaricated, each branch terminating in a pair of short incurved points like pincers. The joints are usually twice as broad as long, but in some branches as much the reverse, pellucid, shining, and almost colourless, except at each end, where the partitions are placed, in which part is a ring of deep red, so that the plant laid on paper looks, as Lightfoot says, like "a branched series of small red dots." The seeds are in lateral, solitary, sessile, globular, red capsules, sparingly produced.

The Dillenian synonym stands on the irrefragable authority of Mr. Turner, nor could any less authority uphold it, because nobody conversant with the usual merit of Dillenius would suppose he could draw so bad a figure, and still less that he could be so partial to what he had done as to repeat it in his edition of Ray. We hence learn however, what Hudson did not discover when he copied Lightfoot's *C. diaphana*, that it is his own *nodulosa*, a species that would seem merely adopted from Dillenius, had not Hudson alone described its fruit.



Mac Farlane del. Published by Longman & Co. London

83.

CONFERVA rubra.

Red Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, ſolitary, cloſed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Scarlet, repeatedly branched, thread-ſhaped, thickly jointed; ultimate branches briſtle-ſhaped, alternate. Capſules ſeſſile, ſolitary, dark red.

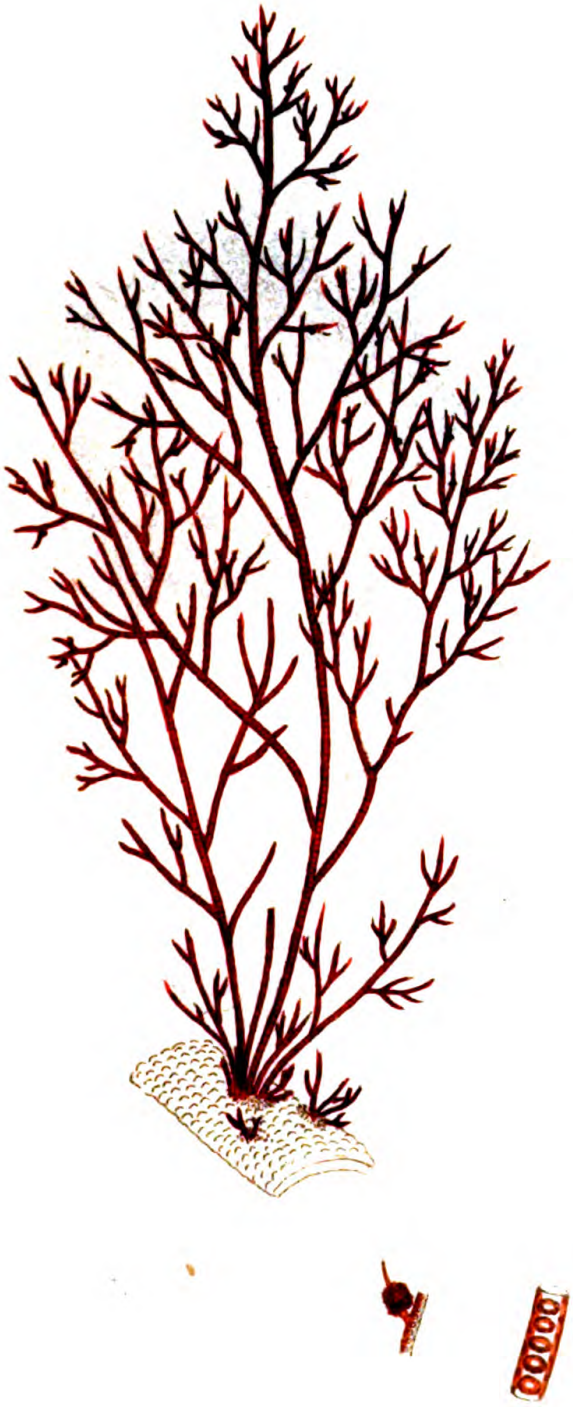
SYN. Conferva rubra. *Hudſ.* 600. *With. v.* 4. 138. *Hull.* 333.

C. noduloſa. *Lightf.* 994.

C. marina geniculata ramoſiſſima lubrica, longis ſparſiſve ramulis. *Raii Syn.* 61. *Dill. Muſc.* 34. *t.* 6. *f.* 38.

WE have mentioned *p.* 1163 that this Conferva often grows on *Fucus lycopodioides*. From the ſame gentlemen to whom we are obliged for that communication, we have received full-grown ſpecimens on the ſtem of the great *F. digitatus*. It is not a rare ſpecies, being found, either growing or caſt up, on the coaſt of various parts of Britain.

Its colour, naturally a fine red, is ſoon changed to a pale or ſandy hue by expoſure on the beach, eſpecially in the older branches. The fronds are numerous, very much and alternately branched, ſlender, thread-ſhaped, very cloſely jointed throughout, their ultimate branches briſtle-ſhaped and a little incurved. The joints are deep red; the interſtices pale, as uſual in other ſpecies. The capſules, full of dark red ſeeds, ſtand ſeſſile and ſolitary upon the ſides of the ſmaller branches.



May 1 1803 Published by . . London

84.

CONFERVA tetragona.

Pink Square-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, repeatedly branched. Branches square. Joints twice as long as broad. Capsules lateral, sessile, globose.

SYN. Conferva tetragona. *With. v.* 4. 405. *Hull.* 334. *Dillw. Conf. t.* 65.

THE late excellent Colonel Velley, whose valuable life was sacrificed at Reading last summer by the carelessness of a stage-coach driver, as many others have been, found this plant at the Bill of Portland, in company with Mr. Stackhouse. Mr. Dillwyn has gathered it near Swansea, and Mr. Turner at Weymouth and in Fresh-water bay. It grows parasitically on the larger *Fuci*, and is probably annual.

From one callous root arise many stems, 2 or 3 inches high, repeatedly and alternately branched, spreading in every direction. The branches are in 3 rows, the ultimate ones finely awlshaped. Joints of the stem twice as long as broad; those of the branches of much shorter proportion. According to Mr. Stackhouse's remark, both stem and branches are square with hollow sides. The capsules are globose, and sessile about the upper branches. The colour of the whole when fresh is an uniform light red or pink, but the colouring matter soon shrinks into the middle of each joint, and leaves the external part pellucid.

Jan 1 1797 Published by Jas Sowerby, London

85

CONFERVA tetrica.

Dirty Red Conferva.

CRYPTOGAMIA Algæ.

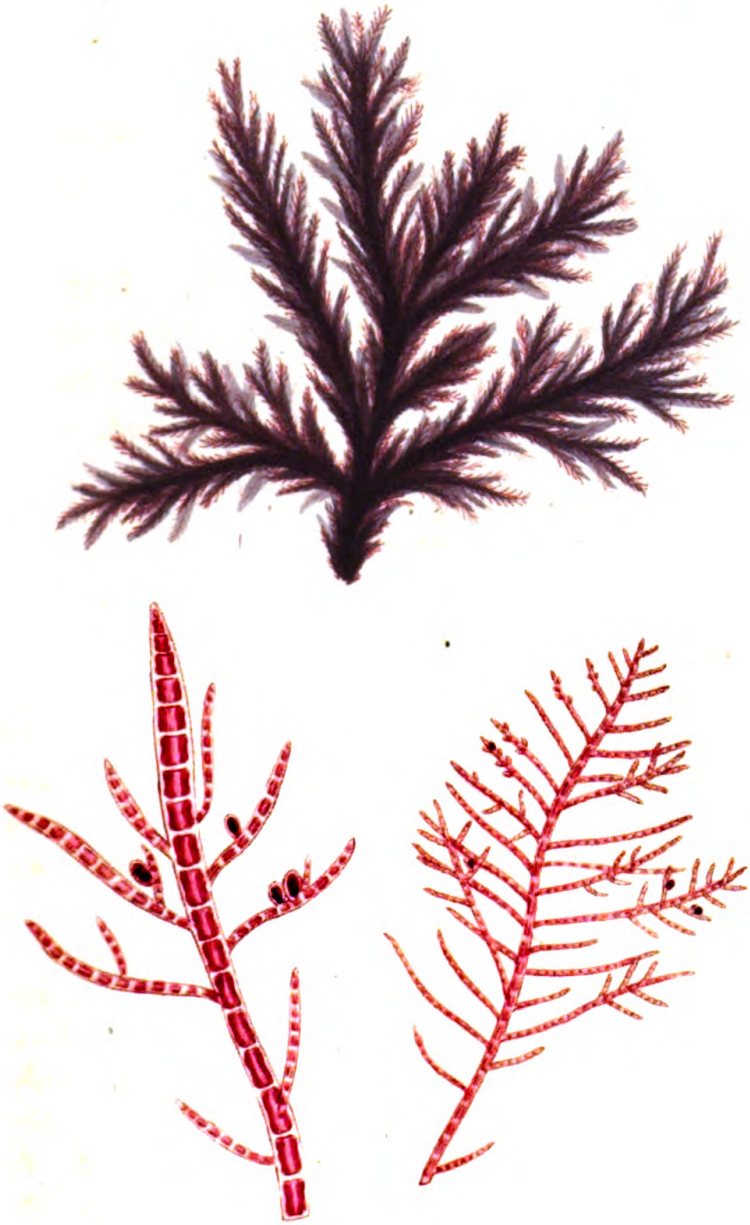
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dull red, much branched. Branches triply and alternately pinnate; the points somewhat curved. Joints twice or thrice as long as broad. Capsules scattered, obovate, slightly stalked.

SYN. Conferva tetrica. *Dillw. Conf. t.* 81.

GROWS on stones and large sea-weeds in the sea. Mr. Dillwyn, who alone as far as we know has described this species, mentions it as common near Swansea. Our specimen was communicated to Mr. Turner from Bantry bay, Ireland, by Miss Hutchins, a lady whose discoveries we shall have more opportunities of recording. We rejoice in every fresh instance of the application of taste and talents to so pleasing and commendable a pursuit.

The stems are numerous, much branched, and tufted, 6 or 8 inches high, of a dull brownish red in the mass, and, according to Mr. Dillwyn's remark, wholly devoid of gloss. The primary subdivisions are in the first instance doubly pinnated in an alternate order, and each of their little branches often again pinnated, the points somewhat curved. Joints equal, about twice as long as broad; in the old parts still longer. Capsules not quite sessile, obovate, scattered, mostly solitary on the upper edges of a few of the ultimate little branches.



Mar 1 1808 Published by Jas Sowerby London

86.

CONFERVA rosea.

Rose-coloured Conferva.

CRYPTOGAMIA Algæ.

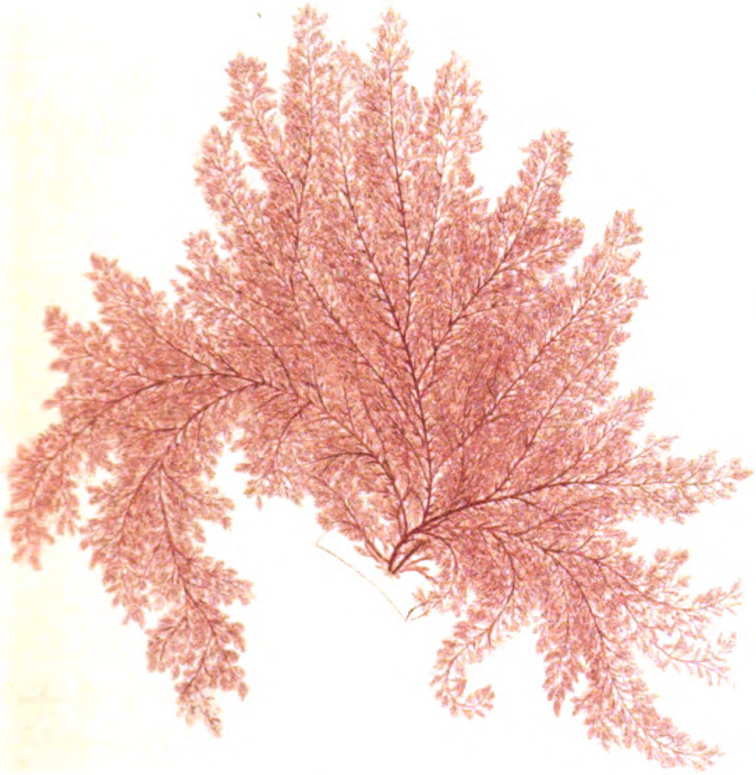
GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Rose-coloured, repeatedly branched, very slender and tufted; articulations pellucid, a little contracted. Capsules sessile, obovate, lateral, leaning one way.

SYN. Ceramium roseum. *Roth. Catalect. Bot. fasc.* 2. 182.

MR. SOWERBY first observed this elegant little *Conferva* in August 1797, growing in dense tufts upon *Fucus vesiculosus* by the river side at Yarmouth. Specimens sent by Dr. Roth to Mr. Turner prove it to be the *Ceramium roseum* of his *Catalecta Botanica*, which no other writer seems to have mentioned. We have profited by his excellent and ample description in the following more concise one.

Several stems, an inch or two long, grow from a small round shield-like base. Each stem is repeatedly and alternately branched; the ultimate branches very numerous, tufted, extremely slender. The joints, most visible in the stem and larger branches, are oblong, rather swelling; their articulations, or points of connection, contracted, exquisitely pellucid, and colourless. Capsules numerous, ranged in a single row on the upper side of each general and partial branch, small, nearly sessile, obovate when ripe, becoming dark purple by age. The general hue of the plant is an elegant rose-colour.



Printed by Jas. Sowerby London

87

CONFERVA purpurascens.

Purple Veiny Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish red, repeatedly branched, very slender and tufted. Joints slightly tumid, thrice as long as broad, with pellucid partitions: those of the main stems compound. Capsules lateral, obovate, sessile.

SYN. Conferva purpurascens. *Huds.* 600. *With.* *v.* 4. 138. *Hull.* 333. *Turn. Tr. of L. Soc. v.* 7. 108.

C. marina nodosa, coralloidis montani instar ramosa. *Dill. Musc.* 36. *t.* 7. *f.* 41.

GATHERED on the beach at Brighthelmstone, in July last, by Mr. W. Borrer, who thinks it may be *C. purpurascens* of Hudson, a species hitherto involved in some doubt, and thought by Mr. Dillwyn the same as our *rosea*, *t.* 966. We should be much inclined to adopt the opinion of this able writer, were his own *rosea* (*Conf. t.* 17.) free from uncertainty. See his *Synopsis*, 79. We can scarcely doubt that the above synonyms are right. The only question is, whether these two species be distinct. Mr. Borrer observes that "the stem and principal branches of the present are (veined, or) composed of several contorted tubes, each of which is jointed individually, the general dissepiments in those parts being very obscure." In other respects, except a rather more tufted habit, and a greenish or brownish hue, it agrees with *C. rosea*.

Mr. Borrer's observations, having been made upon fresh specimens, claim the greatest confidence, or we should suspect the veins, or seeming tubes, might be caused by drying, as we find some appearance of them in our dried specimens of *rosea*, at least in what we have so named. The two plants have probably been hitherto confounded. We submit the whole matter to future decision.

Drawn by J. C. Sowerby Sculpt.

CONFERVA thuioides.

Arbor-vitæ Conferva.

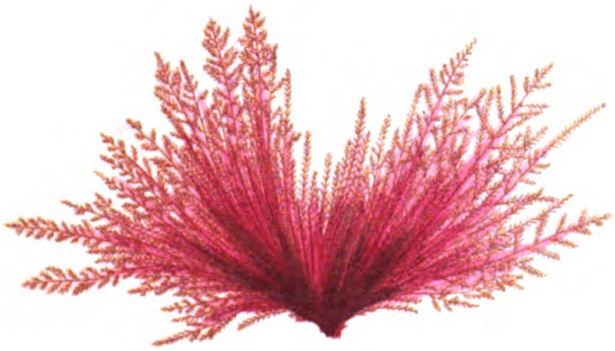
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Rose-coloured, repeatedly branched, very slender and tufted. Joints cylindrical, with pellucid partitions. Branches zigzag; their lateral shoots alternate, compound, with very short joints.

MR. W. BORRER, to whom we are obliged for this *Conferva*, has found it on Yarmouth beach, several different years, in September and October.—Mr. Turner is of opinion that it was comprehended by Mr. Dillwyn under his idea of *parasitica*, in his *Synopsis*, p. 87, from which being very distinct, it is consequently a nondescript in that valuable catalogue.

It differs essentially from *parasitica*, *t.* 1429, in not belonging to the tribe we have so often noticed with compound or aggregate joints, but on the contrary it has the simply tubular structure of *rosea*, *t.* 966, to which last the present species is most allied. The joints of the stem and main branches however, though variable, are usually longer, and the subdivisions are far different from those of *rosea*. Along the main branches, which are zigzag, run several beautiful alternate ones, in two ranks, all about equal in length, twice or thrice compound, consisting of regular, short, bead-like joints, each of which is about as long as broad. We know nothing of the fructification.



89.

CONFERVA Borreri.

Borrerian Conferva.

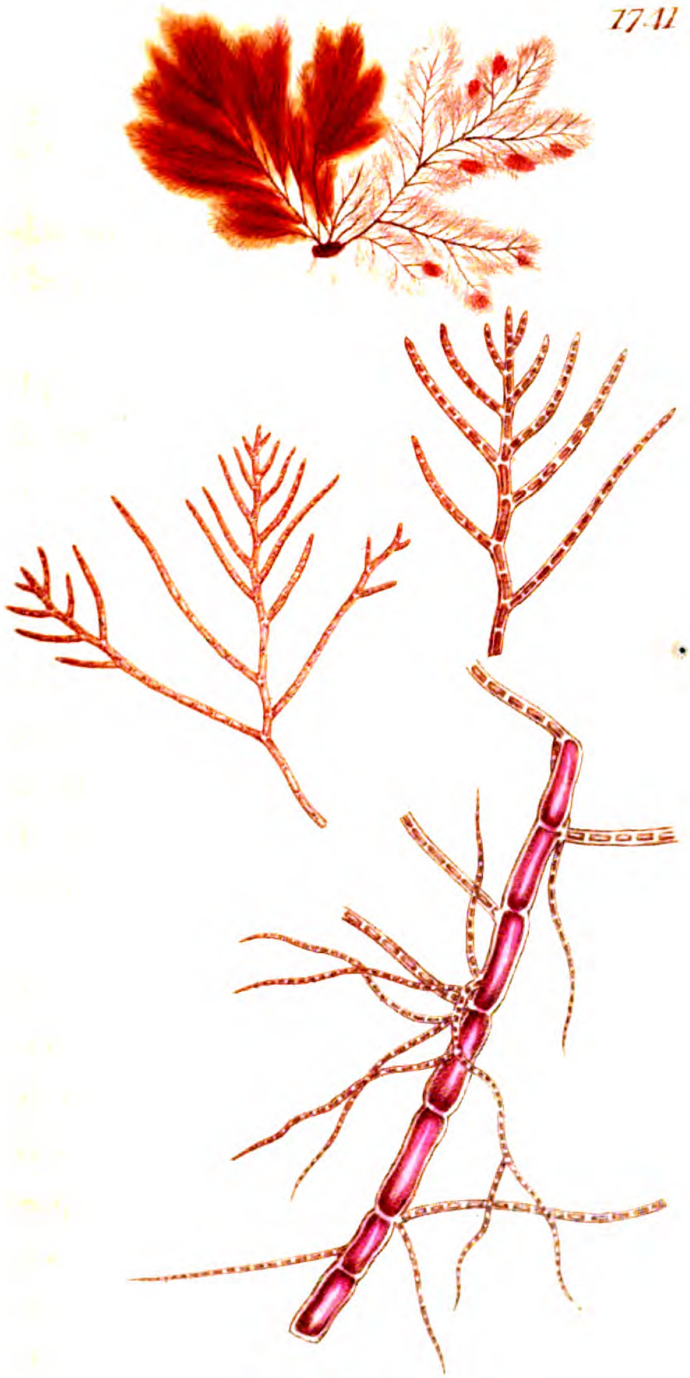
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Bright red, capillary, repeatedly branched. Branches all alternate, spreading in two directions, zigzag; the ultimate ones level-topped. Joints cylindrical, about twice as long as broad.

GATHERED on Yarmouth beach, in October last, by William Borrer junior, Esq. F. L. S., to whom the botany of England is so much indebted that we are happy to commemorate his name with this beautiful plant, which Mr. Turner, to whom we are obliged for many remarks concerning it, has destined for the purpose.

C. Borreri grows from a small disk, in tufts about 2 inches high, of a beautiful delicate pink colour, turning orange when kept out of the sea water. Its fronds are extremely slender, much and repeatedly branched, the branches somewhat zigzag, spreading in 2 ranks; the ultimate ones level-topped, or, as it were, corymbose. The joints are cylindrical, a little contracted where they meet, about twice or thrice as long as broad. We know nothing of the fructification. It may be expected to resemble that of *C. setacea, t.* 1689.



Mar 1.1817; Published by Jas Sowerby, London.

90.

CONFERVA Turneri.

Turnerian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Red, erect, crowded, oppositely pinnate. Branches simple or somewhat pinnate. Joints thrice as long as broad. Capsules globose, sessile or stalked, on the lower part of the branches, leaning one way.

SYN. Conferva Turneri. *Dillw. Conf. t.* 100. *Syn.* 79. *n.* 144.

Ceramium Turneri. *Roth. Catal. v.* 3. 128. *t.* 5. Dillw.

WHAT we figured under this name in *v.* 23. *t.* 1637, was not known to us as *C. Plumula* of Ellis, nor had we then received the fasciculus of Dillwyn in which it is exhibited with that appellation; owing to accidents incident to such publications. Still less had we any information of the present being published in Roth's third volume, which we have only occasionally seen. Possibly the two species may have been confounded in some of our communications respecting them, though they are unquestionably very different.

This grows on other stouter submarine plants, in dense tufts, about an inch high, of a delicate rose-colour. Each frond is erect, linear-lanceolate, composed in a pinnate manner of numerous opposite short branches, which are sometimes simple, oftener imperfectly pinnate, rarely again branched. The joints throughout are cylindrical, about thrice as long as broad, with pale partitions. Globose red capsules, sessile or stalked, solitary or in groups, are found on the upper side of the lower part of the branches. Our specimens were sent from Southampton by Miss Biddulph, in Jan. 1806, and June 1807.—To *t.* 1637 must now be substituted the following synonyms.

CONFERVA Plumula.

Little Feathery Conferva.

Conferva Plumula. *Ellis in Phil. Trans. v.* 57. 425. *t.* 18. *f.* g. G. *Dillw. Conf. t.* 50. *Syn.* 79. *n.* 145.

Sold by J. Harding Soho

91.

CONFERVA Turneri.

Turnerian Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Red, repeatedly branched, very slender and tufted; the ultimate branches all pectinated on the upper side. Articulations pellucid, cylindrical. Capsules globose, sessile between the teeth of the branches, leaning one way.

THE knowledge of this new and beautiful species of Conferva we have derived from Mr. Turner, whose deep acquaintance with the intricate tribe to which it belongs justly entitles him to be commemorated in the name. Our specimens were collected by Miss Biddulph, in the sea off the Isle of Wight, and near Southampton, some of them so long ago as 1790, in the months of May, June and July.

This Conferva seems allied to the *rosea*, figured in our 14th volume, *t.* 966, but is clearly distinguished by its ultimate subdivisions, which are finely pectinate, or formed of rows of little taper teeth pointing all one way and towards the upper part. These little comb-like branches are regularly ranged, in an opposite manner, all along the stem. The capsules are sessile between the teeth, globular, deep red, at length scattering their seeds (which are large in proportion to the capsules) over the branches, to which they for a while adhere.

CONFERVA Mertensii.

Mertensian Conferva.

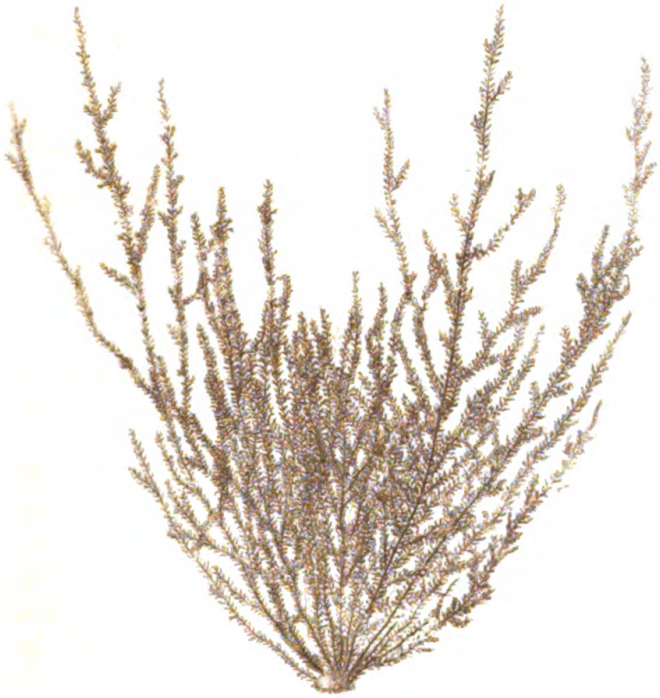
CRYPTOGAMIA Alga.

GEN. CHAR. Seeds produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Frond much branched: branches opposite, pinnated; joints short. Capsules minute, acorn-shaped, on short stalks.

THE history of this new *Conferva* cannot be better expressed than in the words of Mr. Turner, to whom we are obliged for our specimens.

"It was first found on the beach at Yarmouth by Mr. Wigg in the summer of 1799, and has since been occasionally met with, though always in extremely small quantities, by Mr. Mason and myself. I have named it after my excellent correspondent Professor Mertens of Bremen, as well to bear a testimony to his unwearied zeal and extensive knowledge of this genus, which he is now about to illustrate, as in token of my private respect. It cannot be confounded with any hitherto described species from the peculiarity of its habit, which bringing it very near to *Fucus Wiggii* makes it one of the many links that unite the two genera; and hence it belongs to Dr. Roth's intermediate genus *Ceramium*, which for the present we on many accounts decline adopting. *C. Mertensii* is usually about 3 inches high. Its small solid root sends forth many cylindrical pale-yellow stems, pinnated from their very origin, with short, opposite, distichous, horizontal shoots, in general simple, sometimes extending into new branches. Joints short, cylindrical; *septa* darker, and thence conspicuous. Whole plant pellucid, except the capsules, which are opaque, acorn-shaped, growing out of the smaller branches, on short stalks, opposite or alternate, visible only with a good glass. When dried this species resembles most Hudson's *C. gelatinosa* β, *C. mutabilis* of Roth's *Catalecta*."



March 1 1802 Published by Jas Sowerby London.

93.

CONFERVA Arbuscula.

Red Shrubby Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

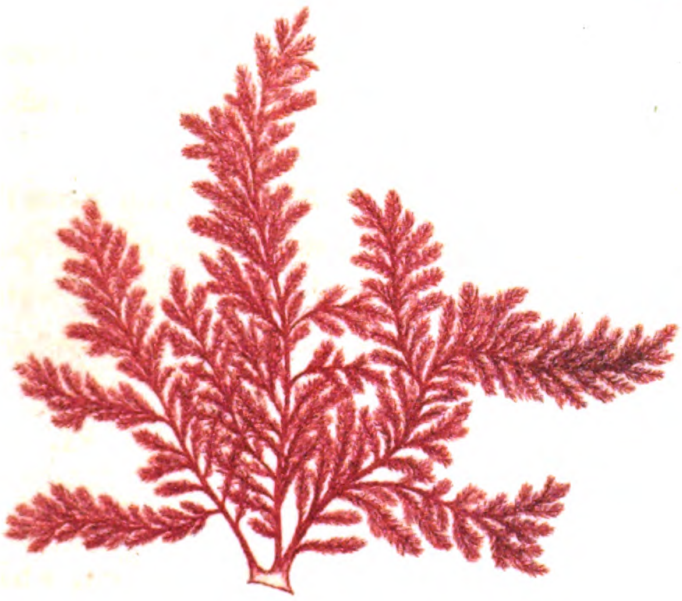
SPEC. CHAR. Red, much branched. Main stems thick, naked, without evident joints. Branches compound, tufted, somewhat whorled; their ultimate segments alternate. Joints as broad as long. Capsules sessile, globose.

SYN. Conferva Arbuscula. *Dillw. Conf. t.* 85.

FOR this also we are indebted to Miss Hutchins, who sent it from Bantry bay to Mr. Turner, and the specimens are the more interesting for being in fruit, which Mr. Dillwyn, the only author who has published this species, seems not to have known. Mr. R. Brown, Librarian to the Linnæan Society, appears to have first found this *Conferva*, and the name was of his choice.

This name well expresses the little tree-like form of the plant with its remarkably thick stem and main branches, in which all traces of joints are obliterated. The subordinate branches are doubly compound, somewhat whorled in the first instance, their ultimate divisions alternate and distant; but the whole together constitute dense tufts of a pale brownish red, whose joints are evident, each about as long as broad. Capsules axillary, sessile, globular, dark red.

1916



Aug 1.1808 Published by Ja.s Sowerby London

CONFERVA coccinea.

Scarlet Confervea.

CRYPTOGAMIA Alga.

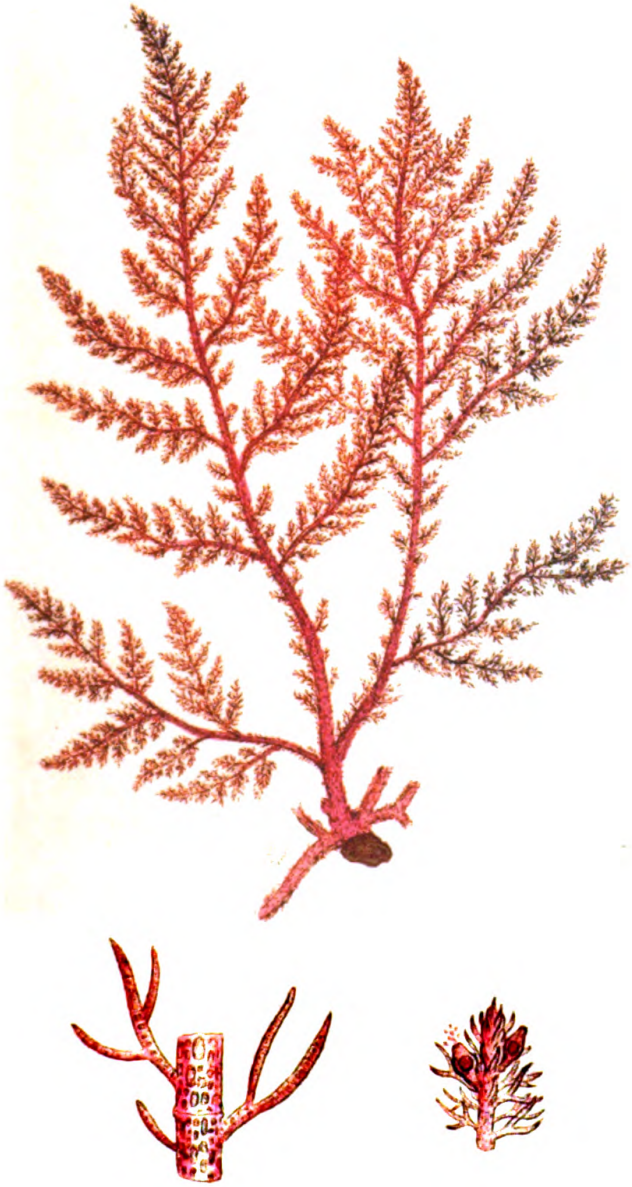
Gen. Char. Fronds crowned in round, solitary, [illegible] tufts, projecting from the frond, but united with it.

Spec. Char. Jointed, branched, rough; branches alternate, mostly pinnate, the ultimate ones tufted, linear. Capsules solitary, ovate, red.

Syn. Confervoides coccinea. *Huds.* 603. *With.* v. 4. [illegible] 373. *Dwight H. Soc. fasc.* 15. 25.

C. [illegible] *Lightf.* 798.

THIS most beautiful Confervoid is frequently thrown up on the sea shore. It was first well described by Mr. Ellis in the [illegible] volume of the Philosophical Transactions, by the name of [illegible]. It is easily known by the roughness of its main stem, its general red colour, but more especially the vivid [illegible] of its youngest branches. Every part is jointed, more [illegible] than [illegible] v. 3. t. 547, to which this species is nearest allied: and the same reasons which induced us to make this a Confervoid, must support us in the present [illegible] as the mode of fructification can hardly be distinguished from that of a Fucus. Some have gone so far as to describe the male flowers of C. coccinea on a separate plant from the female; but we really [illegible] Dr. Hill's supposition, that such are, most probably, [illegible] another stage of growth, the same [illegible] appearance being observable in some *Fuci*.



Published the 1st of 1812 by J. Sowerby London

95.

CONFERVA elongata.

Long-pointed Conferva.

CRYPTOGAMIA Algæ.

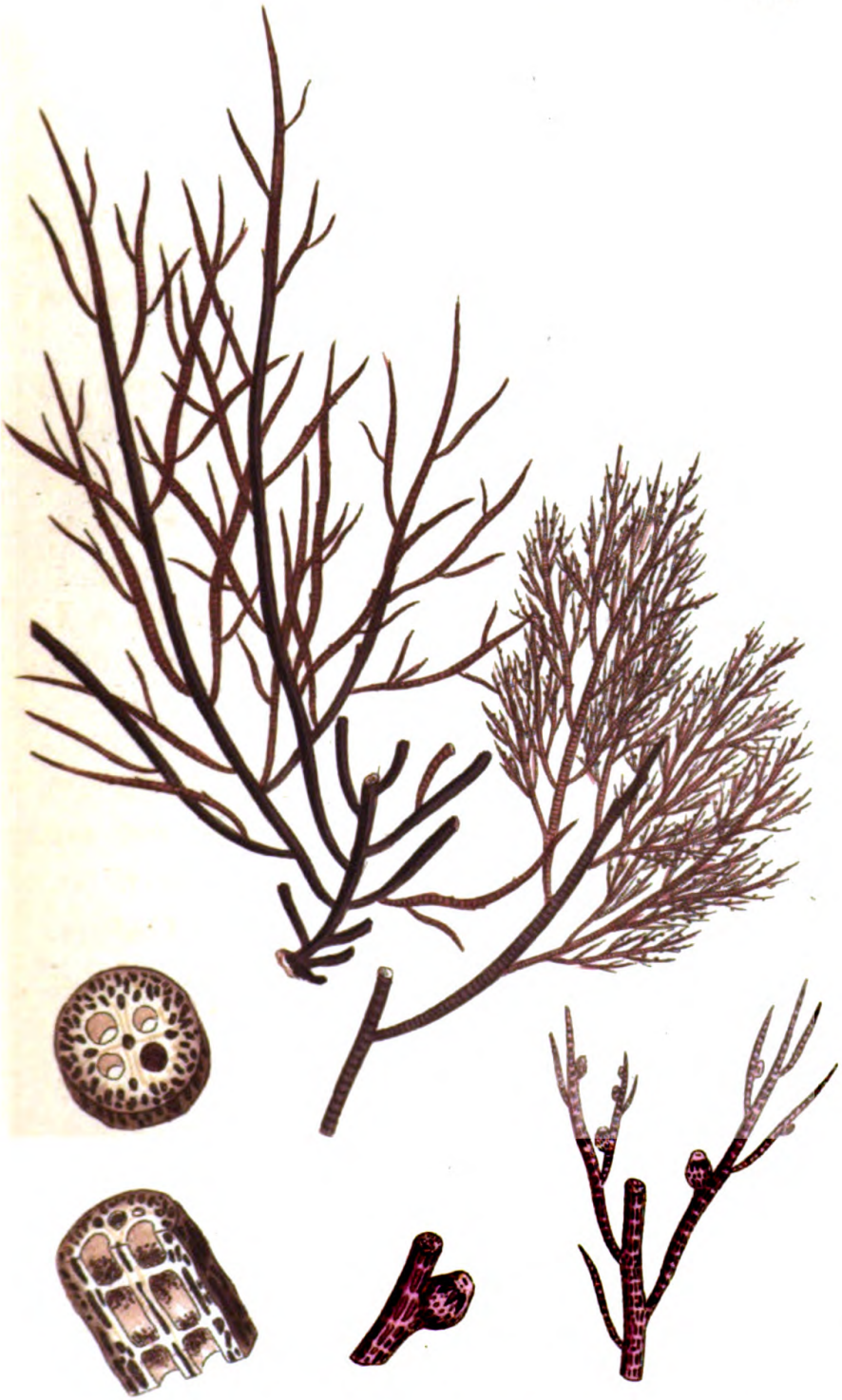
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish brown. Filaments very much branched, with elongated taper points, diffuse, cartilaginous, reticulated with veins. Joints much broader than long, compound, with four central tubes. Capsules lateral, ovate, sessile.

SYN. Conferva elongata. *Huds.* 599. *With. v.* 4. 137. *Hull.* 333. *Dillw. Syn.* 80. *Conf. t.* 33.

COMMON on the sea shores of Britain, and the largest of its genus, though not the longest, found here, or probably any where else. Mr. Borrer sent it with capsules in October. Mr. Dillwyn says this is often called the Lobster-horn Conferva, in allusion, as it seems, to the tapering and jointed aspect of the branches.

The bushy spreading fronds, originating from a small callous base, are usually about a foot high, of a clear purplish brown, very closely jointed, flexible but elastic; minutely reticulated externally with many veins; internally composed of four parallel, central, interrupted tubes, in the youngest branches as well as oldest stems. Capsules among the upper ramifications, sessile, lateral, solitary, ovate, striated, of the colour of the branches.



96.

CONFERVA polymorpha.

Black Tufted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brownish black. Filaments very much branched, level-topped, somewhat cartilaginous. Joints broader than long, pervaded by a central jointed filament. Capsules ovate, solitary, sessile, towards the summits of the branches.

SYN. Conferva polymorpha. *Linn. Sp. Pl.* 1636. *Huds.* 599. *With. v.* 4. 138. *Hull.* 333. *Lightf.* 989. *Relh.* 484. *Dillw. Conf. t.* 44. *Fl. Dan. t.* 395.

C. marina geniculata nigra palmata. *Dill. Musc.* 32. *t.* 6. *f.* 35.

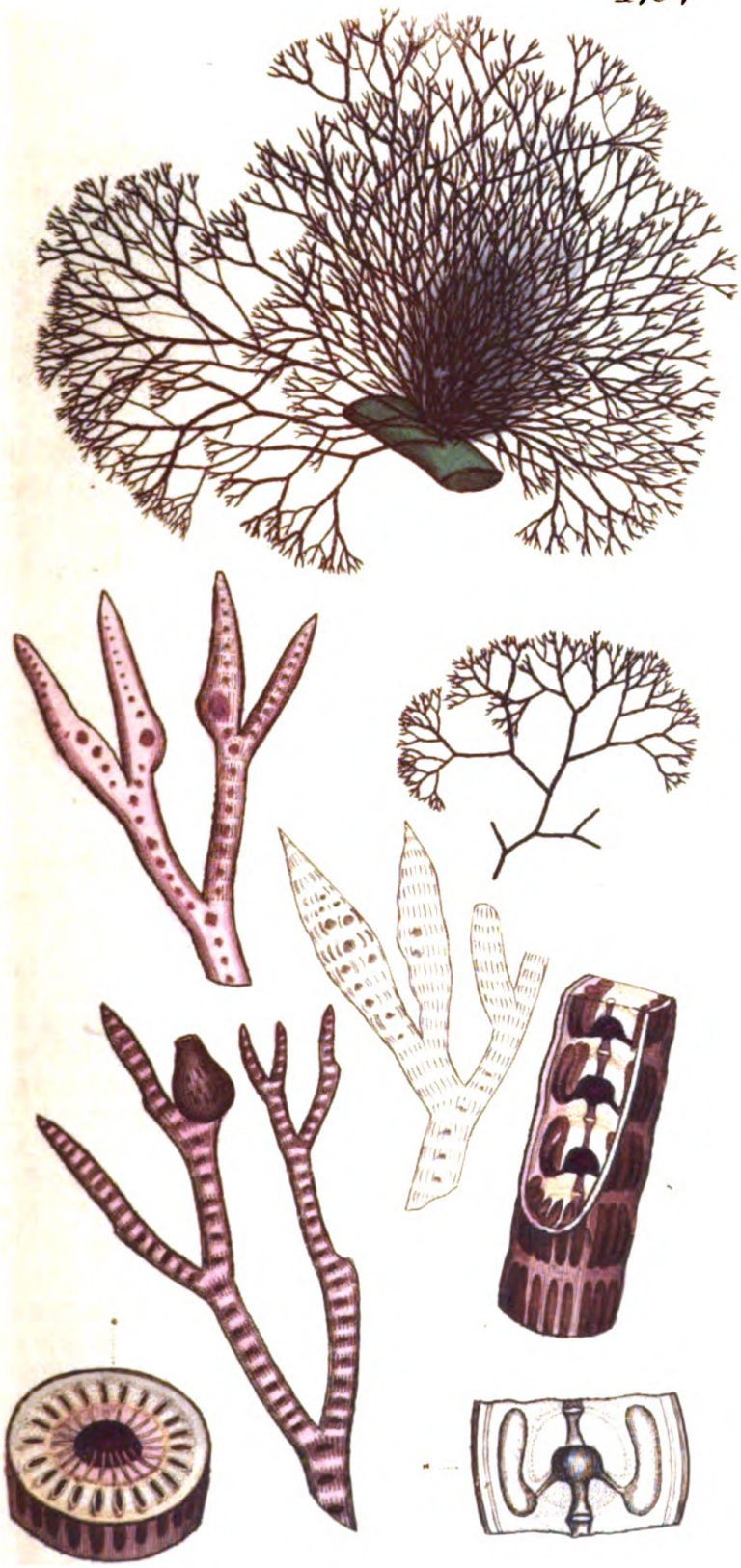
C. marina geniculata ramosissima lubrica, brevibus et palmatim congestis ramulis. *Dill. in Raii Syn.* 61.

Ceramium fastigiatum. *Roth. Catal. v.* 2. 175.

Fucus lanosus. *Linn. Syst. Veg. ed.* 13. 815. *Herb. Linn.*

VERY frequent in the sea, and mouths of rivers, growing parasitically on the large coriaceous *Fuci*, especially *F. nodosus*, *t.* 570, on which it forms dense blackish tufts, 2 or 3 inches high, composed of innumerable tough capillary filaments, very much subdivided, making a level surface at the top like a corymbus. These filaments are thickly jointed, the joints being broader than long, each composed of an internal annular series of interrupted cells, the whole pervaded by a central jointed and knobbed filament, first discovered by Mr. J. D. Sowerby. These central knobs are sometimes swelled, and apparently diseased, when they seem to become what Lightfoot took for "pairs of male conic catkins." The capsules are sessile, solitary, lateral, towards the tops of the branches, of an ovate form.

The genus *Ceramium* was first founded, under the name of *Ceramianthemum*, by Donati, in his *Storia Naturale Marino del Adriatico*, 25. *t.* 1, and is surely distinct from the fresh-water *Confervæ*, as the learned Dr. Roth has judged; but its character now combines plants as little akin to each other. It is much to be wished that the compound-jointed *Confervæ* could be separated from the rest.



July 1 1807. Published by J[illegible] London.

CONFERVA Brodiæi.

Brodiæan Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purplish brown. Filaments very much branched, striated, elongated. Subdivisions scattered, spreading, many-cleft, clustered; their joints longer than broad; those of the principal branches obliterated. Capsules ovate, sessile, lateral or axillary, solitary.

SYN. Conferva Brodiæi. *Dillw. Syn.* 81. *Conf. t.* 107.

COLLECTED by Miss Hutchins in Bantry bay, in June 1807. We are obliged to that lady, and to Mr. J. T. Mackay, for specimens of this rare species, which was first detected by Mr. Brodie in Scotland.

It is one of the striated, or compound-jointed, tribe, to which *elongata*, *t.* 2429, *polymorpha*, *t.* 1764, *fucoides*, *t.* 1743, and *nigrescens*, *t.* 1717, belong; but the species before us is perhaps the most striking of the whole, being from one to two feet in length, repeatedly and very finely branched, and its ultimate tufts of little branches, in which alone the joints remain visible, are extremely delicate and beautiful. On these only the capsules are found, distinctly visible to the naked eye, ovate, semi-pellucid, sessile, at the sides, or in the forks, of these fine subdivisions. All the main branches, as well as these, are marked with numerous, longitudinal, dark streaks, or veins.

Mar. 1814 published by Jos. Sowerby London

98.

CONFERVA fucoides.

Brown Fucus-like Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Brown, capillary, rigid, bushy and much-branched; the ultimate divisions awlshaped, alternate. Joints as broad as long, compound. Capsules lateral, sessile, solitary, globose.

SYN. Conferva fucoides. *Huds.* 603. *With. v.* 4. 141. *Hull.* 334. *Dillw. Conf. t.* 75.

Ceramium violaceum. *Roth. Catal. v.* 1. 150. *t.* 8, *f.* 2.

SENT by Mr. Turner from Yarmouth, and by Miss Biddulph from Southampton, late last autumn. The authority of the name, which could scarcely have been put out of doubt by Hudson's work alone, rests on original specimens in the hands of the Rev. H. Davies and A. Menzies, Esq., as we learn from Mr. Dillwyn, on whom also we rely for the certainty of Dr. Roth's synonym, though the excellent description of the latter leaves less room for hesitation. We do not however find the pellucid dots which he describes on the joints of the main stem and branches.

The whole plant is very bushy, from 3 to 12 inches long, reddish or purplish brown when young, almost black when old or dry, its texture elastic but firm. Frond very much and alternately branched, capillary, jointed throughout, the joints cylindrical, about as broad as long, each consisting of a simple circular series of numerous parallel tubes. See *t.* 1717 and 547. The ultimate branches are awlshaped, all alternate. Capsules lateral, sessile, small, globular, obtuse, discharging their seeds at the summit.

May 1 1807. Published by Jas Sowerby London

CONFERVA nigrescens.

Blackish Compound-jointed Conferva.

CRYPTOGAMIA Algæ.

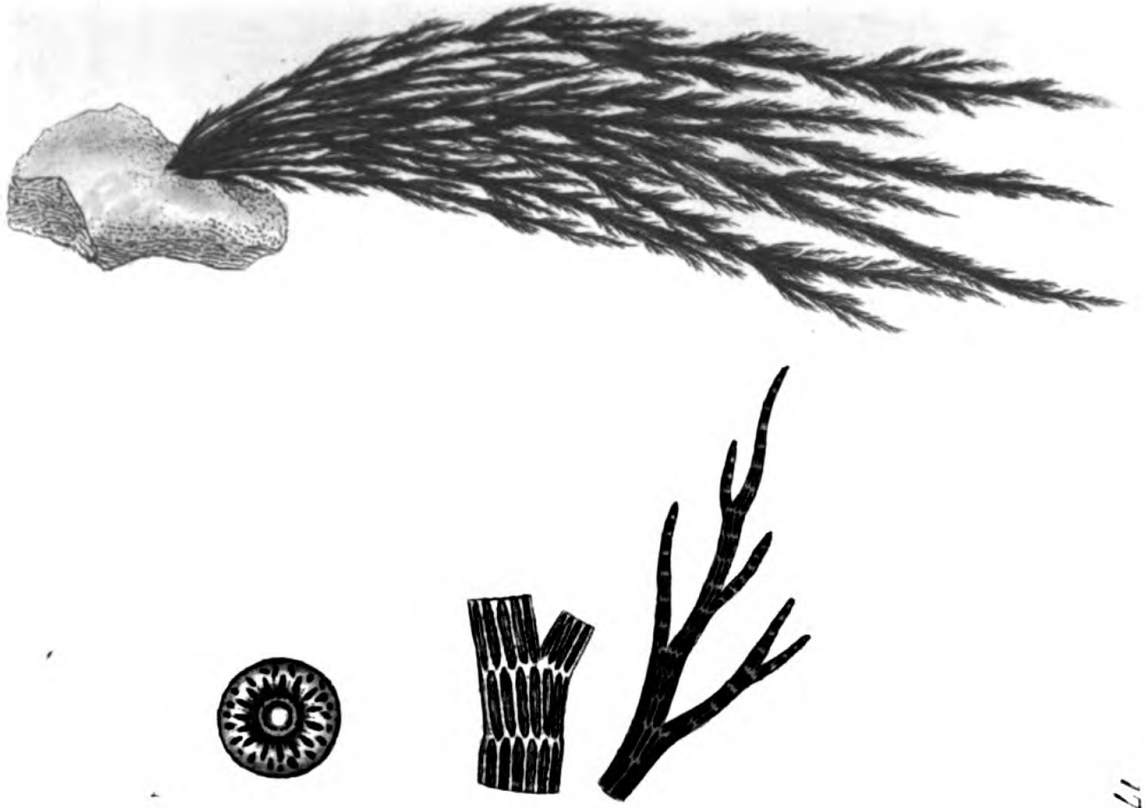
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Blackish, much and alternately branched. Branches elongated; the ultimate ones short, crowded, awlshaped. Joints rather broader than long, compound.

SYN. Conferva nigrescens. *Huds.* 602. *With. v.* 4. 141. *Hull.* 334.

WE have received this from Mr. Turner of Yarmouth, and also from the Scottish coast by favour of Mr. Brodie, in September last. It appears by the authors above quoted to be common in Devonshire and Cornwall.

The fronds form dark blackish dense tufts, from 4 to 6 inches in length, consisting of long principal hard threads, very sparingly branched, but bearing innumerable crowded ultimate subdivisions all along their course, which are simple or divided, alternate, awlshaped and acute. The whole plant is jointed throughout, the joints rather contracted, scarcely so long as they are broad. Every joint is compound, consisting of a circular series of numerous parallel tubes, and a transverse section shows this series to be double. In these compound joints this species agrees with *C. lyssoides*, described in our 8th volume, *tab.* 547. Mr. Stackhouse is said to have found the fructification in "small lateral nodules," which we have not seen, but the description accords with those of *C. lyssoides*, and further confirms the affinity of the two species.



Mar. 1.1807. Published by Jas. Sowerby London.

100.

CONFERVA urceolata.

Pitcher-fruited Compound Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Dark red brown, capillary, bushy, and much branched; the ultimate divisions short and spreading. Lower joints much longer, upper shorter, than broad, compound, of few tubes. Fruit pitcher-shaped.

SYN. Conferva urceolata. *Dillw. Syn. n.* 156. *t.* G.
C. nigrescens. *Huds.* 602?

GATHERED on the Scarborough beach by Sir Thomas Frankland, bart., who assures us it is the real *C. nigrescens* of Hudson, our *t.* 1717 not being such. To this we have nothing to object, and should readily have altered that name, had not Mr. Dillwyn adopted it, at the same time giving so excellent an appellation to the present *Conferva*, from a manuscript of Lightfoot's, apparently taken from the papers of Solander and Ellis, who laboured together in the study of sea plants.

The species before us has much of the habit of *C. fucoides*, *t.* 1743, being very slender and bushy, but its joints are composed of much fewer parallel tubes, and the lower ones are considerably longer than the upper. When dry the whole plant is black, but we find it recover its original deep reddish brown by moisture. The capsules are lateral, small, sessile, finely dotted, globular with a sort of neck, like a pitcher.

Jan 1 1810 published by J. & E. Sowerby London.

√

CONFERVA fibrata.

Fibrous-branched Conferva.

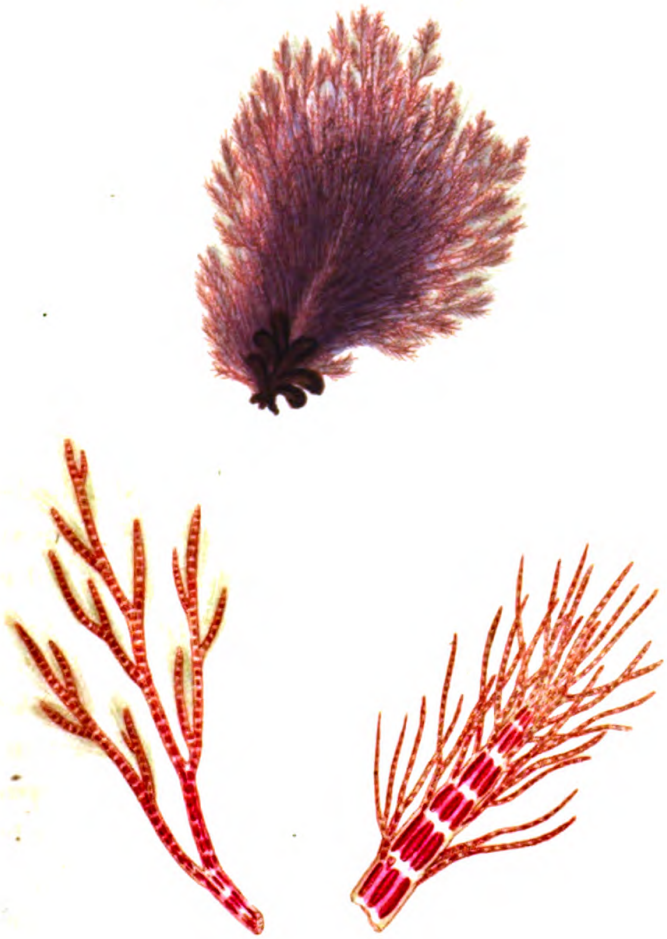
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Purple, much and alternately branched. Branches capillary; the ultimate ones crowded, very slender, pellucid, white. Joints as broad as long, compound.

SYN. Conferva fibrata. *Dillw. Syn. n.* 159. *t.* G.

FOUND by our often-mentioned friend Mr. Brodie, growing on various submarine plants near Forres. It consists of dense purple tufts, about 2 inches high, much branched in an alternate order, the main stems and branches proving, when magnified, to be formed of compound joints, like those of *C. byssoides*, *t.* 547, *nigrescens*, *t.* 1717, and *polymorpha*, *t.* 1764, and the fructification, as figured and described in Mr. Dillwyn's work, but which we have not seen, appears exactly analogous to that of those species, as far as it is hitherto ascertained; consisting of lateral, solitary, sessile, oval masses of seeds, possibly enclosed in a fibrous involucrum; and we are not without hopes that further observations may authorize the establishment of a separate genus of this most natural and numerous tribe with compound or aggregate joints. The present species is remarkable for the terminations of many of the main branches being pellucid and colourless, as are all the ultimate fine pencil-like divisions, which are crowded about the upper parts of the former.



CONFERVA nigra.

Slender Compound-jointed Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Reddish black, much and alternately branched, slender, rigid. Ultimate branches short, awlshaped, sometimes clustered. Joints twice as long as broad, compound. Capsules lateral, solitary, ovate.

SYN. Conferva nigra. *Huds.* 595. *With. v.* 4. 131. *Hull.* 331. *Dillw. Syn.* 32 *and* 86, *n.* 162.
C. atro-rubescens. *Dillw. Conf. t.* 70.

OUR liberal friend Sir Thomas Frankland having furnished us with an authentic collection of many of Hudson's marine plants, which he and the Rev. H. Davies are among the very few people, now living, who are competent to explain, we have confirmed the above synonyms. Our specimen was found by Mr. W. Borrer at Brighthelmstone, in July, 1811, nor is the plant uncommon. A strict affinity exists between this species, *nigrescens, t.* 1717, and *fucoides, t.* 1743, and it ought to stand next to them in a natural series.

The joints of this are rather longer, and composed of fewer tubes laterally than either of those, but we do not presume to lay much stress on these circumstances. Its short, lateral, awlshaped, clustered branches, which do not bear the fruit, are indicated by Hudson and Dillwyn as characteristic, but we have not always met with such. The capsules are scattered laterally and solitarily upon branches that are subdivided in an alternate manner, and are small, ovate, abrupt, reticulated; sessile in our specimens, but Mr. Dillwyn has found them stalked. The colour of the whole is reddish brown in a fresh state, turning black by drying, as in all this tribe.

Lee sculpsit & Pub. by J. Lowry, Lr. Ma.

CONFERVA byssoides.

Tufted Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Purplish brown, doubly branched, obscurely jointed, thickly set with minute, doubly branched, and finely jointed tufts. Capsules from those tufts, solitary, globose, dark brown.

SYN. Fucus byssoides. *Gooden. & Woodw. in Linn. Trans. v. 3. 229.*

FOR this elegant, though not very uncommon, sea weed we are obliged to Mr. D. Turner, who found it on the shore at Yarmouth, with its fructification, in August. In compliance with his opinion and that of the late Mr. Lightfoot, confirmed indeed, beyond a doubt by our own examination, we remove it from the *Fuci*, with which Dr. Goodenough and Mr. Woodward, not without hesitation, have associated it. Those gentlemen remark, that though "all the branches "seem jointed, those joints are observable only where there "is a branch, or where one has issued forth;" which however holds good only in the stem and leading branches. This *Conferva* is remarkable for the series of little tufted compound branches, very finely divided, ranged all along its stem and chief ramifications, and the filaments of all these tufts are as completely jointed as those of any other species. They also bear the fructification, which is a small, sessile, globular, pointed, solitary capsule, pellucid in itself, but full of deep-red seeds. The capsule seems to burst at the summit, a character supposed rather to belong to the genus *Fucus*; but we have yet much to learn upon this subject, and the jointed structure of the plant is by common consent for the present taken as the most decisive character of a *Conferva*. The dark parenchymous line is to be seen, as Mr. Turner observes, in this and many other species. In this it is compound, consisting of several parallel lines, like the tubes of the common cane (a species of palm), or still more like the structure of corals and corallines.

All the branches are alternate and gradually smaller upwards. Its colour when fresh is often a bright red.

104.

CONFERVA Griffithsiana.

Aggregate-fruited Conferva.

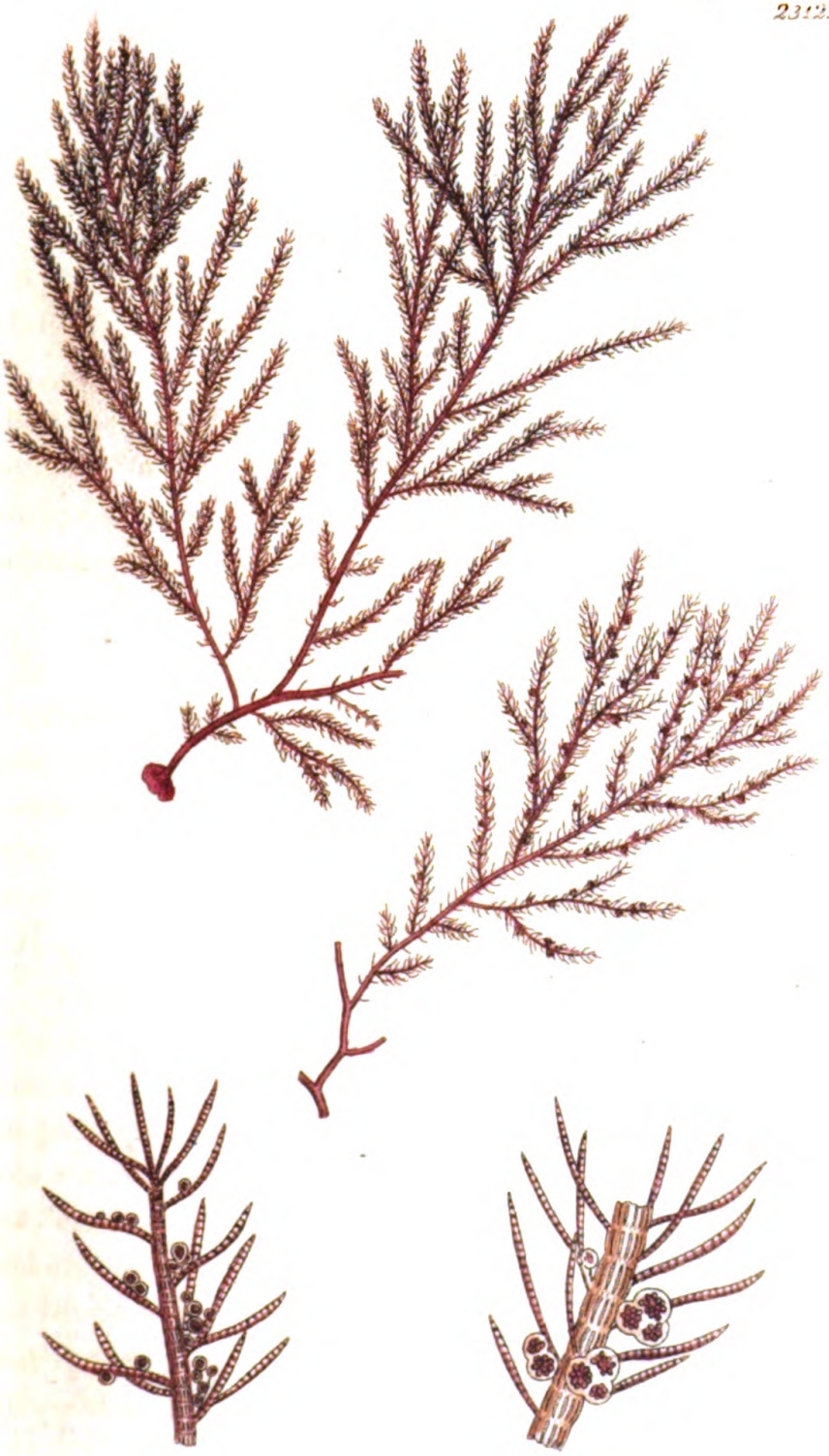
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale red, repeatedly branched: little branches solitary or clustered, very short, simple, awlshaped. Joints as broad as long. Capsules on the little branches, sessile, globose, sometimes aggregate.

THIS nondescript *Conferva* was first sent to Mr. Sowerby by Miss Biddulph, in March 1800, from Southampton, since which time we have repeatedly received it, later in the season, from that lady, as well as from Mr. Turner; who, as we have called another species *Biddulphiana*, wishes this to be dedicated to another eminent observer of marine plants, Mrs. Griffiths; to which we cannot but most readily agree.

The plant before us, one of the branched, red, marine tribe, grows from a small disk, to the height of three or four inches. The numerous ultimate branches, scattered copiously along the main ones, either solitary or two or three together, are awlshaped, simple, uniform, not a quarter of an inch long, thickly jointed. Many of them bear, near the base, small sessile round capsules, whitish externally, but enclosing a darkish-red nodule. On some plants the capsules are joined three together, and in such the red seeds within are seen separate and very distinctly. In decay the whole plant becomes of a light green. By drying it changes to a darker or brownish green.



Maps & engraved by Jas. Sowerby London.

105.

CONFERVA parasitica.

Parasitical Feathered Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Purplish brown, branched, doubly pinnate. Fructifications axillary, solitary, oblong.

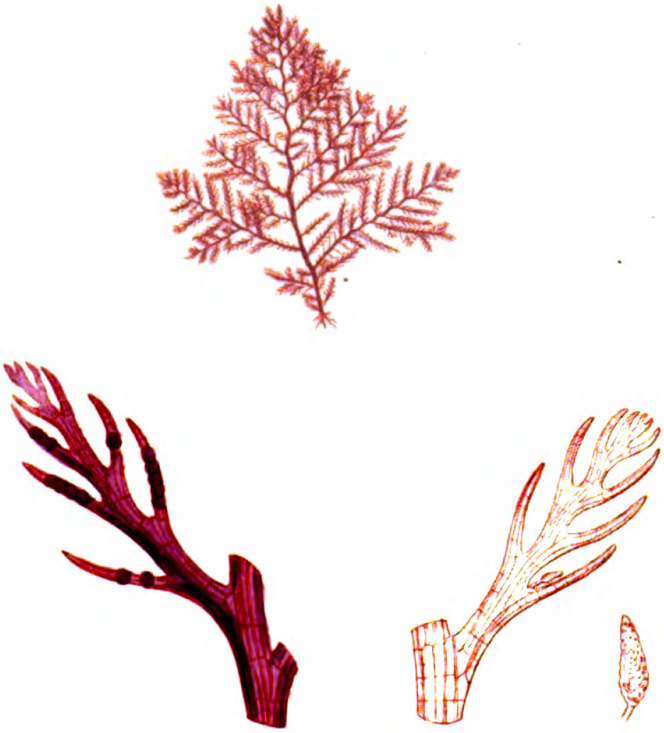
SYN. Conferva parasitica. *Huds.* 604. *With. v.* 4. 142. *Hull.* 335.

FOR this rare* Conferva, found growing on other submarine plants on the Yorkshire coast, we are obliged to Sir Thomas Frankland, who knows it to be the species described by Hudson, the only original writer who mentions it.

The frond grows from a small branched root to the height of an inch or more, and is very slender, round, alternately branched, the branches doubly and alternately pinnated, their ultimate segments acute. The whole has the same jointed and tubular structure as *C. lyssoides, v.* 8. *t.* 547. The little branches are often studded with warts, which are seen in many *Confervæ*, but not supposed to have any share in the fructification†. The real fruit, apparently, has been detected by Sir T. Frankland, whose drawing we copy, in the form of an oblong solitary axillary spike of seeds or capsule. If it be really so, the plant better agrees with the generic character of *Fucus*, except in its jointed structure. See the doubts on this subject relative to *C. lyssoides, p.* 547.

* Dr. Withering here translates Mr. Hudson's word *passim*, "common," which is right in language, but wrong in fact, for we know that he and the botanists of his school always mean extreme rarity by that word.

† Mr. Turner.



March 1. 1805. Published by Jas. Sowerby, London.

106.

CONFERVA pennata.

Pinnated Brown Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

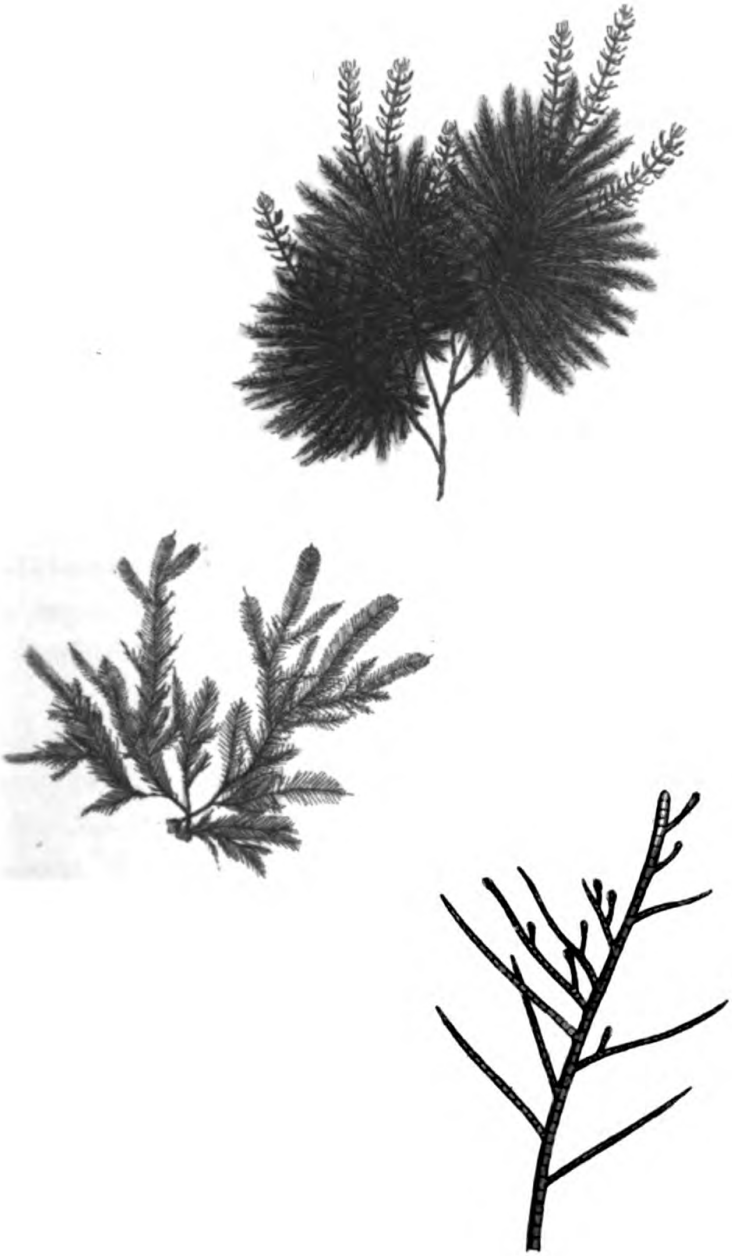
SPEC. CHAR. Olive brown, much branched. Branches densely pectinated. Joints broader than long. Partitions dark-coloured. Capsules roundish, scattered, sessile or stalked.

SYN. Conferva pennata. *Huds.* 604. *With.* v. 4. 142. *Hull.* 335. *Dillw. Conf. t.* 86. *Syn.* 87. *n.* 166.

WE have received this from Miss Biddulph at various times, and lastly from Mr. W. Borrer, who has added the larger variety, with stalked rather oblong fruit, found by himself at Beachey head, as mentioned in Dillwyn's *Synopsis*.

C. pennata grows in the sea, on rocks, corallines and submarine plants, and has, according to Mr. Dillwyn, been generally overlooked for a small or bad state of *C. scoparia, t.* 1552, as indeed it might well be, without examination. It appears by Hudson's reference to be preserved in Petiver's *Hortus Siccus* for the *C. marina pennata* of Dillenius in Ray's *Synopsis*, which is really *scoparia*.

The plant before us composes bushy tufts, from half an inch to two inches high, of an olive brown, and is twice or thrice branched, the ultimate branches ranged in a double crowded series, opposite to each other, and spreading, so as to be truly pectinated. Sometimes they vary a little from this precise order. The partitions are dark, and the joints generally broader than long. The capsules are round or a little oblong, of a rather darker brown, scattered, either sessile or more or less stalked. They seem to strengthen the probability of what we have drawn in *t.* 1552 being the fruit of *C. scoparia*.



[illegible] published by J. Sowerby London

107.

CONFERVA scoparia.

Clustered Brown Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Olive brown, hairy, much branched and fasciculated. Ultimate divisions awlshaped, alternate.

SYN. Conferva scoparia. *Linn. Sp. Pl.* 1635. *Huds.* 595. *With. v.* 4. 131. *Hull.* 331. *Lightf.* 981.

C. marina pennata. *Dill. in Raii Syn.* 59. *Musc.* 24. *t.* 4. *f.* 23.

FREQUENT on the sea coast, growing under water upon shells and pebbles, with which it is thrown up on the beach at all seasons.

The colour of the whole plant is a dull olive brown, when old or dry verging towards a rusty hue. From a large hairy root or base spring many stems, 3 to 6 inches high, which are cylindrical, clothed with small entangled jointed fibres, so as to appear hairy, and much branched and subdivided in their upper part. Their ultimate branches are clustered, somewhat pectinated, the segments alternate, and tapering. Every branch and segment is closely but not very conspicuously jointed, the joints twice as broad as they are long.

In some specimens the tips of the youngest branches are obtuse, a little swelled, seeming to contain a brown substance in a pellucid membrane, and looking to the naked eye as if they had been burnt. We dare not assert this to be the fructification, which no botanist has hitherto described; but the same appearance is observable on the Linnæan specimens, as well as on those in our plate.

Jan.y 1806. Published by Jas. Sowerby, Lond.n

VAUCHERIA sessilis.

Sessile-fruited Vaucheria.

CRYPTOGAMIA *Alga.*

GEN. CHAR. *Anthera* awlshaped, incurved. *Capsules* adhering to the *anthera*, ovate, single-seeded, in pairs or solitary.

SPEC. CHAR. Capsules in pairs and solitary, sessile on each side of the anthera.

SYN. Endosperma sessilis. *Vaucher Conf.* 31. *t.* 2. *f.* 7.
Conferva vesicata. *Dillw. Conf. t.* 74; without the anthera.
Ceramium caespitosum. *Roth. Catal.* v. 3. 120.

OF the ingenious work of M. Vaucher upon fresh-water Confervas we have already spoken, p. 1654, 1655, &c. He is the first botanist who ascertained the true fructification and mode of propagation of the genus before us, called by him *Endosperma*, a name which has justly given place to that of *Vaucheria*, chosen previously * by the learned French botanist M. Decandolle for this genus, and under which, I am told, it has recently appeared in his *Flore Française*. It consists of several species, distinguished by M. Vaucher according to the situation, insertion, and form of their capsules and anthera, and we rely on his accuracy, notwithstanding the weighty opinion of Dr. Roth, who joins them all together as a species of *Ceramium*, to which genus, if itself founded in nature, they can have no affinity, nor do they agree in generic character. We conceive *Vaucheria* to be one of the genera that, in our present state of knowledge, can with most safety be separated from *Conferva*.

We received our fresh specimens in February 1807, from Sussex, by favour of Mr. Borrer. The plant covers the surfaces of pools in broad green patches, and consists of capillary, branched, smooth, rather elastic, tubular filaments, filled with a green pulpy substance, which often separates in masses, and gives the filament a jointed appearance. Capsules sessile, commonly in pairs, ovate, each containing one large green seed, and having between them one awlshaped body, at length recurved, asserted by M. Vaucher to be the anthera. Young plants, germinating from the seeds, are represented at the lower part of our plate. Vesicles, of the nature of galls perhaps, inhabited by Muller's *Cyclops Lupula*, are often found on the branches, see *a*, *a*, with a dark-coloured animal besides.

* See *Vaucher*, 25.

July 1st 7 Published by Jas Sowerby

VAUCHERIA geminata.

Twin-stalked Vaucheria.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Anthera* awlshaped, incurved. *Capsules* adjoining to the *anthera*, ovate, single-seeded, in pairs or solitary.

SPEC. CHAR. Capsules in pairs and solitary, on opposite partial stalks, growing out of one common stalk with the anthera.

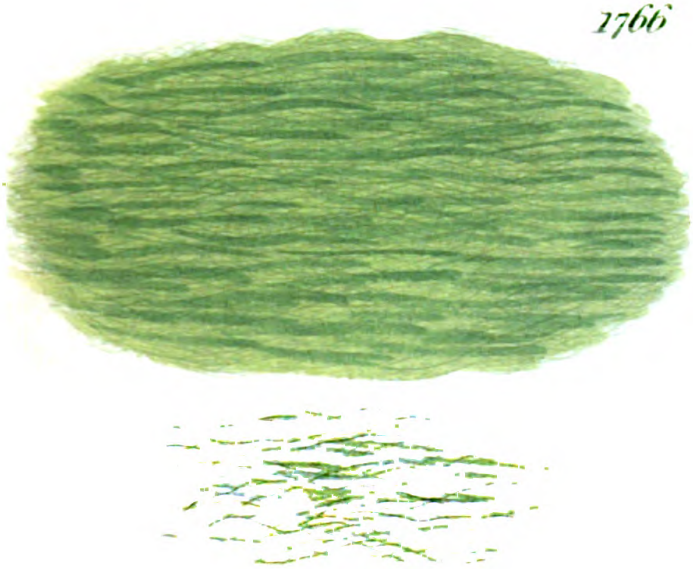
SYN. Ectosperma geminata. *Vaucher Conf.* 29. *t.* 2. *f.* 5.

FOUND with the preceding in Sussex, and sent by Mr. W. Borrer. We believe indeed that neither species is rare; but this gentleman has first in England verified the observations of M. Vaucher concerning both.

No specific distinction can be found between the filaments of this and *V. sessilis*, but the fructification is surely distinct enough to form a character. One common stalk bears both organs. The anthera is terminal. The capsules grow on opposite partial stalks, and in one instance Mr. J. D. Sowerby has met with 2 pairs of them, one above another. Sometimes, on the contrary, there is only one capsule to an anthera, as in the former species.

The dark-coloured animal, mentioned in the last page, is common on both species, as well as the *Cyclops Lupula*. Is the former the parent animal, and are the small pale ones its young progeny?

M. Vaucher refers to this genus our *Conferva velutina*, *t.* 1556, of which Micheli has first imperfectly observed the capsules. See *Mich. Gen. t.* 89. *f.* 5, G.



RIVULARIA Opuntia.

Indian-fig Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Compressed, branched, red, jointed; joints elliptical, confluent. Internal filaments repeatedly forked; their ultimate joints shortened, filled with seeds.

SYN. Fucus Opuntia. *Gooden. and Woodw. Tr. of L. Soc. v.* 3. 219. *Turn. Syn.* 387. *Hull.* 326.
F. repens. *Lightf.* 961. *With. v.* 4. 91.
Ulva articulata β. *Huds.* 569.
Tremella marina cæspitosa, segmentis tenuibus. *Dill. Musc.* 50. *t.* 10. *f.* 9.

RECEIVED by favour of Mr. Turner from Hastings, Sussex. It grows on exposed marine rocks, always, according to that gentleman, between high- and low-water marks, forming small creeping tufts. The fronds are entangled, much branched, compressed, solid, or at least not, like *Fucus articulatus*, *t.* 1574, tubular. A transverse section under the microscope shows their internal spongy substance to be a congeries of horizontal, repeatedly forked, jointed filaments, whose innumerable, gradually shorter, ultimate joints, full of red juice, while the primary ones are longer and colourless, meet at the surface of the frond, and give it a dotted aspect. Its curious structure was first discovered by Mr. J. D. Sowerby, and leads us to refer the plant to *Rivularia*, see *t.* 1818. The excellent writers in *Linn. Trans. v.* 3, have so nearly approached this discovery as to inform us that "the uppermost joints perform the office of tubercles (with respect to *Fuci* in general) and are pregnant with extremely minute crowded seeds." Whether these seeds be more numerous, or more perfect, in the lateral warts, observable in our specimen on some of the upper joints, one of which is cut across in our magnified section, we cannot accurately say.

We must remark that *Fucus Wigghii*, *t.* 1165, proves on more accurate examination to be a true *Rivularia*, the account of its seeds hitherto given being incorrect.

Apr 1 1808. Published by Jas Sowerby London

RIVULARIA vermiculata.

Worm-shaped Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Cylindrical, much branched, brown; branches scattered, subdivided, crooked. Internal filaments compound and divaricated; their ultimate branches clustered, beaded, thickened upwards. Fruit obovate, sessile at the base of the beaded branches.

SENT from the north-east coast of Ireland, near Larn, by Mr. Drummond, in August 1806. The specimen in our plate was found at Brighthelmston in July 1807, by Mr. W. Borrer. We cannot refer it to any plant described by British writers, who would all doubtless have reckoned it an *Ulva;* neither do we find any suitable description in Roth, to whose genus *Rivularia* it must surely be referred, unless the fruit, being separate from the filaments, should constitute a new genus, on the principle of that ingenious author's *Ceramium*. We had rather however wait till the fruit of all the original *Rivulariæ* are better ascertained.

The whole plant is 4 or 5 inches high, olive brown, very much and irregularly branched, cylindrical, solid, crooked, becoming flattish only when broken. Its whole substance is succulent and gelatinous, the external part presenting an assemblage of pellucid, slimy, jointed, branched filaments, more condensed and firmly compacted in the inner part. These filaments bear innumerable tufts or clusters of shorter ones, jointed quite in a different manner, being thickly beaded, or formed of globular articulations, which are moreover gradually larger towards the extremity. At the base of some of these beaded filaments stands an obovate pellucid capsule, containing apparently one dark-brown seed. These numerous capsules give the whole plant a dark hue.

Mr. Woodward's *Ulva decorticata, Tr. of Linn. Soc. v.* 3. 55, may possibly belong to this genus. See that excellent observer's remarks.

Nov. 1, 1807. Publish'd by Ja.t Sowerby London.

RIVULARIA verticillata.

Whorled Pink Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Cylindrical, much branched, very gelatinous, pale pink; branches alternate; the ultimate ones very numerous, of equal thickness. Internal filaments whorled, repeatedly forked. Fruit obovate, lateral.

SYN. Ulva verticillata. *With. v.* 4. 127. *Hull.* 313.

FOUND last July, on the beach at Brighthelmstone, by Mr. W. Borrer. Miss Hutchins sent a drawing of a plant of the same species to Mr. Turner, from Ireland, observing that it was "the most gelatinous plant she had ever seen." From this drawing we have copied the highly magnified fructification.

The colour when fresh is a pale pink, which becomes somewhat darker by being kept out of the water. Several very compound stems arise from one root. The branches are all alternate; the smaller ones pretty exactly cylindrical and obtuse, formed of innumerable close whorls, of repeatedly branched, taper-pointed, jointed, pink filaments, set upon a jointed, still paler, stem, the whole enveloped in mucilage, which renders it very slippery. The capsules or seeds are obovate, red, standing solitary and laterally near the extremities of these fine filaments. We see no reason to doubt this being the *Ulva verticillata* of Withering, for which several botanists have taken it.—Mr. Borrer observes that, when floating, it considerably resembles *Fucus Wigghii, t.* 1165, which is a *Rivularia*; and Mr. J. D. Sowerby noticed the ultimate branches, in that situation, to be all recurved.

Published by J. Lindley Lond.

ULVA incraſſata.

Thick Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* ſolitary, ſcattered throughout its ſubſtance, under the cuticle.

SPEC. CHAR. Frond gelatinous, flat, ſinuated and toothed, green, thickened at the margin, clothed with tufted jointed filaments.

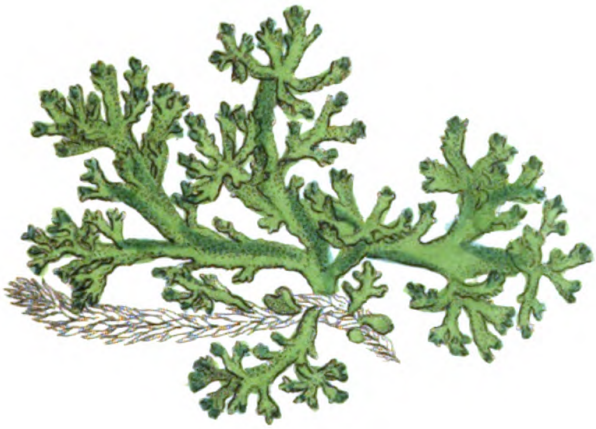
SYN. Ulva incraſſata. *Hudſ.* 572. *With. v.* 4. 124. *Relh. Suppl.* 2. 23.

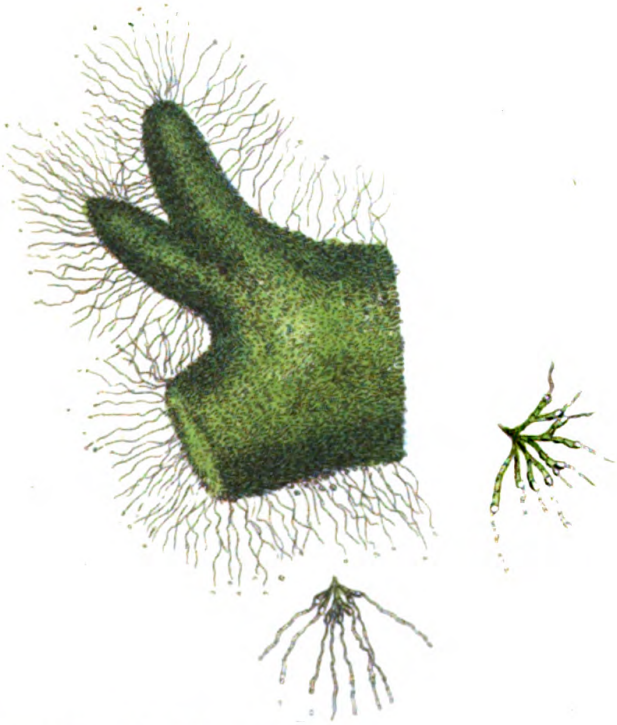
Tremella incraſſata. *Hull.* 310.

T. paluſtris gelatinoſa, damæ cornuum facie. *Dill. Muſc.* 51. *t.* 10. *f.* 10.

Conferva gelatinoſa, damæ cornua repræſentans. *Dill. in Raii Syn.* 60.

FOUND by T. F. Forſter, Eſq. growing on *Hypnum riparium*, and intermixed with *Chara hiſpida*, in a pond at Finchley. The fronds are much branched and divaricated, variouſly ſinuated and toothed, compreſſed, the edge of their lower part (but not of the upper ſubdiviſions) thicker than the middle. The whole plant is gelatinous and ſlippery, of a graſs-green hue. Minute ſeeds are ſcattered through its internal ſubſtance. The ſurface is every where clothed with minute thick-ſet tufts of branched filaments, which when very highly magnified appear jointed or beaded, ſomewhat like a *Conferva*. A ſimilar ſtructure in other ſpecies, however, ſeems to prove theſe tufts a part of the plant, and not a paraſitical production.





Jan.y 1. 1802. Published by Jas. Sowerby, London.

114.

RIVULARIA elegans.

Elegant Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Globose, lobed, sessile, light green. Internal filaments forked and divaricated; their ultimate branches clustered and curved; their joints somewhat swelling.

SYN. Rivularia elegans. *Roth in Sims and Konig's Ann. of Bot. v.* 1. 259. *Catalect. v.* 3. 337.

Batrachospermum fasciculatum. *Vaucher Conf.* 116. *t.* 13. *f.* 1.

THIS plant is found in fresh water, either running or stagnant. Mr. W. Borrer sent it from the neighbourhood of Hurstperepoint, Sussex, in March 1806; Mr. Turner had for some years before observed it to be common about Yarmouth, and had ascertained the synonym of his learned correspondent Dr. Roth, who first established and characterized the genus of *Rivularia*, to which we have alluded in *v.* 20. *t.* 1378, and which, having lately become acquainted with all his observations respecting it, we gladly adopt. The generic character is sufficiently expressed above. Its habit is gelatinous like a *Tremella*, but more firm; and an essential difference is observable in the want of a cuticle or skin, instead of which most species, if not all, are covered externally with fine white colourless filaments. The internal structure is a mass of filaments, simple or branched, more or less jointed, resembling a *Conferva*. Our *t.* 967, 968, 1378, belong to this new genus.

The present species is light green, growing in crowded globose, lobed masses, scarcely more than a line thick, on sticks or leaves in the water. When examined under a powerful lens, the internal filaments are found much branched and divaricated, their ultimate branches crowded and generally curved, their joints numerous, rather swelling than exactly cylindrical: the superficial filaments are very fine and scarcely discernible.

Oct. 1. 1797. Published by Jas. Sowerby London.

115.

RIVULARIA tuberculosa.

Tubercular Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

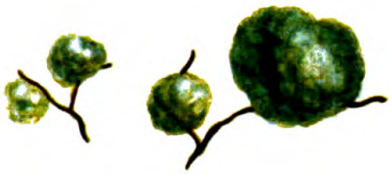
SPEC. CHAR. Globose, unequally tubercular, concave, sessile, green. Internal filaments repeatedly branched, equal, obtuse, divaricated, entangled; their joints somewhat swelling.

SYN. Rivularia tuberculosa. *Roth. Catal. v.* 3. 341.

COLLECTED in fresh water near Henfield, Sussex, in September last, by Mr. W. Borrer, to whom we are obliged for the reference to Roth.

This is allied to the species figured in our 14th vol. *t.* 968, under the name of *Ulva pruniformis* given by Linnæus, but it is a true *Rivularia*. See *v.* 25. *t.* 1797. The present appears to differ from that in its tuberculated surface, caused by the clustering mode of growth of the internal, much branched and divaricated, filaments. It is a larger plant than *R. elegans*, *t.* 1797, and hollow, though filled with watery pulp, within.

2.06.



116.

RIVULARIA tuberiformis.

Potatoe Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Frond irregularly globose, inflated, pale brown; white within. Seeds vertically disposed in rows at the summits of the filaments.

COMMUNICATED by the Rev. G. R. Leathes, who found it adhering to rocks and submarine plants on the coast of the isle of Wight in August 1808. Mr. Turner and Mr. Sowerby observed it nine years before at Kynance cove, Cornwall, and the former assures us it is common about the shores of all the Hebrides. Yet we can find no traces of its being any where described.

When floating in the sea water it looks, as we are told, extremely like an assemblage of young potatoes, in colour as well as size and shape. Each full-grown plant is half an inch, or near an inch, in diameter, of an irregularly round, or imperfectly globose, figure, hollow, pale brown, gelatinous and rather tender, internally white. A perpendicular section when magnified shows the substance to be a congeries of entangled filaments, whose upper extremities meet in a parallel order, all on a level, at the surface, and in each of those extremities 3 or 4 brown seeds are disposed one above another. No slender pellucid filaments extend, as in some species of *Rivularia*, beyond the seeds.——This plant, when dried with due care, adheres to paper, and preserves tolerably well, only assuming a darker hue.

N. 1. Pol. Published by Ja' Sowerby London.

117.

ULVA pruniformis.

Plum Laver.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* ſolitary, ſcattered throughout its ſubſtance, under the cuticle.

SPEC. CHAR. Frond globoſe, gelatinous, filled with ſoft pulp, olive-green, clothed with awl-ſhaped filaments.

SYN. Ulva pruniformis. *Linn. Sp. Pl.* 1633. *Hudſ.* 572. *With.* v. 4. 120. *Relh. Suppl.* 3. 14. *Abbot.* 274.
Tremella pruniformis. *Hull.* 310.

MR. HUDSON mentions the lakes of Weſtmoreland as the native place of this ſingular *Ulva*. Our ſpecimens were collected by Mr. Dawſon Turner in turf pits not far from Yarmouth.

It grows on aquatic plants under water, ſeſſile, globoſe, of various ſizes from that of a pea to a bullace plum, which laſt it frequently more exactly reſembles by means of a furrow or contraction on one ſide. Its colour is a dull or olive green. The ſurface is clothed with ſhaggy awlſhaped filaments, tapering into very ſlender points, which, though not jointed, evince the affinity of this plant to that in our laſt plate. The coat or ſkin of this *Ulva* is moderately thick, fleſhy or gelatinous, enveloping a maſs of pale ſoft pulp, in which Linnæus obſerved the minute ſeeds. His deſcription in *Fl. Suecica*, *p.* 434, is excellent, and leaves no doubt as to the identity of his plant.

Jan.y 1. 1802. Published by Jas Sowerby, London.

RIVULARIA atra.

Small Black Rivularia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

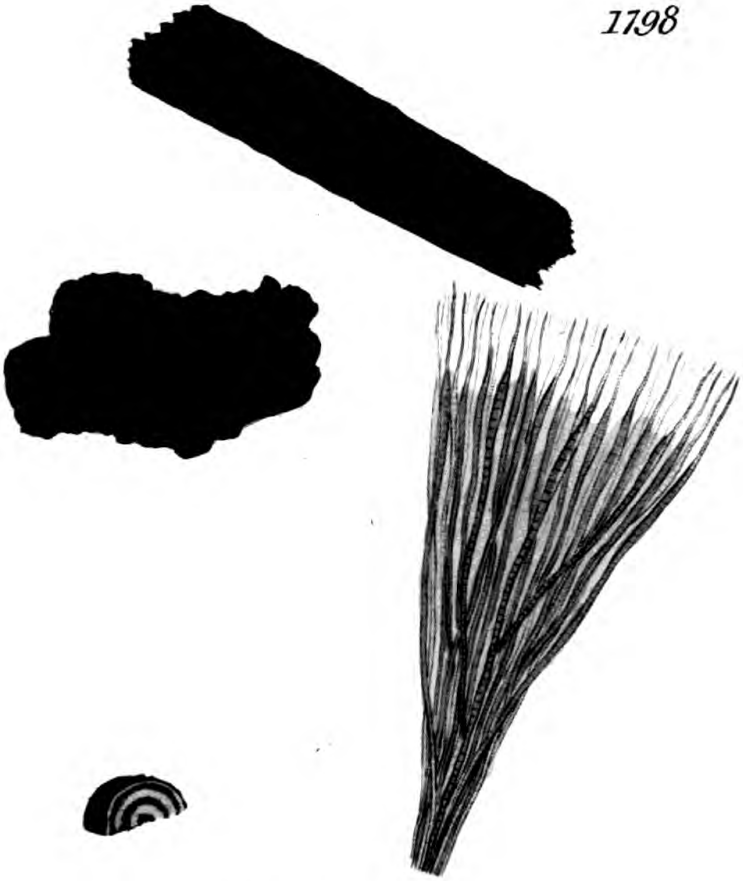
SPEC. CHAR. Hemisphærical, solitary, sessile, hard, black. Internal filaments straight, compact, branched, concentric, green; their joints cylindrical.

SYN. Rivularia atra. *Roth Catalect. v. 3. 340.*

COMMUNICATED by Mr. W. Borrer, in Oct. 1806, from the piles of Yarmouth *jetty*, or *jutty*, which are constantly washed by the sea. Mr. W. J. Hooker has observed the same species on mud in the salt-marshes at Cley.

Dr. Roth justly compares its size to the seeds of mustard or hemp. It grows more or less scattered, each plant being solitary and unconnected, sessile, hard, of so very dark a green as to look black, having a slimy gloss from the pellucid, colourless, soft, gelatinous superficial filaments. A perpendicular section shows the internal filaments to be of a dull green, radiating from the centre, closely compacted and parallel, but branched. Their joints appear to us numerous, short, cylindrical; Roth describes them as few and very long.

1798



Oct. 1. 1801. Published by Jas. Sowerby London

119.

RIVULARIA calcarea.

Calcareous Rivularia.

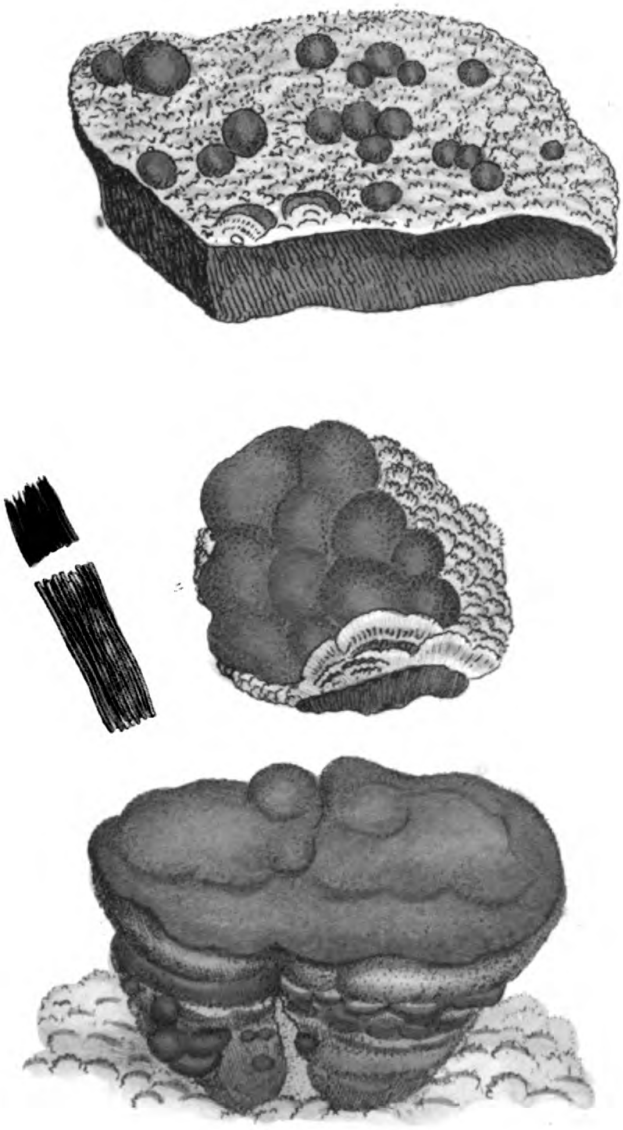
CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* gelatinous, firm, destitute of an external cuticle. *Fructification* among jointed filaments, lodged in the substance of the frond.

SPEC. CHAR. Hemisphærical, clustered, sessile, hard, green. Internal filaments straight, compact, entangled, simple, with scarcely any appearance of joints.

SENT by Dr. Scott from the bed of a river in Queen's county, Ireland. We have been informed by several friends that this singular production is plentiful about many water-falls in North and South Wales, Shropshire, &c. There can be no doubt of its ranking as a new species of *Rivularia*.

The fronds are sessile, round, generally clustered or aggregate, each as big as a pea, or larger, but often united into an uneven indeterminate mass. The external surface is of a rich dark green, slimy to the touch from the fine short superficial filaments. Internally the mass is paler and brownish, composed of dense, parallel, entangled, but apparently unbranched, filaments, of an equal thickness throughout, and, as far as we can discern, destitute of joints. The whole is impregnated with a calcareous sediment, from the petrifying nature of the water in which it grows, which renders it hard, though friable, and increases the difficulty of detecting the real organization of its filaments. This calcareous matter, or *stalagmite*, is found by itself, in granulated masses, on the adjoining parts of the stone where this *Rivularia* grows.



Oct 1 1807 Published by Jas Sowerby London

CONFERVA echinulata.

Little Hedgehog Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Glaucous. Stems jointed, undivided, spreading every way from a centre, and forming a globe.

SENT by the Rev. Mr. Davies from a lake in Anglesea. It covers the surface of the water in the months of June and July, and consists of innumerable minute globules of a glaucous or verd grise green, all nearly of a size. When examined with a microscope, each globule appears to be composed of a number of simple cylindrical short filaments, spreading in every direction, and apparently springing from a solid centre. Under a very high magnifier these filaments are found to be formed of short uniform joints, each of which is of an equal thickness throughout, but the upper ones gradually diminish in size.

Mr. Turner has suggested to us, that this minute vegetable ought probably to be referred to the celebrated Dr. Roth's new genus of *Rivularia*, to which our *Ulva incrassata*, *v.* 14. *t.* 967, and *U. pruniformis*, *t.* 968, belong. Those species are of a pulpy substance, clothed with jointed filaments. We are strongly persuaded of this being similarly constructed, and not a mere mass of filamentous stems like *C. ægagropila;* but we wish not to decide the question till we have finally determined the genera of this tribe: more especially as we have under consideration a production very similar to the present, though without filaments, found by Mr. Crowe in Norfolk, which seems likely to throw some light upon it.

Nov.r 1 1804. Published by Jas Sowerby. London.

TREMELLA mesenterica.

Plaited Yellow Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, plaited, lobed, waved, orange-coloured.

SYN. Tremella mesenterica. *Retz. Prodr.* 294. *Dicks. Crypt. fasc.* 1. 14. *With.* v. 4. 79. *Hull.* 309. *Schk.* 391. *Abbot.* 271.

T. mesenteriformis. *Jacq. Misc. Austr.* v. 1. 142. t. 13.

T. juniperina. *Hudson* 562. *Relh.* 441.

Agaricus membranaceus sinuosus, substantiâ gelatinosa. *Relh. Syn.* 21.

THIS very striking vegetable is found now and then on dead branches of Oaks or other trees, or on decayed stumps of the common Broom, and Furze. I never remember to have seen it in such plenty as in November 1799, on a hurdle near to the higher road from Guildford to Farnham, Surrey.

It is always found on dead wood or bark, forming clusters of various membranes, of a more or less deep orange-colour; when young, pale yellow or whitish. Its substance in moist seasons, when alone the plant is in perfection, is soft and flexible, neither clammy to the touch nor very tender. In dry weather, or when gathered and laid by, it shrinks considerably, grows darker coloured, hard and firm; but revives in moist air. It has little taste or smell. The fructification is hitherto unknown, yet it appears to be an annual plant, and consequently propagated by seed.

TREMELLA ferruginea.

Plaited Rusty Tremella.

CRYPTOGAMIA Algæ.

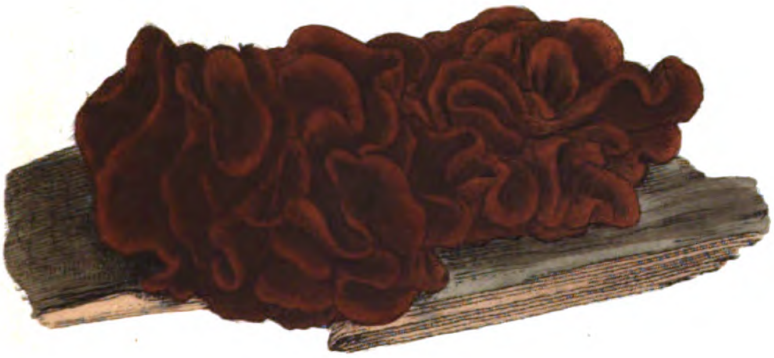
GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, lobed, waved, of a rusty brown; the surface finely pubescent.

FOUND by Mr. Crowe at Lakenham near Norwich, growing on dead wood in wet weather in winter. We can find no description nor figure applicable to it, nor has any botanist who has seen our specimens been able to refer them to any known species.

The substance is gelatinous, pliable and tender, becoming thin, shriveled, and shapeless, when dry, reviving, though imperfectly, on a reapplication of moisture. The segments are coarse, lobed and waved, but not so plaited or sinuous as those of *T. mesenterica*, v. 11. t. 719. neither is the surface, as in that, smooth, but finely pubescent or granulated, the granulations pale, giving the plant a velvet-like gloss, with brown irregular specks, perhaps fructification, among them. The internal substance is white.

Bulliard's *tab.* 499. *f.* 6. X, which he considers as a variety of *T. mesenterica*, most resembles our plant; but that is smooth, with a violet tinge, giving out a fine red brown colour to water, which is of use in painting; all which is inapplicable to ours.



May 1 1808 Published by Jas Sowerby London.

TREMELLA intumescens.

Brown Tumid Tremella.

CRYPTOGAMIA Algæ.

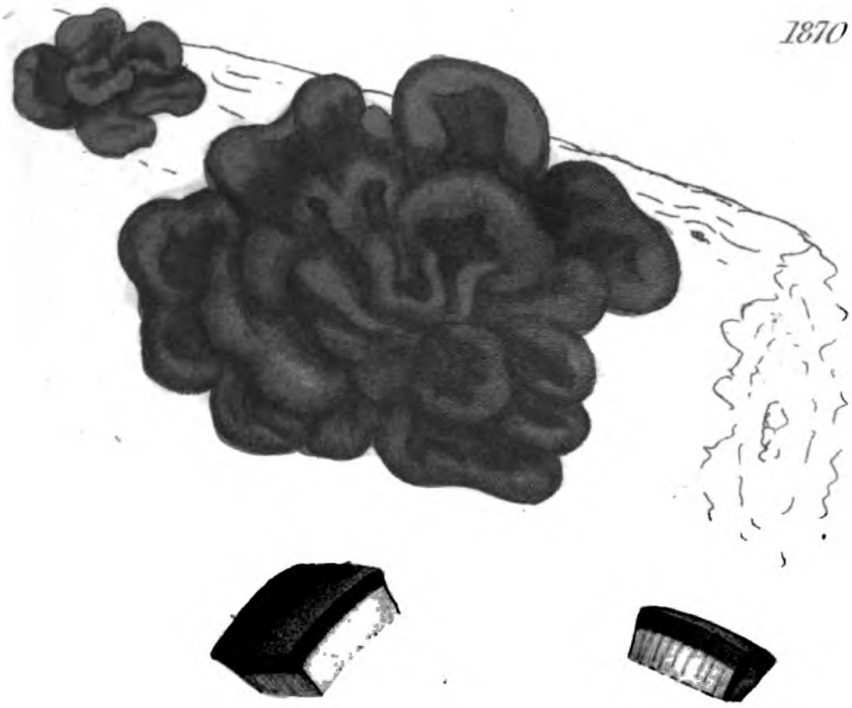
GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, twisted, tumid, brown, shining and gelatinous; when dry, thin and membranous.

FOUND growing on a beech in St. Leonard's forest, Sussex, by Mr. W. Baxter in January 1807. We can find no description in Persoon nor any other author that accords with it.

This species, like *T. mesenterica*, *t.* 709, is in perfection in very wet weather only, when it forms numerous roundish soft and pulpy clusters, twisted and tumid like the intestines of some animal, of a darkish dull brown, but with a shining surface obscurely lined. The inside is paler and almost white, except that, when cut longitudinally, brown vertical streaks are observable near the surface, in which one would suspect the seeds to be lodged. When dry the whole plant becomes a thin membrane.

It is difficult in some cases to draw the line between the Cryptogamic orders of *Algæ* and *Fungi*, but the former are commonly more durable, and especially completely revivescent on the application of moisture. This last circumstance, added to the affinity of *Tremella* to *Lichen*, induces us to dissent from the ingenious Mr. Persoon, who ranges it with the *Fungi*.



Apr. 1. 1808. Published by Ja.t Sowerby, London.

124.

TREMELLA moriformis.

Mulberry Tremella.

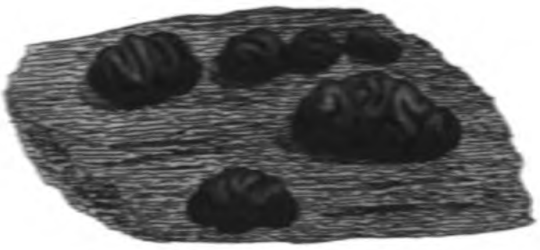
CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, clustered, twisted, black, opaque; internally fleshy, deep purple.

FOUND by Mr. C. E. Sowerby, on pales and rails between Hoodly gate and Meastham, Surry, early in June last. We can discover no synonym for this plant, and therefore venture to publish it as new.

It grows sessile, on exposed wrought wood, in roundish or oblong, tumid, sinuous masses, of various sizes, not unlike mulberries in appearance, except being coal-black. Internally however they are of a rich deep purple hue. The substance is fleshy, attached by strong central roots. When dried between paper, a violet stain is communicated to whatever the plant touches.



TREMELLA sarcoides.

Fleshy Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, gelatinous, reddish purple; at first club-shaped; then rounded, lobed, plaited or curled; finally blackish.

SYN. Tremella sarcoides. *With.* v. 4. 78.

T. amethystea. *Bull. Fung.* v. 1. 229. *t.* 499. *f.* 5. *With.* v. 4. 82.

Helvella sarcoides. *Dicks. Crypt. fasc.* 1. 21. *Hull.* 397. *Bolt. Fung.* v. 3. 101. *t.* 101. *f.* 2.

Elvela purpurea. *Scharff. Fung.* v. 4. 114. *t.* 323, 324.

Lichen sarcoides. *Jacq. Misc.* v. 2. 378. *t.* 22.

FOUND on rotten wood, in damp shady places during the autumn. We have gathered it in Tilney gardens, and at Hornsey and Hampstead. Few, even of this tribe, are more variable in form. It is first of a club-like figure, erect, with somewhat of a stalk; but soon dilates into the shape of a top or funnel, composing aggregate or deformed masses, variously rounded or lobed. Its substance is semipellucid, gelatinous, with a toughish elastic skin; the colour a vinous or flesh-like purple, turning dull, and at last black, in decay.

Persoon's *Peziza sarcoides*, (*P. tremelloidea* of Bulliard, t. 410. f. 1), which he has confounded with the above, seems to be a real *Peziza*. We have met with it several times. Its shape is far less variable; the upper surface deep purple; the outside pale, with branching elevated veins or plaits.

2450.

Published by J. & C. Sowerby London

TREMELLA vesicaria.

Bladder Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Membranous, somewhat rigid, brownish white, pouch-like, filled with viscid evanescent jelly.

SYN. Tremella vesicaria. *Bull. Fung.* 224. *t.* 427. *f.* 3.

BULLIARD mentions this as a very rare species. Our specimen was found many years since, by the late Mr. Jacob Rayer, near Maidstone, Kent, and communicated to Mr. Sowerby by T. F. Forster, Esq.

This *Tremella* always grows on the ground, either solitary or in tufts, fixed by fibrous radicles. When young it consists of a turgid bag, whose coat is about half a line in thickness, pliable, with a considerable degree of firmness and elasticity, enclosing a mass of viscid jelly. The jelly is in time discharged by a rupture of the bag, which collapses, and looks like the fresh bladder of an animal just emptied of its contents. The whole assumes a reddish brown hue as it verges towards decay. Bulliard speaks of a green variety, unknown to us.

Sept. 1, 1813 published by Jas. Sowerby London

TREMELLA flaccida.

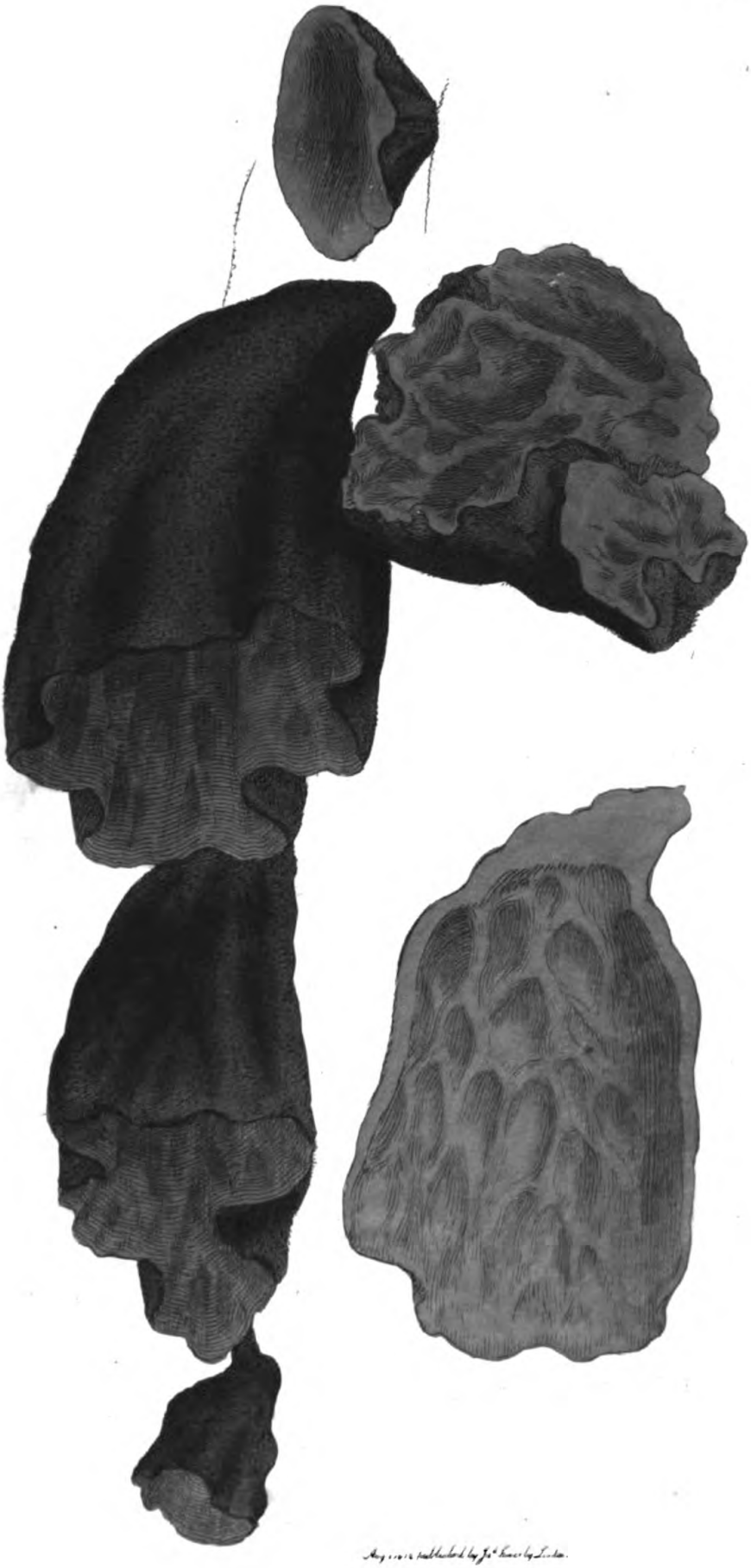
Pendulous Black Tremella.

CRYPTOGAMIA Alga.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Membranous, thin, flaccid and pendulous, very black; externally opaque and roughish; internally corrugated.

WE conceive this to be a nondescript species of *Tremella*, very distinct and curious in its nature, though most akin to Bulliard's supposed variety of his *Peziza nigra*, *t.* 116. Ours was found on the perpendicular trunk of a living Oak in Petersham park, growing several specimens one above another, drooping downward in a bell-shaped manner, so that the external surface of the plant, which should naturally be inferior, became uppermost. This surface, when fresh, resembled black crape in colour and roughness. The inner or concave side, which should have been uppermost, is smooth and more shining, furnished with several vein-like wrinkles.



May 1, 1818 Published by Jos. Rose by London.

TREMELLA Auricula.

Jew's-ear Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Sessile, leathery, reddish brown; rough beneath; rugged and plaited above, resembling an ear.

SYN. Tremella Auricula. *Linn. Sp. Pl.* 1625. *Huds.* 553. *Pers. Syn.* 624. *Bull. t.* 427. *f.* 2.

Peziza Auricula. *With. v.* 4. 351. *Hull.* 405. *Relh.* 525. *Sibth.* 387. *Bull. Fung. v.* 1. 241.

P. auriculam referens. *Raii Syn.* 18.

Agaricum auriculæ formâ. *Mich. Gen.* 124. *t.* 66. *f.* 1.

GENERALLY found upon rotten stumps of the Elder-tree. This species is of a semi-transparent, more or less deep, reddish brown, the under surface darkest, opaque, and roughish; the upper smooth and more shining, corrugated; the plaits branching from the middle part where they are strongest, and somewhat convoluted, so as to convey an idea of the human ear. When this plant grows on a perpendicular stump or tree, it turns upwards.

Bulliard, though he first published a figure of the present species as a *Tremella*, has, in his text, removed it to *Peziza*, "because," he says, "the seeds are not discharged from every point of its surface, but only from the upper side."

2447.

May 1.1812 published by J. Sowerby London

TREMELLA arborea.

Tree Butter Tremella.

Indivisible Age.

Gen. Char. Fructification scarcely perceptible, in a membranous white-like substance.

Spec. Char. Fossile gelatinous roundish, undulated, marginal, beset with mammillary white-headed processes on the upper side.

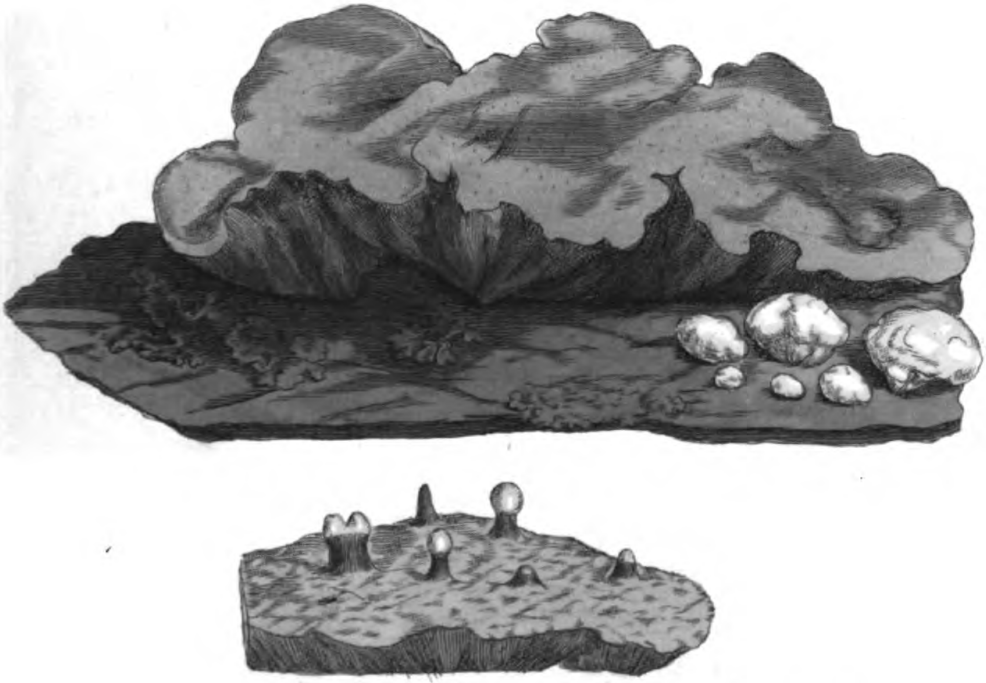
Syn. Tremella arborea. *Huds.* 563. *With.* v. 4. 78. *Eng.* 374. *Relh.* 477. *Sowb.* 390. *Abbot.* 271.

T. glandulosa. *Bull.* t. 421. f. 1.

T. arborea nigricans, minus pinguis et fugax. *Dill. Musc.* 54. t. 11. f. 13.

COMMON upon fallen trees and dead sticks in the winter months; Bulliard says, most frequently on the Alder. It consists of roundish unequal masses, rarely elevated on any thing like a stalk: lobed above; most corrugated beneath. The substance is thickish and gelatinous; the colour pale and transparent at first, but soon changing to brown and almost black. The upper surface bears scattered upright short prominences, each with a black cylindrical base, and a convex white head, in which one would presume the fructification to be lodged. Dillenius says it is called, in Herefordshire, Witches' butter, because, when thrown into the fire, it is believed to be efficacious against witchcraft.

The plant figured in Jacq. Coll. v. 3. t. 12. f. 2, greenish and membranous in its appearance, must surely be different from this; nor can we, even doubtingly, refer ours to the family of Lichens, as Acharius has done, *Prod.* 139. *Meth.* 246.



Magazine published by J. Sowerby London.

TREMELLA boletiformis.

Brown Fungi-backed Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible in a membranous jelly-like substance.

SPEC. CHAR. Nearly sessile, scattered, roundish, depressed, brown; smooth and shining above; rough and dotted beneath.

WE have been long in doubt concerning this *Tremella*, which was found in Sussex by Mr. W. Borrer, and at Starston and Postwick Norfolk by Mr. W. J. Hooker. It was supposed to be the *T. fungiformis* of Roth, in *Ann. of Bot. v.* 1. 280; consequently *Peziza gelatinosa* of Persoon, *Syn. Fung.* 633, and *Bulliard t.* 460, *f.* 2; but we find it so different from that figure and from many points in all the descriptions, that we venture to describe it as new.

It grows scattered, not clustered, each plant being nearly sessile, irregularly orbicular, depressed, all over of a dull, not reddish, brown. The upper surface is unequal, but smooth and polished; the under rough, and as it were dotted, which roughness, extended to the edge, gives it a crenate aspect.

T. fungiformis is more stalked and reddish, concave at the top, and smooth on both sides.

1819

Dec. 1819. Published by Jas. Sowerby, London.

TREMELLA albida.

White Tremella.

CRYPTOGAMIA Alga.

Gen. Char. *Fructification* scarcely perceptible in a membranous jelly-like substance.

Spec. Char. Sessile, dilated, obtuse, whitish or somewhat brownish, pulpy, semipellucid.

Syn. Tremella albida. *Huds.* 565. *With.* v. 4. 77. *Hull.* 309. *Relh.* 477. *Sibth.* 392. *Abbot.* 270.

T. candida. *Pers. Syn. Fung.* 624?

T. cerebrina. *Bull. Fung.* t. 1. 221. *t.* 386.

Exvela vicesima. *Schaff. Fung.* t. 2. *t.* 168.

FOUND on decayed branches of trees in shady woods, or according to Relhan on old rails. Mr. Lyell has sent it on a rotten branch of oak.

It bursts through cracks in the bark, and then spreads itself in horizontal or clustered, rounded, obtuse, scalloped masses, white, semipellucid, extremely gelatinous and tender when young; afterwards turning yellowish. Bulliard observes that in the white state it is often so like the brain of an animal as to be capable of deceiving the eye, and if laid on a plate of glass, covers it with powdery seeds. This circumstance, and its being found on old dead wood, proves the vegetable nature of this production, and that it is not an exudation of mucilage from the wood in consequence of immoderate wet.—— Bulliard says some varieties are always yellow, others brown or almost black.

2117

Feb 1.1810 published by J.t Lowerly London.

TREMELLA Noſtoc.

Ground Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* ſcarcely perceptible, in a membranous jelly-like ſubſtance.

SPEC. CHAR. Seſſile, roundiſh, plaited, waved, of an olive green.

SYN. Tremella Noſtoc. *Linn. Sp. Pl.* 1625. *Hudſ.* 564. *Wilb. V.* 4. 80. *Relb.* 441. *Sibth.* 390.

Ulva terreſtris pinguis et fugax. *Raii Syn.* 64.

THE right honourable Lady Arden, in her reſearches for *Fungi*, met with this fine ſpecimen of the *Tremella Noſtoc*, which is not indeed an uncommon plant in paſtures, or on gravel walks, after rainy weather, at various ſeaſons of the year, though ſeldom ſo large as is here repreſented. It grows very ſlightly attached to the ground, of a tender gelatinous ſubſtance, forming a variouſly convoluted waved and inflated leaf, of a dull or olive green, quite ſmooth. On the return of dry weather, it ſuddenly dries up, becomes black and brittle, and diminiſhes ſo much in ſize as to be eaſily overlooked. Its fructification has not, to our knowledge, been obſerved; but there is every reaſon to ſuppoſe it is propagated by ſeeds, which muſt be lodged in the gelatinous ſubſtance. The generic character therefore between this vegetable and the *Ulvæ* is by no means clear. The latter indeed are more membranous, and for the moſt part of marine origin; but we are not yet furniſhed with ſatisfactory characters to diſcriminate them from this and ſome other *Tremellæ*. Ray and Dillenius make this an *Ulva*.

This ſingular production has given riſe to many ſtrange ideas. The vulgar ſuppoſe it the remains of a fallen ſtar, or of a Will-of-the-Wiſp. Some Italian philoſophers have miſtaken for it a gelatinous ſubſtance which is nothing more than the remains of frozen frogs, as Dr. Withering has very ſatiſfactorily ſhewn, and thence it was by chemical analyſis proved to be an animal! Others have made a ſimilar miſtake reſpecting young aquatic ſnails. See *Tour on the Continent*, *V.* 3. 150.

March 1790 Published by J. Sowerby London

TREMELLA Sabinæ.

Savine Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* ſcarcely perceptible, in a membranous jelly-like ſubſtance.

SPEC. CHAR. Seſſile, prominent, oblong, tooth-ſhaped, tawny, ſomewhat powdery.

SYN. Tremella Sabinæ. *Dickſ. Crypt. faſc.* 1. 14. *With. v.* 4. 79. *Hull.* 309.

Fungus gelatinus dentatus, Sabinæ adnaſcens, fulvi coloris. *Raii Syn.* 16.

MOST paraſitical plants of the claſs *Cryptogamia* are found either upon totally dead trunks or branches, which is the caſe with *Fungi*, and with *Tremellæ* in general; or they are rooted, like the cruſtaceous Lichens, in decayed external layers of the bark. On the contrary, the production now before us ſprings from the live wood, under the bark, of the moſt vigorous branches of *Juniperus Sabina*. The branch is always ſwelled in that part, but otherwiſe healthy. The excreſcences themſelves are from one line to an inch long, their length and bulk decreaſing exactly in proportion with the thickneſs of the branch from which they originate, ſo that ſome ſituated on the very youngeſt green twigs are extremely ſmall. Theſe never however grow larger. They all come forth together in very wet ſeaſons only, and are oblong, of no very determinate figure, often lobed, of a browniſh orange hue. Their ſubſtance is mucilaginous, their ſurface powdery, but deſtitute of any ſkin. Sometimes they are ſomewhat hollow. In dry weather they ſuddenly collapſe and dry up. —An exactly ſimilar ſubſtance is found on the *Juniperus communis*, and is certainly what Linnæus meant by his *T. juniperina*.

From the above circumſtances I have always thought theſe to be mere gummy exudations, and that the powdery ſurface was owing to reſinous particles, inſoluble in water, accompanying them. No one has hitherto aſſented to this opinion. I propoſe it for the ſake of enquiry only.

134.

TREMELLA granulata.

Granulated Tremella.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Green, globular, clustered, membranous, containing a fluid.

SYN. Tremella granulata. *Huds. Fl. An.* 566. *With. Bot. Arr. v.* 3. 225. *Relh. Cant. Suppl.* 1. 26.

T. globosa. *Weis Gotting.* 28.

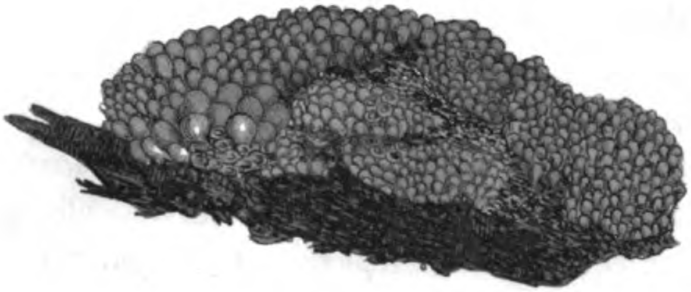
T. palustris, vesiculis sphæricis fungiformibus. *Dill. Musc.* 55. *t.* 10. *f.* 17.

Ulva granulata. *Linn. Sp. Pl.* 1633. nec *Mant.* 136.

Lichenoides fungiforme, capitulis vel vesiculis sphæricis aqueo humore repletis. *Raii Syn.* 70.

GATHERED very abundantly Sept. 8, 1795, at Camberwell in a pond partly dried up, also on the mud of ditches in that neighbourhood. It consists of innumerable green globules, about the size of mustard seed, sessile at first, but soon elevated on a thick foot-stalk, attached to the mud by fibrous roots, but not connected with each other by any kind of crust or leaf. When walked upon they crackle under the feet like thin ice, and discharge a watery fluid; which also comes out spontaneously, as the plant advances in age, by an orifice at the top, and immediately afterwards the skin collapses, forming a little cup with a hole in the centre. See our magnified representations.

Mr. Relhan justly observes that the *Ulva granulata* of Murray's *Syst. Veg.* taken up from the *Mantissa*, must, from the description, be a different plant from that intended in the *Species Plantarum* and *Flora Suecica*, which last is unquestionably our present *Tremella*.



TREMELLA cruenta.

Gory Tremella.

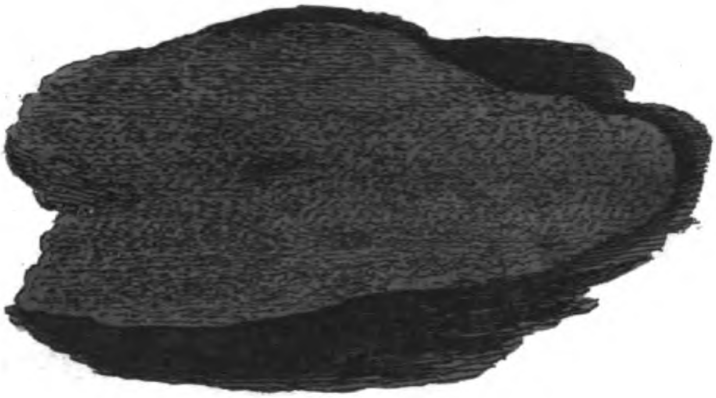
CRYPTOGAMIA Algæ.

GEN. CHAR. *Fructification* scarcely perceptible, in a membranous jelly-like substance.

SPEC. CHAR. Minutely granulated, diffuse, indeterminate, shining, dark purple.

COMMON about the lower parts of walls in damp situations, even in the streets of close towns, during the wet winter months. In such situations it forms broad indeterminate patches, of a deep rich purple, with a shining surface, as if blood or red wine had been poured over the stone or ground. When examined with a microscope, it proves to be a congeries of extremely minute, pellucid, globular granulations, all equal in size. No particular scent or flavour is observable, nor does this production appear to have any affinity, as we once thought it might, to *Byssus* (or *Lichen*) *Jolithus*; neither is it alluded to in the Rev. Mr. Starke's paper of inquiry concerning that plant. See *Sims and Konig's Ann. of Bot.* v. 1. 258.—We have thought it worth while to commemorate this vegetable, as no botanist can overlook its existence, though he may be puzzled where to place it. We are well aware that it can only rank as a *Tremella* till more observations are made on the subject; but it certainly agrees better with that genus than with any other established one. When gathered in a perfect state it dries well, and retains its colour.

1800



Oct 1. 1800 - Published by Ja.s Sowerby London

BYSSUS barbata.

Bearded Yellow Byſſus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant conſiſting of down or ſimple powder. *Fructification* unknown.

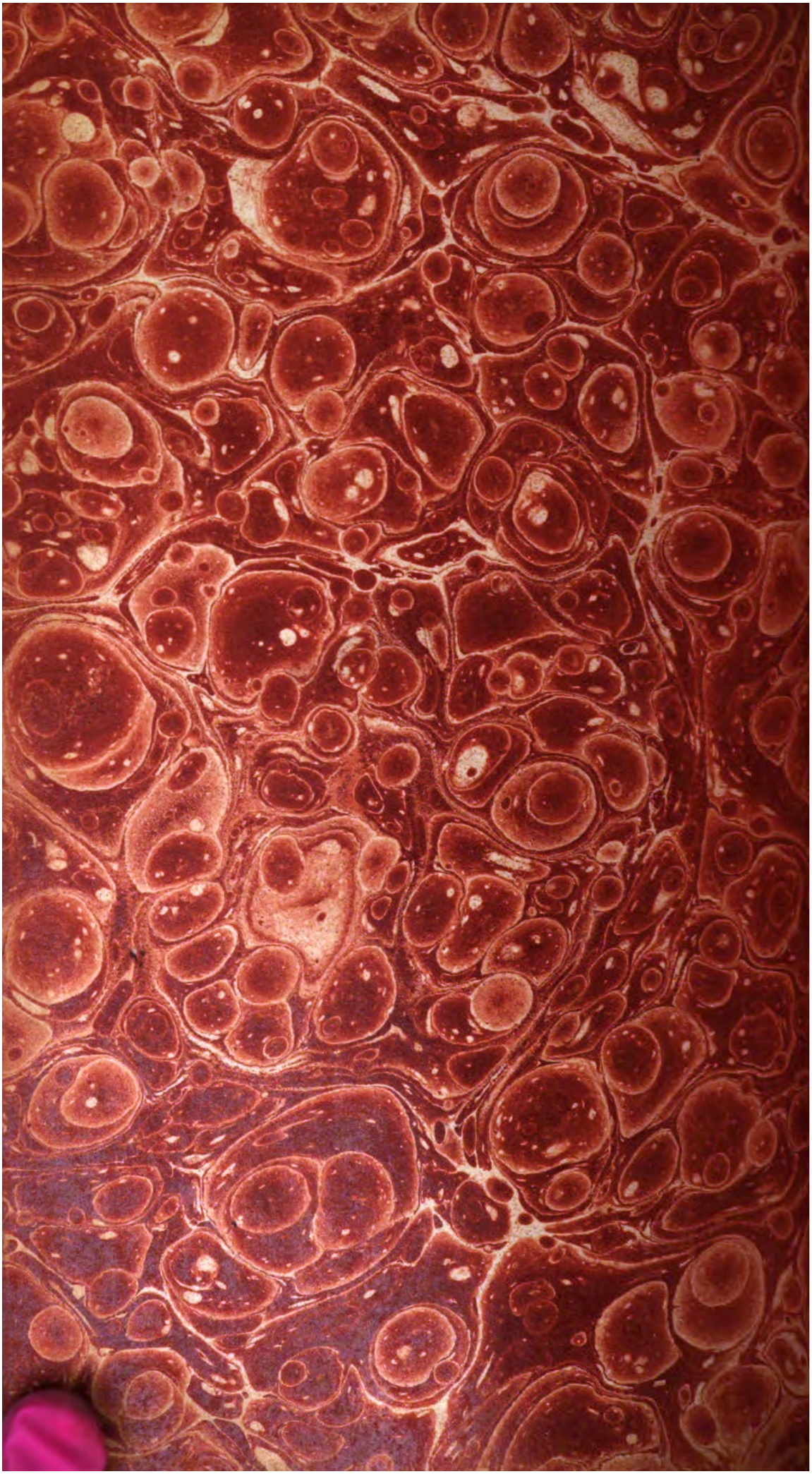
SPEC. CHAR. Filaments upright, branched, bundled, with annual interruptions, tawny, with ſmooth, ſwelled, deeper-coloured tips.

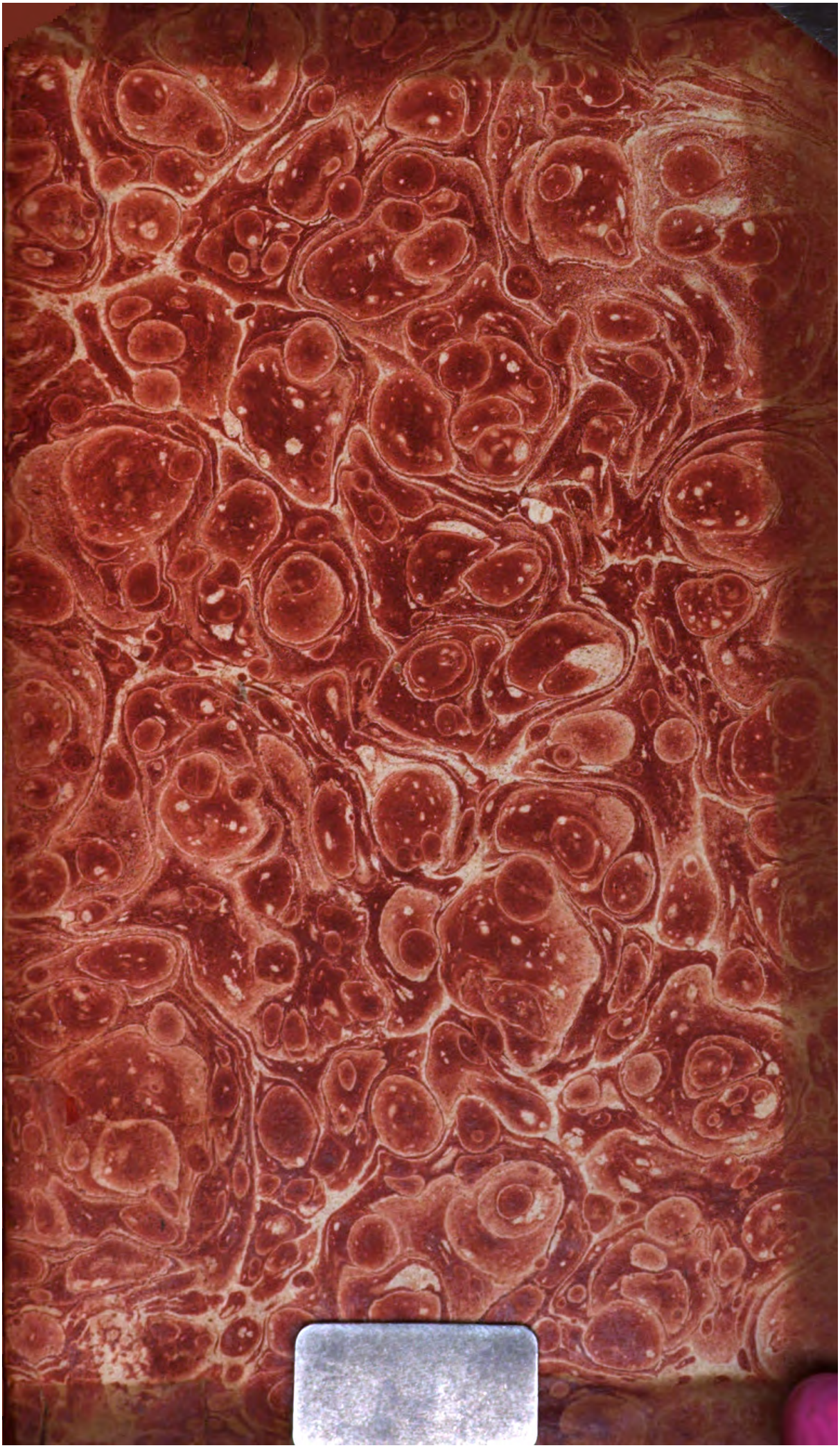
SYN. Byſſus barbata. *Hudſ.* 606. *Hull.* 308.
B. fulva. *With. v.* 4. 144. *t.* 18. *f.* 5.
B. arborea barbata, fulvi coloris. *Dill. Muſc.* 9. *t.* 1. *f.* 19. *Raii Syn.* 57.

DR. WITHERING has accidentally referred this production to the *Byſſus fulva* of Hudſon inſtead of his *barbata*; hence there is ſome confuſion in his account of it. We have been favoured by the Right Hon. Lady Elizabeth Noel with a fine ſpecimen, accompanied by an excellent drawing of her own, in which the ſwellings at the ends of the branches are more complete than in any we have before ſeen; and her ladyſhip ſuppoſes, with great probability, the fructification may in ſome mode or other be contained in them. If ſo, it is the firſt approach towards the diſcovery of the fructification in this genus. Theſe tips are ſmooth, of the rich colour of the ſtigma of the *Crocus ſativus*, and ſemitranſparent; we have ſought in vain for any granules or ſeeds, but Dr. Withering perhaps had a more advanced ſpecimen.

The B. *barbata* grows on decayed wood in ſhady places, as court-yards, &c. It forms thick tawny-coloured tufts, from one to two inches high, and is perennial, the growth of each year being marked by a ſwelling and a darker colour in each principal filament or ſtem. Young plants conſiſt of a ſimple filament, regularly and beautifully feathered at the ſummit.

701.





CON

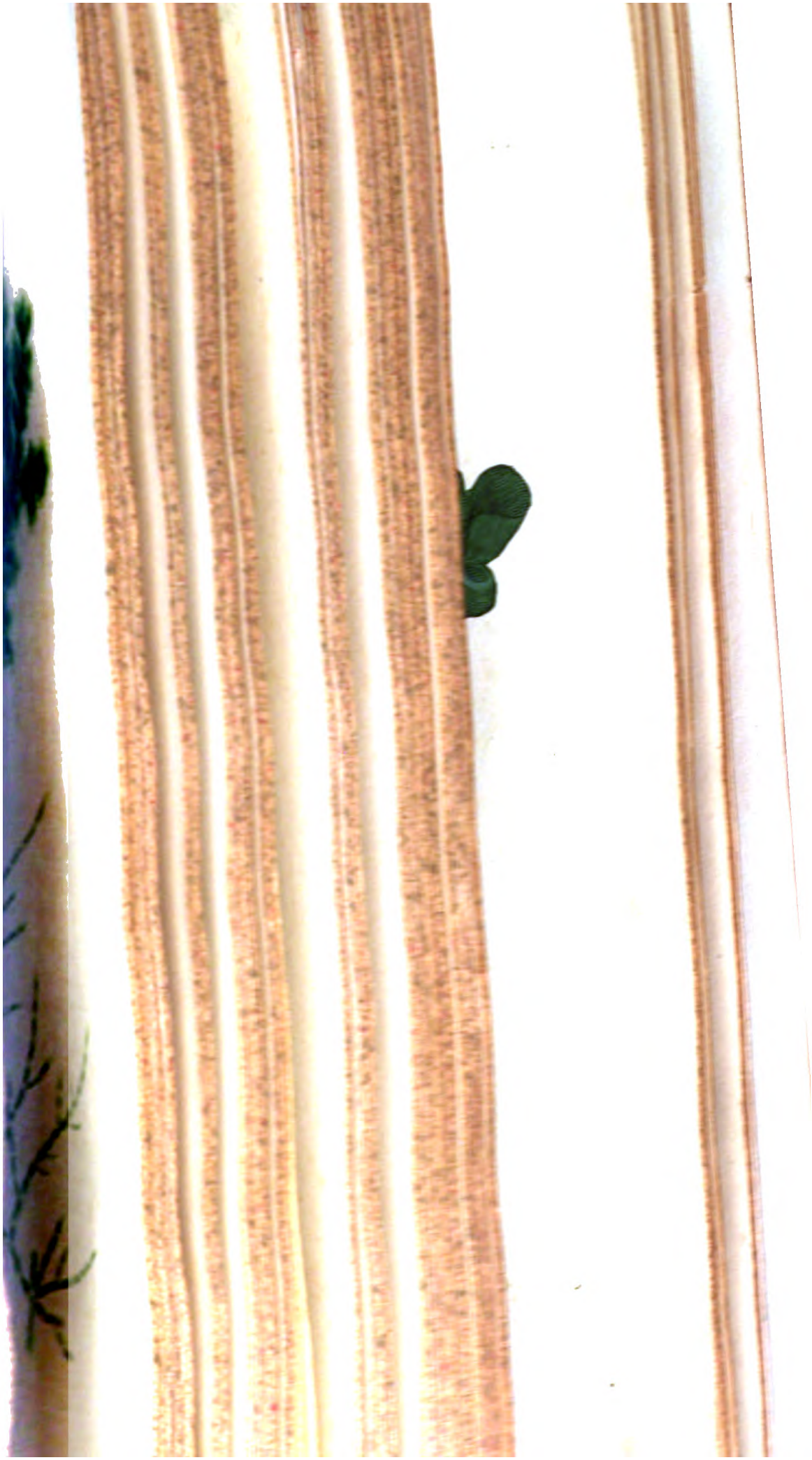
Ru

C

GEN. CHAR. *Seed*
tubercles, pr
with it.

SPEC. CHAR. F
crowded, muc
even, twice as

MR. LYELL, the c
has also detected thi
striatum, on trees in
at first sight, much
luxuriance of the ra
of many mosses; bu
proceed from the ver
its being a new para
It forms very copic
stems are 2 or 3
ched, crooked, d
sy like human ha
ling, obtuse, fre
very short, not s
their opacity.
Tufts of a somewl
le, are often found
nature we are unacq
of this Confervа?



CONFERVA muscicola.

Rusty Moss Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in round, solitary, closed tubercles, projecting from the frond, but united with it.

SPEC. CHAR. Rusty brown. Filaments upright, crowded, much and irregularly branched. Joints even, twice as broad as they are long.

MR. LYELL, the discoverer of *Conferva lichenicola*, *t.* 1609, has also detected this new species, growing on *Orthotrichum striatum*, on trees in the New Forest, Hampshire. We were, at first sight, much inclined to suppose it some uncommon luxuriance of the radical fibres, so conspicuous on the stems of many mosses; but, as Mr. Sowerby has ascertained it to proceed from the very disk of the leaf, we can no longer doubt its being a new parasitical Conferva.

It forms very copious and dense tufts, of a dark rusty brown. The stems are 2 or 3 lines high, erect, much and irregularly branched, crooked, divaricated, of equal thickness throughout, glassy like human hair under a microscope; the branches ascending, obtuse, frequently pointing one way. The joints are very short, not swelling, often scarcely visible on account of their opacity.

Tufts of a somewhat similar production, but short and simple, are often found on the same kind of *Orthotrichum*, whose nature we are unacquainted with. Can they be an early state of this Conferva?