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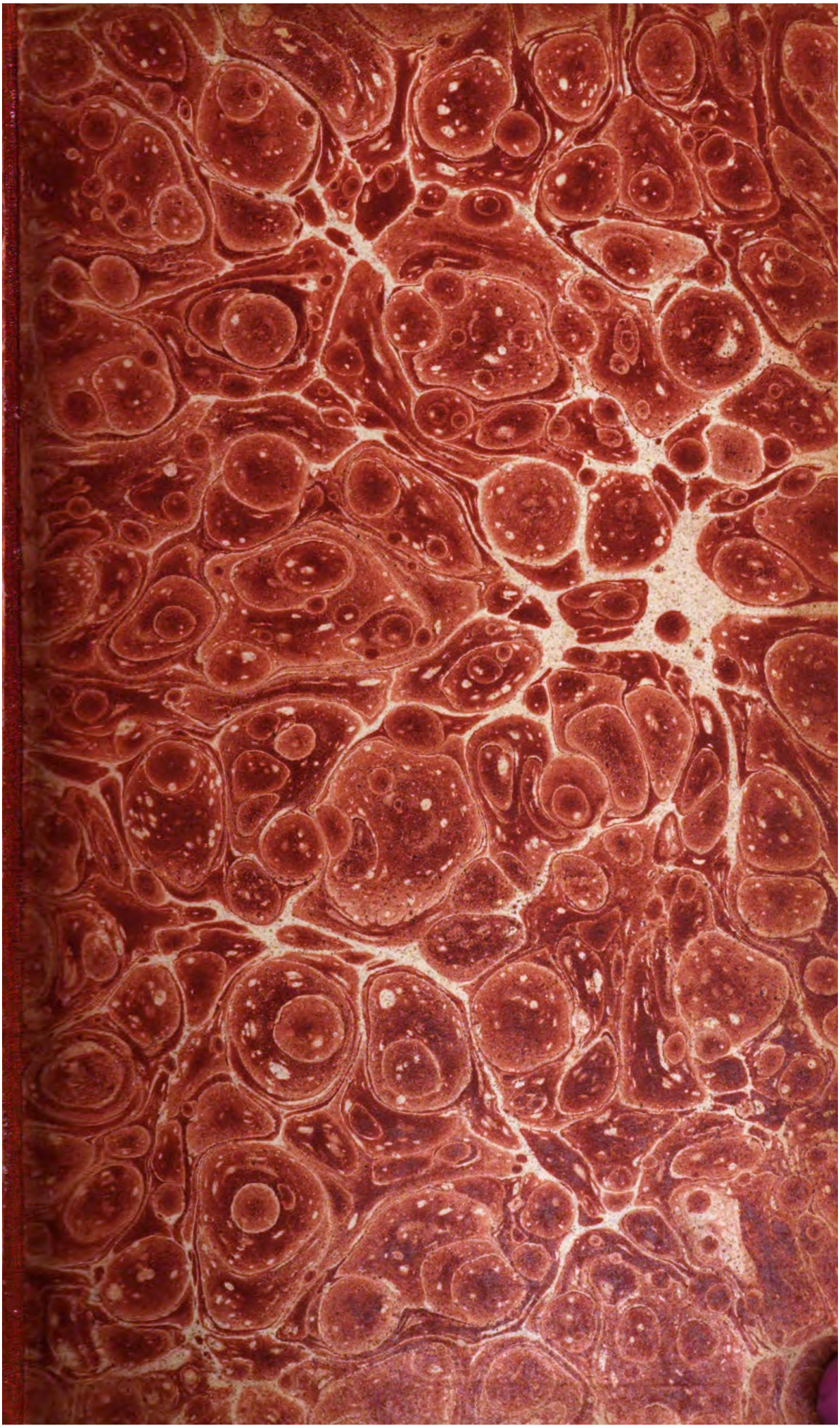

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ENGLISH BOTANY;

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. XV.

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MDCCCII.

GRIMMIA recurvata.

Recurved Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves bristle-shaped. Capsule pear-shaped, smooth, with a spreading mouth. Fruit-stalk bowed.

SYN. Grimmia recurvata. *Hedw. Sp. Musc.* 75. *Crypt. v.* 1. 102. *t.* 38. *Sm. Fl. Brit.* 1183. *Turn. Musc. Hib.* 24.

Bryum recurvatum. *Dicks. Crypt. fasc.* 2. 7. *With.* 838.

B. setaceum. *Wulf. in Jacq. Misc. v.* 2. 96. *t.* 12. *f.* 1. *Hull.* 265.

OUR specimens were gathered on a coarse kind of sandstone at Hackfall, Yorkshire, by our excellent friend the Rev. James Dalton. Others have been sent us by Mr. G. Don from Salisbury craigs near Edinburgh.

This is one of the smallest of Mosses. It is an annual, and bears fruit early in the summer. The root is fibrous, very minute. Stem short, simple and leafy. Leaves numerous, of a light bright green, not glaucous, very slender, tapering, entire, spreading. Fruit-stalk terminal, solitary, capillary, erect when young, but as the fruit advances towards maturity it is curved into a bow, and the capsule, which is pear-shaped, smooth, and of an olive brown, is bent downward, and becomes at length dilated and bell-shaped. Lid tapering, incurved, half as long as the capsule. Fringe short, red, spreading.

Tab. X.

Aug.t 1. 1808. Published by Jas Sowerby, London.

2.

GRIMMIA pusilla.

Dwarf Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Stem scarcely any. Leaves bristle-shaped. Capsule ovate, erect, smooth, dilated at the mouth.

SYN. Grimmia pusilla. *Roth. Germ. v.* 3. 147. *Sm. Fl. Brit.* 1184.

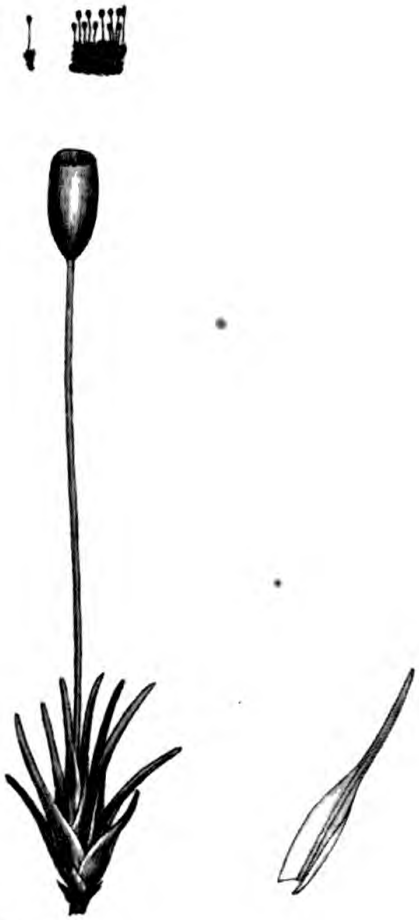
Weisia pusilla. *Hedw. Sp. Musc.* 64. *Crypt. v.* 2. 78. *t.* 29, A.

Bryum paludosum. *Linn. Sp. Pl.* 1584. *Huds.* 478. *With.* 813. *Hull.* 257.

B. trichodes acaulon palustre minimum, setis et capsulis brevissimis. *Dill. Musc.* 387. *t.* 49. *f.* 53.

SOME doubts having been started, though perhaps without reason, respecting the specimens of this rare little moss found near Ambleside, as noted in the *Flora Britannica*, we have procured the certain plant of Dillenius and Hedwig from Mr. Dickson. It grows on mountainous bogs in Wales and the north of England, bearing fruit early in the spring.

This is one of the least of mosses, and is presumed to be annual. The stem is so short as to be hardly discernible. Leaves several, light green, turning brownish with age, moderately spreading, bristle-shaped, dilated at the base, with a strong midrib. Fruitstalk central, solitary, erect, slender, pale, seldom quite straight. Capsule erect, ovate, smooth and even, pale brown when ripe. Our specimens have neither fringe nor lid. The former is figured by Hedwig with sixteen red spreading teeth; the latter is awlshaped, curved, about as long as the capsule.



July 1. as published by Jno. Sowerby London.

3.

GRIMMIA trichodes.

Bristle-leaved Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

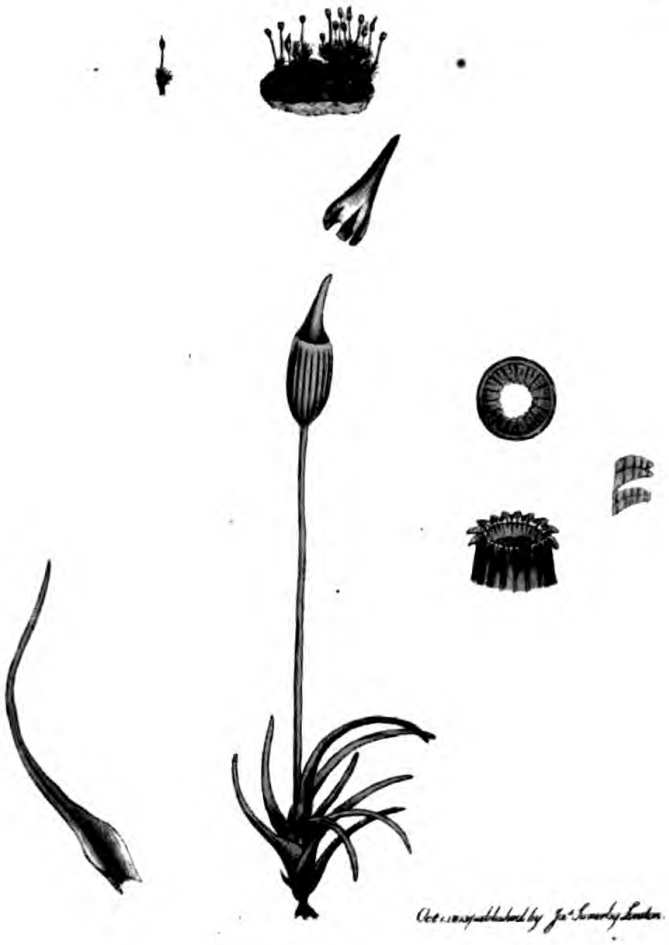
SPEC. CHAR. Stem none. Leaves bristle-shaped, curved to one side. Capsule ovate, erect, furrowed. Lid awlshaped. Fringe membranous, furrowed, deciduous.

SYN. Gymnostomum trichodes. *Web. et Mohr Ind. Crypt.* 3.

RECEIVED from Mr. W. Borrer, who found it in February 1813, in a stone-pit at Henfield, Sussex. Dr. Taylor had previously met with the same species in Ireland.

This is almost as diminutive a moss as *G. pusilla*, *t.* 2551, with which it nearly agrees in habit, forming similar velvet-like patches, but of a brighter green. The leaves are likewise bristle-shaped, and dilated at their base, but rather longer, and curved to one side. Capsule ovate, pale brown, with 16 longitudinal furrows. Lid awlshaped, nearly as long as the capsule, not quite erect. Veil splitting at the base into several segments, as in some of the genus *Trichostomum*.

The fringe is the greatest peculiarity of this moss, and so very singular is that part, that the genus becomes consequently involved in great difficulty. It seems to have escaped the notice of Weber and Mohr altogether, whence they made the plant a *Gymnostomum*. Mr. Borrer observes that the fringe seems a continuation of the inner coat of the capsule, and looks at first like a thin inflexed membrane, nearly closing the mouth; afterwards, when dry, it becomes reflexed, forming 16 very short, blunt, flat and pale teeth, and soon falls off.—Mr. J. D. Sowerby found each tooth divided by a line, transversely furrowed, and occasionally emarginate. In the present state of our knowledge we cannot but refer this moss to *Grimmia*, with several received species of which it accords in habit.


Act. as published by Jas. Sowerby London.

GRIMMIA striata.

Striated Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves linear-lanceolate, acute, keeled, entire, incurved when dry. Capsule bell-shaped, furrowed. Lid bristle-shaped, oblique.

SYN. Grimmia striata. *Schrad. Journ.* 1799. *v.* 2. 57. *Sm. Fl. Brit.* 1185.

G. crispata. *Roth. Germ. v.* 3. 145.

Weisia fugax. *Hedw. Sp. Musc.* 64. *t.* 13. *f.* 5—10.

Bryum crispatum. *Dichs. Crypt. fasc.* 3. 3. *t.* 7. *f.* 4. *With.* 833. *Hull.* 264.

SCOTTISH specimens of this rare moss were communicated by Mr. Turner; we have received very fine ones also from Snowdon, gathered by Mr. Griffith. It is one of the smallest of the *Grimmiæ*, annual, growing in tufts, and bearing fruit in May and June.

The stems are about a quarter of an inch high, very slender, brittle, branched, leafy. Leaves light-green, linear or somewhat lanceolate, entire, acute, keeled, strongly reticulated, furnished with a strong mid-rib. When dry they are incurved and crisped. Fruitstalks about a quarter of an inch long, erect, yellowish. Capsule erect, red-brown, small, ovate, at length dilated and bell-shaped, furrowed. Lid as long as the capsule, oblique, awlshaped, slender. Fringe pale-brown or reddish, its teeth generally cohering by their tips, and, as Hedwig observes, very brittle, so that their bases only remain. Veil long, cylindrical, erect, yellowish.

Feb 1 1809 Published by Jas Sowerby London

5

GRIMMIA Schisti.

Slate Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves awlshaped, keeled, incurved when dry. Capsule bell-shaped, furrowed, glandular at the base. Lid conical.

SYN. Grimmia Schisti. *Sm. Fl. Brit.* 1185.
Bryum Schisti. *Retz. Prod.* 261.
B. *Fl. Dan. t.* 538. *f.* 2.

WE believe Mr. George Don, who favoured us with this moss, is the only person who has found it in Britain. He has observed it growing on stones by rivulets, in the shade, on Loch na gore and Clova mountains in Angus-shire, in July; and on a rock, whose top is always covered with snow, near Loch Arden, among the Cairn Gorm mountains of Inverness-shire, in the middle of April 1803.

The roots seem to be perennial rather than annual. The plants form dense velvet-like tufts of a bright green, owing to the long slender silky leaves, which, from a broad base, are awlshaped, keeled, concave and entire, much incurved when dry. Fruitstalk erect, not quite straight, scarcely half an inch high; pellucid, yellow and shining when young; afterwards browner. Capsule bell-shaped, strongly but somewhat irregularly furrowed longitudinally, brown; furnished with a glandular swelling at the top of the stalk on one side, which is scarcely visible but in a young state. Lid conical, short, oblique, pale orange-coloured. Fringe short, reddish. In the *Flora Danica* the veil is represented as black.

Nov. 1.1808. Published by Ja.s Sowerby London.

V

6.

GRIMMIA Starkeana.

Minute Oval-leaved Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Stem simple. Leaves ovate, slightly bearded. Capsule elliptical, upright. Lid conical, obtuse.

SYN. Grimmia Starkeana. *Roth. Germ. v.* 3. 146. *Sm. Fl. Brit.* 1186.
Weisia Starkeana. *Hedw. Sp. Musc.* 65. *Crypt. v.* 3. 83. *t.* 34. B.
B. minutum. *Dicks. Crypt. fasc.* 4. 7. *t.* 10. *f.* 17.

MR. DICKSON first observed this little moss in Britain, and to him we are obliged for specimens, which agree exactly with those sent from Germany. For those in the plate annexed we are obliged to Mr. W. Borrer, who found them near Lewes in Sussex. Mr. Turner is now convinced that the *G. Starkeana* of his *Muscologia Hibernica* is a new and distinct species, being more than twice the size of our plant, of a blacker hue, and furnished with a branched stem. He proposes to call it *atro-virens*.

The species before us is very minute, having a fibrous, probably perennial, root, and a short undivided leafy stem. Leaves crowded, spreading, ovate, entire, of a pale brownish green, furnished with a strong rib, which is extended into a small short point, often scarcely evident. Fruit-stalk solitary, erect, straight, short, brownish. Capsule erect, elliptical, smooth, brown. Lid conical, short. Teeth almost linear. The lower leaves turn to a pale brown, and are permanent. The stem grows after flowering, but does not branch.

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

GRIMMIA atro-virens.

Dark-green Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Stem subdivided. Leaves ovate, keeled, slightly bearded. Capsule elliptical, upright. Lid conical, nearly half as long as the capsule.

SYN. Grimmia atro-virens. *Turn. Bot. Guide* 620.
G. Starkeana. *Turn. Musc. Hib.* 26.

WE have Mr. Turner's authority for the above synonyms, though his Dublin specimens before us have taller and more decidedly branched stems, with a blacker hue in the whole plant, circumstances probably enough owing to their more advanced state of growth, or moister situation.

The present were sent by the Rev. H. Davies from North Wales, and grew on the ground in broad patches. The stems are short, simple or branched. Leaves crowded, spreading, dark-green, ovate or rather often obovate, entire, strongly keeled, with a thick mid-rib, which ends in a short point or beard. When dried they twist spirally together at the summit of the stem. Fruit-stalk solitary, scarcely half an inch long, pale yellowish, brown at the top. Capsule upright, of a neat, broadish, exactly oval figure, chesnut-coloured, smooth and shining. Fringe red, erect, like that of a *Trichostomum* in appearance, but not in number. Lid conical, obliquely pointed, nearly half as long as the capsule. A slight comparison will show the difference between this species and *G. Starkeana, t.* 1490.

Maund & Subbelsby Lith. Lowndes Lowndes

GRIMMIA lanceolata.

Lanceolate Bearded Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, concave, bearded. Capsule ovate. Lid tapering, oblique.

SYN. Grimmia lanceolata. *Sm. Fl. Brit.* 1186.

Leersia lanceolata. *Hedw. Crypt. v.* 2. 66. *t.* 23. *Ehrh. Crypt.* 133.

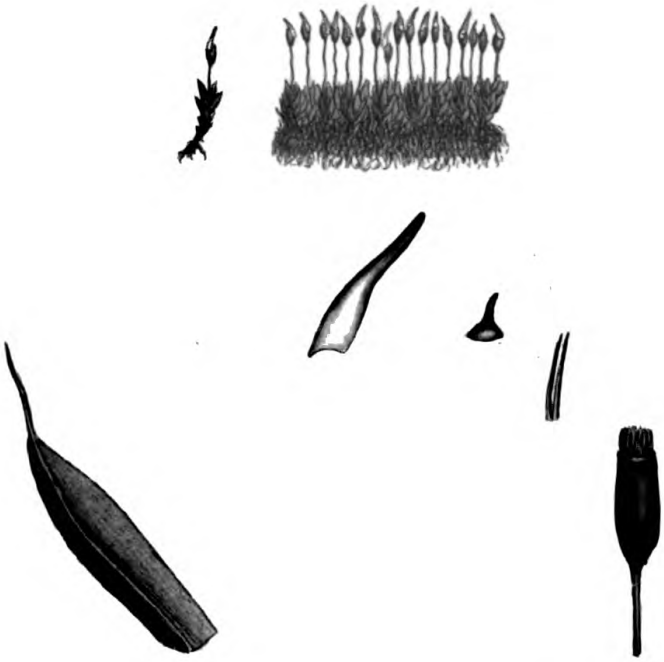
Encalypta lanceolata. *Sibth.* 278. *Hedw. Sp. Musc.* 63. *Turn. Musc. Hibern.* 19.

Bryum lanceolatum. *Dicks. Crypt. fasc.* 3. 4. *H. Sicc. fasc.* 11. 18. *With.* 824. *Hull.* 260. *Relh.* 422. *Abbot.* 240.

COMMON on dry barren heaths and banks, mud walls, and similar places, where it bears fruit in May.

The roots are perennial, longish. Plants crowded, various in height from a line to a quarter of an inch, simple, leafy. Leaves lanceolate, broadish, rather blunt, entire, tipped with a short white hair, which terminates the brownish midrib. Fruit-stalk upright, red, a little longer than the usual height of the stem, twisted by drying. Capsule erect, ovate, brown, smooth, a little contracted at the mouth. Lid but half as long as the capsule, awl-shaped or somewhat conical, inclining.

Hedwig justly indicates the resemblance of this plant to *Gymnostomum truncatulum*, and (we may add) to the species in our last plate; but his generic characters, too long overlooked, here prove eminently serviceable.



Jan.y 1 1805. Published by Jas Sowerby, London

9.

BRYUM calcareum.

Chalk Bryum.

CRYPTOGAMIA Muſci.

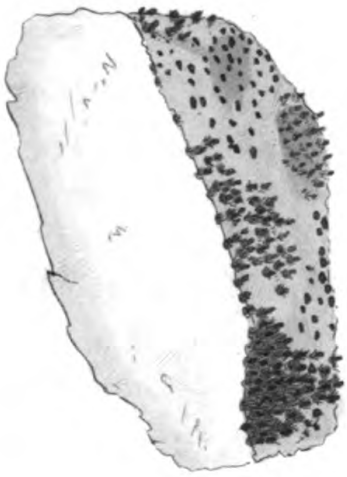
GEN. CHAR. *Capſ.* with a lid. *Veil* ſmooth. *Flower-ſtalk* from a terminal tubercle.

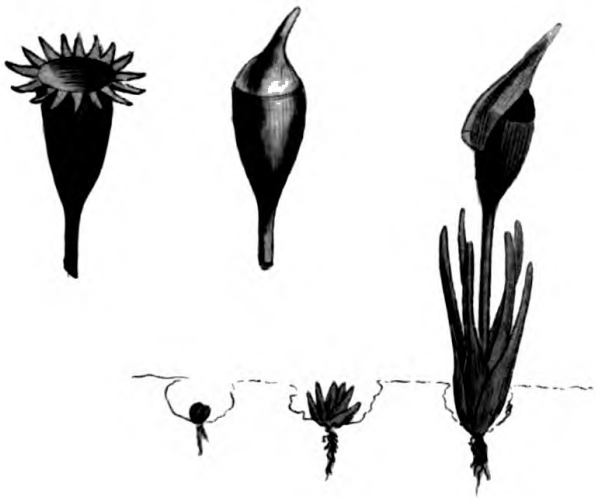
SPEC. CHAR. Stem none. Capſules erect, obconical, bordered with ſixteen ciliæ. Leaves erect, cylindrical, bluntiſh.

SYN. Bryum calcareum. *Dickſ. Crypt. faſc.* 2. 3. *t.* 4. *f.* 3. *With. Bot. Arr. v.* 3. 95. *Relh. Cant. Suppl.* 3. 9.

FOUND in great plenty at Dartford, May 24, 1794, covering the ſides of the chalk-pit neareſt the weſt end of the town. Each plant grows from a minute cavity in the chalk, which it ſeems to occupy for ſome time without flowering, during which early ſtate it makes the chalk look as if clothed with bright green velvet. The plants are ſolitary; the roots ſmall and fibrous, not creeping. Leaves 6 or 8, erect, broad and ſheathing at the baſe, then narrow, cylindrical, obtuſe, ſmooth and entire. Stalk ſcarcely exceeding the leaves in length, upright, round, green. Capſule erect, inverſely conical, bordered with 16 lanceolate, equal, ſpreading teeth. Lid almoſt as long as the capſule, with a curved beak. Veil oblique, reaching about half way down the capſule.

Mr. Dickſon and Mr. Crowe firſt aſcertained this minute ſpecies on chalky ground about Newmarket heath, and the former publiſhed it in his valuable work on the new Cryptogamous plants of Great Britain, a publication of the firſt merit for originality and ſolidity of obſervation, and which proves how much a conſummate inveſtigator may detect even on the moſt beaten ground.





1794

GRIMMIA controversa.

Little Green Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves awl-shaped, curved when dry, dilated at their base. Capsule elliptical. Lid awl-shaped, curved.

SYN. Grimmia controversa. *Sibth.* 277. *Sm. Fl. Brit.* 1187.

Weisia controversa. *Hedw. Sp. Musc.* 67. *Crypt. v.* 3. 12. *t.* 5. B.

Bryum virens. *Dicks. Crypt. fasc.* 1. 4. *H. Sicc. fasc.* 8. 20. *Relh.* 425. *Abbot.* 243.

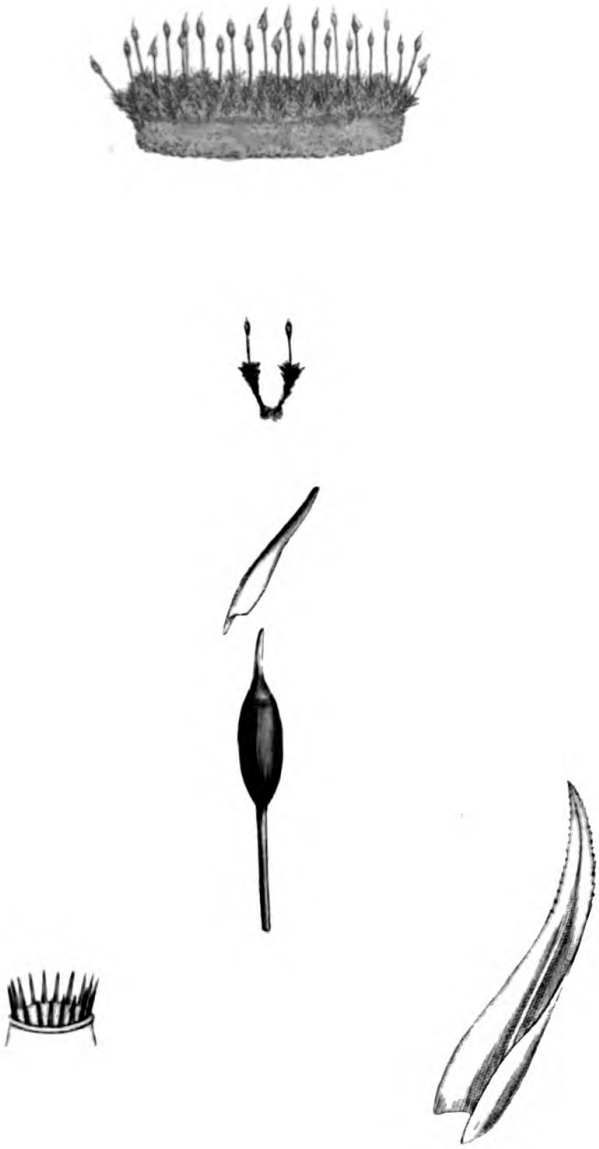
B. viridulum. *Huds.* 478. *With.* 817. *Hull.* 258. *Curt. Lond. fasc.* 2. *t.* 70. *f.* 1.

B. capillaceum breve, pallidè et lætè virens, capsulis ovatis. *Dill. Musc.* 380. *t.* 48. *f.* 43.

B. trichoides exile, erectis capitulis in pediculis brevissimis. *Dill. in Raii Syn.* 97; except the synonym of Richardson.

THE above specific name was given to this little moss by Hedwig in allusion to the many disputes which had arisen among botanists concerning it. It was generally taken for *Bryum viridulum*, till Mr. Dickson found, by the Linn. Herbarium, that Linnæus had misquoted Dillenius for that species. The present plant was, in fact, unknown to Linnæus, though common throughout Europe on sandy shady banks, where it bears fruit in the spring.

Root perennial. Stems erect, short, leafy, mostly simple, forming wide velvet-like patches, conspicuous by their light bright green colour. The leaves are awl-shaped, slender, broader towards the base, of a fine yellowish green, occasionally darker and more dull. Mr. J. Sowerby has found their points to be serrated. When dry they curl inwards. Stalk slender, yellow, and pellucid. Capsule erect, exactly elliptical, brown, smooth, red at the mouth, and sometimes at the base. Lid slender, curved, rather shorter than the capsule. Veil pale.



Oct. 1. 1804. Published by Jas Sowerby, London.

GRIMMIA Dicksoni.

Dicksonian Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves linear-lanceolate, keeled, curled when dry. Capsule cylindrical, somewhat elliptical, contracted at the mouth. Lid slender.

SYN. Grimmia Dicksoni. *Sm. Fl. Brit.* 1188. *Turn. Musc. Hibern.* 27.

Weisia Dicksoni. *Willden. Berol.* 303.

W. cirrata. *Hedw. Sp. Musc.* 69. *t.* 12. *f.* 7—12.

Mnium cirratum. *Linn. Sp. Pl.* 1576.

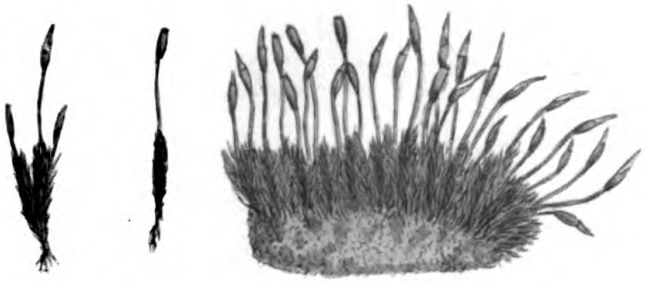
Bryum Dicksoni. *Dicks. Crypt. fasc.* 3. 4. *With.* 826. *Hull.* 261.

B. cirratum et stellatum, tenuioribus foliis. *Dill. Musc.* 379. *t.* 48. *f.* 42.

B. trichoides exile, erectis capitulis in pediculis longioribus rubris. *Dill. in Raii Syn.* 97.

THIS is found on park walls and pales in many different parts of England, bearing fruit about April. It is nearest allied to *G. controversa*, figured in *t.* 1367, but differs in being about thrice as large, with longer and more cylindrical capsules, brown, smooth, and delicately formed, remarkably contracted at their orifice, by which last character they are readily known from every other British *Grimmia*, and especially from the *G. cirrata* of *Fl. Brit.* The fringe is small and red, as well as the edge of the capsule. Lid very slender from just above the base. Leaves bright green, narrow, acute, entire, much curled when dry. Fruit-stalks slender, yellowish.

As Professor Willdenow has most unfortunately mistaken this for the moss so well illustrated by Mr. Dickson (*G. controversa*), and has therefore called it by his name, we would not change it, though *cirrata* should more properly belong to this species.



Feb.y 1 1805 Published by Jas Sowerby, London.

GRIMMIA cirrata.

Frizzled Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves bristle-shaped, keeled, curled when dry. Capsule ovate, smooth, dilated and somewhat spreading at the mouth. Lid slender.

SYN. Grimmia cirrata. *Sm. Fl. Brit.* 1189.

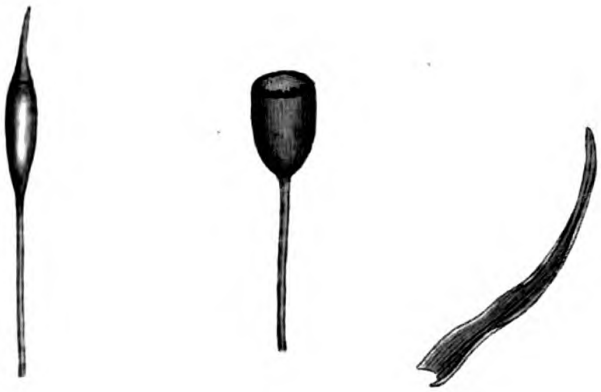
Bryum cirratum. *Huds.* 485? *With.* 824. *Hull* 260. *Lightf.* 728?

Muscus muralis minimus roseus, sive stellaris, capitulis longiusculis acutis erectis. *Vaill. Paris. t.* 24. *f.* 8.

COMMUNICATED by Mr. Dickson, who assures us it is a native of high rocks; rather than of trees or heathy ground, as Mr. Hudson indicates; which circumstance, and his misapplication of synonyms, lead us to believe that this author, if he knew the present moss at all, confounded it with *G. Dicksoni*, *t.* 1420.

The two species are very much alike in habit, but the leaves of the *cirrata* are of a more yellowish green and much narrower. The essential distinction however resides in the capsule, which is shorter, ovate, with a wide mouth, very different from the peculiarly narrow orifice of *G. Dicksoni*. The fringe is injured in our specimens, being very brittle. Since the *Flora Britannica* was published, Mr. Dickson has favoured us with numerous young capsules, in which the lid is long and slender, nearly equal to the capsule itself. Dr. Abbot's *Bryum cirratum* proves to be *G. Dicksoni*.

2356.



[illegible] published by Jos. Sowerby London

GRIMMIA recurvirostra.

Blunt-curve-beaked Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves linear-lanceolate, keeled. Capsule cylindrical. Lid cylindrical, somewhat conical, obtuse, recurved.

SYN. Grimmia recurvirostra. *Sm. Fl. Brit.* 1190. *Sibth.* 277. *Turn. Musc. Hib.* 29.

Weisia recurvirostra. *Hedw. Sp. Musc.* 71. *Crypt. v.* 1. 19. *t.* 7.

Bryum curvirostrum. *Dicks. Crypt. fasc.* 2. 7. *Dr. Pl.* 95. *Hull.* 262.

B. recurvirostrum. *With.* 829.

B. setaceum β. *Huds.* 482.

B. stellare lacustre, foliis rubris capillaceis. *Dill. Musc.* 382. *t.* 48. *f.* 45.

GATHERED by Mr. W. Borrer on some rock-work in Claremont park, Surrey, in the autumn of 1804. It is mentioned as growing in dry as well as moist places, but is not a common moss. The stems are erect, forming tufts, simple or branched, various in height, leafy, perennial. Leaves spreading loosely, linear-lanceolate, acute, beardless, keeled, entire, a little revolute, curled more or less when dry, furnished with a rib; the old ones turning to a rusty red or brick colour. Fruit-stalk slender, red. Capsule erect, cylindrical, straight, slender, of a red shining brown when fully ripe, its mouth neither spreading nor contracted. Fringe delicate, white, turning reddish by keeping. Lid short, curved, red at the base, tapering, blunt when arrived at maturity. The fringe is that of a *Pterogonium*.

1438

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

GRIMMIA verticillata.

Whorled Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves linear-lanceolate, acute, fasciculate as if whorled. Capsule ovate, truncate. Lid awl-shaped, curved.

SYN. Grimmia verticillata. *Sm. Fl. Brit.* 1191.

Bryum verticillatum. *Linn. Sp. Pl.* 1585. *Huds.* 485. *With.* 821. *Hull.* 259.

B. fasciculatum. *Dicks. Crypt. fasc.* 3. 3. *With.* 828. *Hull.* 261.

B. pilosum verticillatum. *Dill. Musc.* 374. *t.* 47. *f.* 35.

B. trichoides brevifolium, angustis cauliculis, capitulis erectis parvis et minùs aduncis. *Dill. in Raii Syn.* 98.

OUR specimens of this rare and much-controverted moss, which appears to be scarcely known to botanists out of Britain, were gathered by Mr. Turner on rocks by the sea near Bangor, where Brewer formerly, and the Rev. H. Davies in later days, have observed it. Its natural situation is in springs on a calcareous soil, the water often encrusting it with the earth which it deposits in running. The late Mr. Davall found the same in Switzerland.

The stems form dense tufts, an inch or two high, and are branched, erect and leafy. Leaves imbricated, rather spreading, fasciculate, or interrupted here and there, so as to look whorled, which they very imperfectly are in fact: they are linear-lanceolate, entire, single-ribbed, beardless, of a pleasant light green, often a little glaucous. Fruit-stalks solitary, soon becoming lateral, erect, twisted by drying. Capsule erect, small, ovate, short, wide-mouthed, polished, reddish-brown. Fringe red, decumbent in drying. Lid conical, tapering, curved, shorter than the capsule.

There is great difficulty in knowing this from *Gymnostomum curvirostrum* of Hedwig and *Fl. Brit.* which exactly resembles it in habit, place of growth, calcareous incrustation, and colour, but differs essentially in the want of a fringe, as well as in having a longer lid.

Jan.y 1. 1804. Published by Ja.s Sowerby, London.

GRIMMIA crispula.

Lesser Curled Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, with a long channelled point, keeled; incurved and crisped when dry. Capsule elliptical. Lid awlshaped, oblique.

SYN. Grimmia crispula. *Sm. Fl. Brit.* 1192. *Turn. Musc. Hib.* 28.

Weisia crispula. *Hedw. Sp. Musc.* 68. *t.* 12. *f.* 1—6.

FOUND in the black turfy chinks of rocks that are rather moist. The Rev. H. Davies sent from Anglesea the specimens described in *Fl. Brit.* which are in an advanced state, deprived of all their capsule-lids. Those in our plate were gathered on Hamsil Forge rocks near Tunbridge, by Mr. W. Borrer. Dr. W. Stokes is recorded by Mr. Turner as having detected this moss by the cascade at Powerscourt, near Dublin. We have never been so fortunate as to gather it.

The stems are branched, tufted, level-topped, various in height, leafy. Leaves imbricated, of a bright yellowish green when young, but, like other mosses that grow in wet situations, assuming a blackish tint afterwards; and yet when old and withered they change again to a lighter brown, in which state they are permanent on the lower part of the stems. Their form is lanceolate, or almost ovate, at the base, extending upwards into a long, channelled, acute, incurved point, with a strong mid-rib, the edges entire. By drying they become still more incurved and twisted. Fruitstalks about half an inch long, slender, straight, yellowish; reddish below; sometimes turning black at the top by age. Capsule small, exactly elliptical, smooth, membranous, pale brown, somewhat inclining when young, but afterwards erect, with a red narrow mouth and fringe, the former turning finally black. Lid awlshaped, oblique, about as long as the capsule.

Drawn by J.T. Rawnsley Lith. Swain Sc.

16.

GRIMMIA acuta.

Sharp-pointed Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves awl-shaped, with a capillary point. Capsule ovate, with a spreading mouth. Lid with a taper oblique point.

SYN. Grimmia acuta. *Sm. Fl. Brit.* 1192. *Turn. Musc. Hib.* 29.

Weisia acuta. *Hedw. Sp. Musc.* 71. *Crypt. v.* 3. 85. *t.* 35.

Bryum acutum. *Huds.* 484. *With.* 823. *Hull.* 260. *Dicks. H. Sicc. fasc.* 17. 20.

B. verticillatum. *Lightf.* 733. *Huds. ed.* 1. 411, β.

B. pilosum, Sphagni subulati facie. *Dill. Musc.* 374. *t.* 47. *f.* 34.

ABUNDANT on the Scottish and Welch alps. Our specimens were sent from the mountains of Mourne in Ireland, in June 1805, by Mr. Templeton.

The stems form perennial soft silky tufts, and are slender, somewhat branched, generally about 3 inches high, leafy. Leaves rather curved to one side, of a yellowish or brownish green, shining, awlshaped, broad at the base, entire, single-ribbed, ending in a capillary, but not white or pellucid, point. They never become curled or crisped by drying. Fruitstalks lateral, (from the lengthening of the branch immediately after flowering), sheathed at the base with leaves, erect, red or green, slender, twisted when dry. Capsule upright, ovate, smooth, taper at the base, its mouth more or less dilated. Lid as long as the capsule, awlshaped, slender, curved. Fringe red. Veil brown.

Sept.1.1806. Published by Jas. Sowerby London.

GRIMMIA inclinata.

Curve-fruited Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves bristle-shaped, dilated and sheathing at the base. Capsule ovate, oblique, at length drooping. Lid conical.

SYN. Grimmia inclinata. *Sm. Fl. Brit.* 1193.
Swartzia inclinata. *Hedw. Crypt. v.* 2. 74. *t.* 27.
Afzelia inclinata. *Ehrh. Crypt.* 193.
Didymodon inclinatum. *Swartz. Musc. Suec.* 28.
Cynontodium inclinatum. *Hedw. Sp. Musc.* 58.
Bryum inclinatum. *Dicks. Crypt. fasc.* 3. 9. *With.* 835. *Hull.* 264.

MR. DICKSON found this moss on turfy bogs in Scotland. Our specimens were gathered by Mr. G. Don in marshy places by the sea side, at the sands of Borry, 7 miles from Dundee, in August 1807.

Stems branched at the bottom, forming dense perennial leafy tufts. Leaves yellowish green, soon turning brown, shining, spreading pretty regularly in two rows, taper and bristle-shaped, dilated and sheathing at the base. Fruit-stalk terminal, erect, full an inch long, purple, somewhat wavy when dry. Capsule ovate, inclining, brown, very smooth, when old becoming curved and drooping. Fringe of 16, lanceolate, equidistant teeth, of a brownish purple, reticulated, and, according to Hedwig, perforated. Lid conical, short, obtuse, pale when young, but soon turning brown. Veil tipped with black, even in its youngest state.

The stamens and pistils being observed in the same flower, has caused this species and a few others to be separated by some botanists from *Grimmia* and *Trichostomum*, whence arose the above multiplicity of names; but experience shows such a generic character to be of no avail in mosses.

1824

Bacon sc. Published by Jas. Sowerby London.

GRIMMIA heteromalla.
Curve-leaved Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves bristle-shaped, leaning one way, dilated at the base. Capsule upright, cylindrical, slightly ovate. Lid conical.

SYN. Grimmia heteromalla. *Roth. Germ. v.* 3. 145. *Sm. Fl. Brit.* 1194. *Turn. Musc. Hib.* 30.

Weisia heteromalla. *Hedw. Sp. Musc.* 71. *Crypt. v.* 1. 22. *t.* 8.

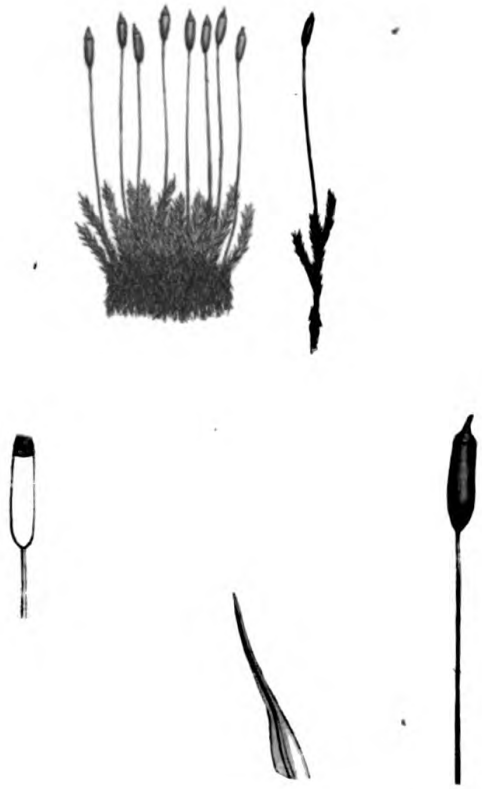
Afzelia heteromalla. *Ehrh. Crypt.* 173.

Bryum Weisia. *Dicks. Crypt. fasc.* 2. 5. *Dr. Pl.* 94. *With.* 827. *Hull.* 261. *Hoffm. Germ. v.* 2. 33.

MENTIONED by Mr. Dickson as growing in woods and sandy ground. Mr. G. Don finds it sparingly about Forfar. Our specimens were communicated by Mr. Turner from Ireland, where Dr. Scott discovered this species.

The plants grow in tufts and are all at first simple, sometimes subdivided after flowering. Leaves light-green, scattered, curved moderately to one side, bristle-shaped, furnished with a strong nerve, their base more or less suddenly dilated, their margins entire. Fruit-stalk terminal, straight, slender, an inch tall, crimson, pale at the summit. Capsule brown, very smooth, almost perfectly erect, cylindrical inclining to ovate, a little narrowed at the mouth. Lid small, conical, acute, reddish, more or less evidently bent to one side. Teeth of the fringe all equidistant, pale brown. Veil slender, pellucid, fugacious.

The broad bases of the leaves have a peculiarly smooth glossy aspect, observable also in the capsule, which ripens in the summer.



June 1808. Published by Ja.s Sowerby London.

V

19

GRIMMIA homomalla.

Pale Curled Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

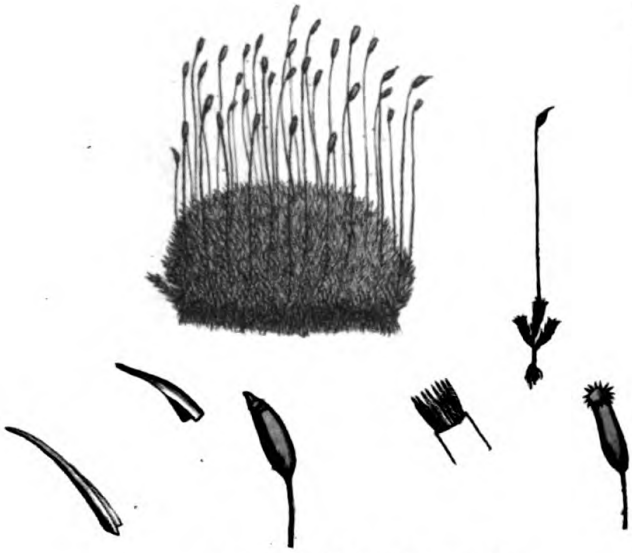
SPEC. CHAR. Leaves bristle-shaped, curled to one side, dilated at the base. Capsule upright, ovate. Lid conical. Teeth of the fringe in pairs.

SYN. Grimmia homomalla. *Sm. Fl. Brit.* 1194.

Didymodon homomallum. *Hedw. Sp. Musc.* 105. *t.* 23. *f.* 1—7.

Bryum pallidum. *With.* 818, without the synonyms. *Hull.* 258.

FIRST observed by Mr. Griffith in North Wales. Mr. Turner favoured us with specimens from Beddgelart at the foot of Snowdon. It bears fruit in the summer, like *Weisia heteromalla* in our last plate, to which it is so nearly allied that we can hardly find a specific character between them. The leaves however in the present moss are much more curved or curled toward one side, and of a still paler more yellowish green. Capsule rather more ovate, and scarcely at all curved. In the fringe resides the chief distinction, the teeth of this species being approximated in pairs, though still perfectly distinct at their base. This approximation constitutes the sole distinction of Hedwig's genus *Didymodon,* some of the species of which have 16 teeth, others 32. The latter range themselves most unexceptionably in *Trichostomum,* the combination or separation of each pair of teeth at their base proving by experience of no solid generic importance; and that those with 16 teeth ought not to be separated from *Grimmia,* is evinced by the two plants of which we are treating, whose whole structure and habit are so much alike, that it is difficult to distinguish between them.



June 1. 1808. Published by Jas. Sowerby London.

GRIMMIA nigrita.

Black-fruited Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, dilated at the base. Capsule obovate, drooping. Lid hemisphærical with a little point.

SYN. Grimmia nigrita. *Roth. Germ. v.* 3. 146. *Sm. Fl. Brit.* 1195.

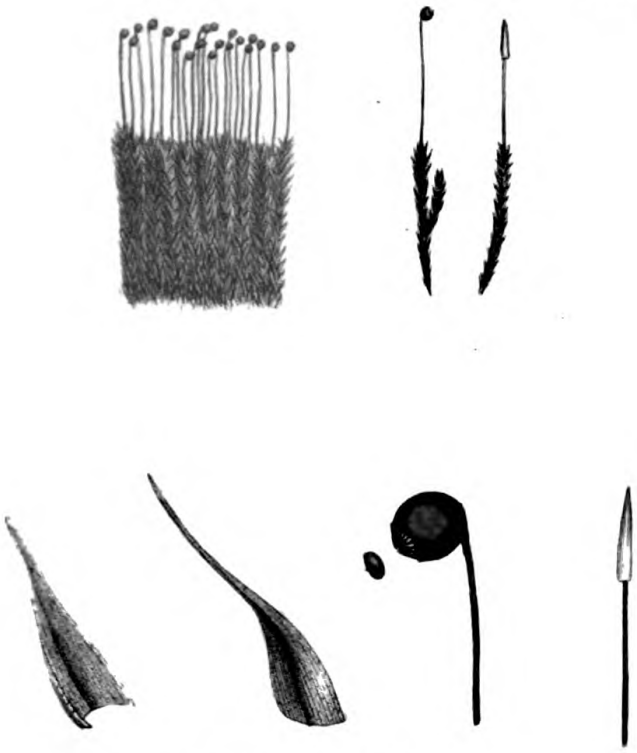
Weisia nigrita. *Hedw. Sp. Musc.* 72. *Crypt. v.* 3. 97. *t.* 39.

Bryum nigritum. *Dicks. Crypt. fasc.* 3. 9. *With.* 840. *Hull.* 266.

THIS rare moss was first noticed by Mr. Dickson on turfy ground in Scotland. Mr. G. Don gathered our specimens, in August 1807, on the sands of Borry, 7 miles from Dundee, along with *G. inclinata, t.* 1824. It is always found near the sea.

The stems form close perennial tufts, and are somewhat branched, closely covered with imbricated, lanceolate, pointed, entire, single-ribbed leaves, which are dilated at the base; incurved, and somewhat revolute, when dry: their colour is a pale yellowish green. Fruit-stalk terminal, crimson, not an inch high. Capsule small, obovate and singularly turgid, drooping, smooth, dark brown, by age sometimes almost black and obscurely furrowed. Lid convex, with a little short blunt point, like the *umbo* of a shield.——This moss and the foregoing, unnoticed by Linnæus, Dillenius, Ray, or any of their correspondents, were reserved for the minute and indefatigable observers of the present day, whose discoveries, even in this well-explored country, are continually enriching the science of natural history.

1825



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

√

GRIMMIA? Forsteri.

Forsterian Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

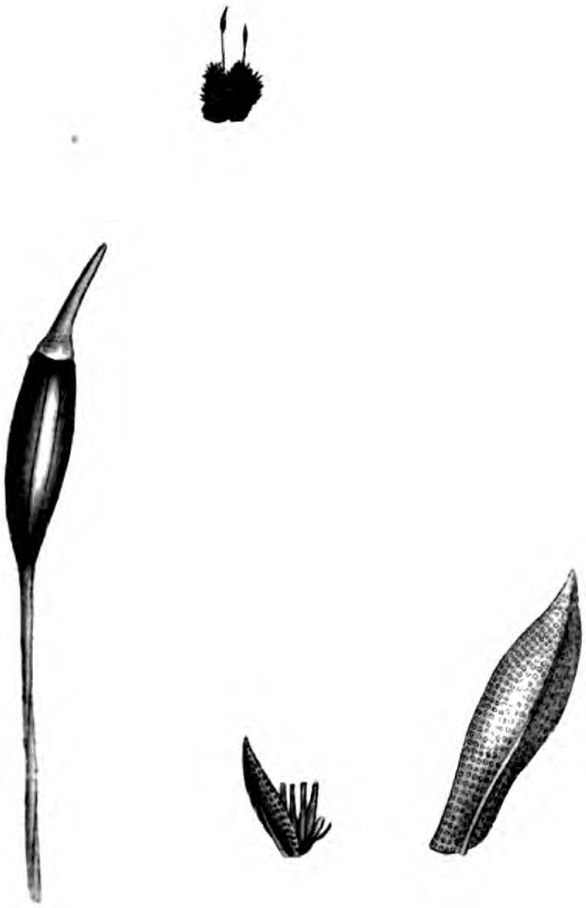
SPEC. CHAR. Leaves ovate, concave, pointless. Capsule ovate-oblong, erect. Lid awlshaped, curved.

SYN. Grimmia? Forsteri. *Sm. Fl. Brit.* 1196.
Bryum Forsteri. *Dicks. Crypt. fasc.* 3. 4. *t.* 7. *f.* 8.

ALL the known specimens of this moss were taken by Mr. T. F. Forster from the trunks of felled trees at Walthamstow, nor has it been seen in such a state as to ascertain any thing precise respecting its genus. We strongly suspect it may not prove different from *Mnium conoideum*, *t.* 1239, with which the singular reticulations of the leaves, and the furrows of the fruit, agree; but the very poor specimens of each which we possess, will not admit of absolute decision. In this state of things we feel bound to furnish all the information we can, however incomplete, that others may judge.

The stems form little tufts, of a very humble stature. Leaves of a dullish green, ovate, concave, entire, with a strong central rib, pointed, but not tipped with any hair or bristle; the base somewhat elongated. The substance of the leaf is all over finely dotted, rather than reticulated, just as in *Mnium*, see *t.* 1238, 1239. Fruitstalk half an inch high, yellowish, twisted. Capsule ovate-oblong, erect, green and unripe in our specimen, strongly furrowed longitudinally. Lid awlshaped, curved, pale, nearly as long as the capsule. Nothing is known concerning the fringe or veil.

From the young state of the capsule, its real shape cannot exactly be determined; but its furrows are visible enough, and do not appear to be owing, as we once thought, to mere contraction in drying, being exactly parallel and very regular, as the generic character of *Mnium* requires.



GRIMMIA conoſtoma.

Cone-mouthed Grimmia.

CRYPTOGAMIA Muſci.

Gen. Char. *Fringe* ſimple, of 16 teeth, broadeſt at their baſe. *Flowers* terminal. *Veil* cylindrical.

Spec. Char. Leaves lanceolate, finely ſerrated, bearded, imbricated in five rows. Capſule roundiſh. Fringe cohering at the point.

Syn. Bryum tetragonum. *Dickſ. Crypt. faſc.* 2. 8. *t.* 4. *f.* 9. *With.* 835. *Hull.* 264.
Conoſtomum arcticum. *Swartz. MSS.*

MR. DICKSON firſt obſerved this moſs upon Ben Lomond. Mr. G. Donn has alſo found it on ſome other Scottiſh mountains, as Ben Lawers, Loch-ne-gare, and the Corum-gorum hills of Inverneſs-ſhire. It is perennial, bearing its fruit in July and Auguſt.

The ſtems are branched, an inch or two in height, and form denſe even-topped tufts. The leaves are lanceolate, keeled, minutely ſerrated, tipped with a ſmall point, cloſely imbricated in 5 rows. Stalk an inch high, reddiſh, not quite ſtraight. Capſule a little drooping, and ſomewhat oblique, roundiſh, at length furrowed, of a yellowiſh brown. Fringe red, of 16 ſimple taper teeth, cohering at their points. Lid conical, curved, half as long as the capſule. The veil we have not ſeen.

We are obliged to Mr. Donn for remarking that the ſlender ſhoots repreſented in Mr. Dickſon's plate are probably the effects of damp package, they not being found in the plant in its native ſituation. Dr. Swartz, who has ſent us Lappland ſpecimens, rightly obſerves that the ſhoots have five (not merely four) angles. Hence being obliged to change the ſpecific name, we have adopted one expreſſive of the conical united fringe, a circumſtance ſo remarkable that Dr. Swartz thinks it enough to conſtitute a generic character. We acknowledge the habit greatly ſtrengthens his opinion.

March 1 1803 Published by Jas Sowerby London

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GRIMMIA nuda.

Naked Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, entire, acute, beardless. Capsule roundish, inclining, smooth. Stem none.

SYN. Grimmia nuda. *Sm. Fl. Brit.* 1197. *Turn. Musc. Hib.* 25.

Bryum nudum. *Dicks. Crypt. fasc.* 4. 7. *t.* 10. *f.* 15.

OUR specimens of this rare moss were gathered on clay banks by the side of the Tay, near Perth, by Mr. G. Don. It was first discovered by Mr. G. Caley, now on an expedition to New South Wales, in similar situations near Manchester. We have received from Dr. Swartz specimens of the same species, named *Weisia rosea,* found in Lapland by Mr. Wahlenberg, who has lately made great botanical discoveries in that sequestered country.

The root is small, fibrous, and presumed to be annual. Stem altogether wanting. Leaves few, radical, erect, of a pale dull transparent green, lanceolate, sharp-pointed, entire. Stalk solitary, erect, an inch or more in height, slender, rather zigzag, of an equal thickness throughout, rose-coloured, except at the top, where it is green when young. Capsule inclining, almost globular, truncate, smooth, pale brown with a red edge. Fringe upright, red. Lid conical, short and obtuse while young, afterwards curved, contracted and acute.

Of the precise time of the capsules coming to maturity we are not informed.

Febr. 1805 Published by Jas Sowerby London.

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GRIMMIA splachnoides.

Splachnoid Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves spatulate, finely serrated. Capsule globose, smooth. Fruit-stalk swelling at the top.

SYN. Grimmia splachnoides. *Sm. Fl. Brit.* 1197.

Splachnum longicollum. *Dicks. Crypt. fasc.* 4. 4. *t.* 10. *f.* 9.

Weisia splachnoides. *Swartz Mss.*

FOUND in the Highlands of Scotland by Mr. Dickson, to whom we are obliged for native specimens with fruit in an early stage of growth. That with ripe capsules was sent by Dr. Swartz from Lapland, with the name above quoted.

The stems are erect, scarcely branched, leafy, an inch and half high. Leaves loosely imbricated, pale green, finely reticulated and serrated, spatulate, acute, single-ribbed. Fruit-stalk an inch and half high, wavy, purple; paler and greenish at the top, where it swells gradually up to the capsule, imitating the apophysis of a *Splachnum*, to which genus the leaves also bear a great affinity. Capsule upright when ripe, globular, very smooth, pale brown or reddish, with a rather wide red mouth. Fringe of 16 equidistant, short, inflexed, reddish-brown teeth. Lid convex with a very short blunt point. Veil rather conical.

The habit of this moss is so like a *Splachnum*, that we do not wonder it should have been thought such; but there is no real *apophysis*, nor is the fringe that of a *Splachnum*. *Weisia radians*, Hedw. Sp. Musc. 73. t. 13. f. 1—4, is nearly related to our plant.

Jane Wimpenstone sc. by J. Sowerby, London

GRIMMIA pulvinata.
Grey Cushion Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, hair-pointed. Capsule elliptical, angular, drooping. Lid convex, with a cylindrical, blunt, straight point.

SYN. Dicranum pulvinatum. *Swartz. Musc. Suec.* 32. *Sm. Fl. Brit.* 1214. *Turn. Musc. Hib.* 78.

Fissidens pulvinatus α. *Hedw. Sp. Musc.* 158. *t.* 40. *f.* 1—3.

Encalypta pulvinata. *Sibth.* 278.

Afzelia pulvinata. *Ehrh. Crypt.* 163.

Bryum pulvinatum. *Linn. Sp. Pl.* 1586. *Huds.* 487. *With.* 840. *Hull.* 267. *Relh.* 422. *Abbot.* 243.

B. orbiculare pulvinatum, hirsutie canescens, capsulis immersis. *Dill. Musc.* 395. *t.* 50. *f.* 65.

B. trichoides hirsutie canescens, capitulis subrotundis reflexis, in perbrevibus pediculis. *Raii Syn.* 100.

ONE of the most common of Mosses, on walls, roofs, rocks and stones, forming little hoary convex tufts, laden with abundance of drooping capsules in the spring. The stems are short and branched. Leaves dark green, of a broad lanceolate form, entire, concave, somewhat revolute, each having a strong prominent midrib, ending in a white wavy hair about as long as the leaf. Fruitstalks terminal, twisted, very much curved at the summit, all generally in one direction. Capsule drooping, almost pendulous, elliptical, short, brown when ripe, with many prominent ribs. Lid convex, with a cylindrical blunt straight point, the whole about half as long as the capsule. Veil torn at the base into several segments. The teeth are sometimes jagged at the point, with 2 or 3 notches, which caused Hedwig, Swartz and others to consider the plant as a *Dicranum;* but as most of the teeth are acute and entire, we are induced to remove it to *Grimmia,* where it meets with as natural allies as in *Dicranum.* By the above synonyms it appears how much the best botanists have differed about its genus. Mr. Relhan, though he preserves the old genus of *Bryum,* has understood the structure of the fringe in this species as we do.

Apr. 1. 1807. Published by Jas. Sowerby London.

26.

GRIMMIA Donniana.

Bearded Alpine Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

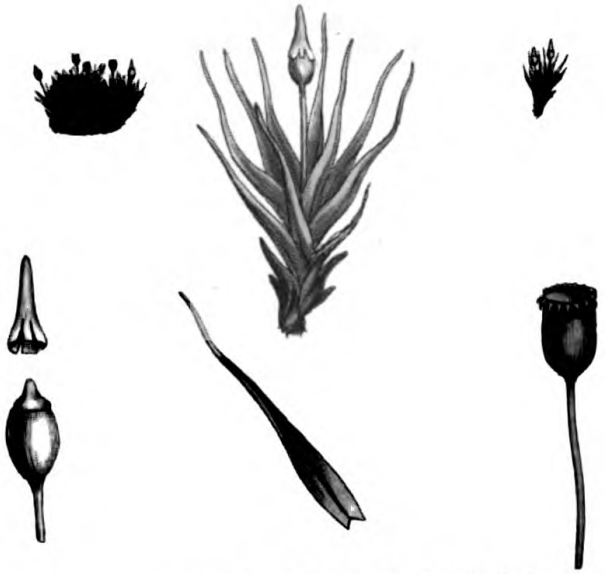
SPEC. CHAR. Leaves lanceolate, acute, hair-pointed. Capsule elliptical. Fringe not pierced. Lid straight.

SYN. Grimmia Donniana. *Sm. Fl. Brit.* 1198.

THE name of this new moss is intended to preserve the memory of its original discoverer Mr. George Donn, a great contributor to this work and to the *Flora Britannica*, who gathered it on large stones near a water-fall on a mountain in Angusshire, 18 miles to the north of Forfar. Mr. Turner has also found it on old pales at Beddgelart, North Wales, and from his specimens we have delineated it.

In habit it much agrees with some species of *Orthotrichum*, but the veil and fringe are those of a *Grimmia*. Indeed the beautiful *Grimmia cribrosa* of Hedwig is nearly related to it, differing chiefly in having a nearly sessile capsule, with a wider mouth, and the teeth most curiously pierced full of holes.

The stems of ours are short, scarcely branched, growing in dense tufts, clothed with erect imbricated leaves, of a lanceolate pointed form, keeled, entire, each tipped with an upright white hair. Fruit-stalk terminal, straight, shortish, slender, of a pale green. Capsule erect, elliptical, smooth, brown, at length black; its mouth not much dilated. Lid convex, with a short, straight, blunt beak. Fringe red. Veil tipped with brown.



Jan.y 2 1804. Published by Ja.s Sowerby, London.

GRIMMIA alpicola.

Beardless Alpine Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovato-lanceolate, blunt, pointless. Capsule cup-shaped, on a very short stalk. Fringe mostly imperforate. Lid oblique.

SYN. Grimmia alpicola. *Swartz. Musc. Suec.* 27 & 81. *t.* 1. *f.* 1. *Sm. Fl. Brit.* 1199. *Hedw. Sp. Musc.* 77. *t.* 15. *f.* 1—5. *Turn. Musc. Hib.* 22.

NATIVE of rocks and stones in alpine rivulets. The late Dr. Scott found it on the mountains of Ireland. We are obliged to Mr. Turner and to Dr. Swartz for authentic Irish and Swedish specimens.

This is most akin to *G. apocarpa*, *t.* 1134, but very distinct. The stems are about an inch high, a little branched, tufted. Leaves imbricated, ovato-lanceolate, concave, keeled, single-ribbed, entire, in drying somewhat revolute; their points bluntish, without any hair or bristle, never incurved, their colour the dark black green of most aquatic mosses. Capsules nearly sessile among the uppermost leaves, solitary, erect, of a short ovate or cup-like shape, especially those from Sweden, whose mouths, whether from great pressure in drying or otherwise, are rather wider than the Irish ones. They are all very smooth, of a rusty hue, with a reddish or dark edge. Teeth of the fringe deep red, spreading when ripe, some of them, according to Dr. Swartz's observation, having now and then a perforation or two, in some measure like the very curious *G. cribrosa*, *Hedw. Crypt. v.* 3. *t.* 31, A, whose teeth are all over pierced, and whose upper leaves are hair-pointed. The lid, wanting in our specimens, is described as red, with an oblique beak.

Lewis Nicholson lithog. by Jos. Fox & Son, Norwich.

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GRIMMIA maritima.

Sea Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves lanceolate, acute, beardless, incurved when dry. Capsule urnshaped. Fringe imperforate. Lid with a short straightish point.

SYN. Grimmia maritima. *Sm. Fl. Brit.* 1199. *Turn. Musc. Hib.* 23. *t.* 3. *f.* 2.

WE first received this moss from Mr. G. Donn, who found it on rocks exposed to spring tides about the ferry at Dundee, and also on the coast of Fife. Dr. Scott observed it in similar situations at Balbriggen in Ireland, and Mr. Templeton mentions it as common on all the maritime rocks of that country. It bears fruit from July to October, and is perennial.

The short upright branched stems, thickly clothed with dark leaves, form dense tufts of a dull brown hue. The leaves are lanceolate, entire, taper-pointed, but not bearded, so that the plant has no hoary appearance; they have a strong central rib. The younger leaves are of a bright green, but they soon turn brown, not black. Capsules terminal, on short erect stalks, short, cup- or urn-shaped, smooth, brown, not rising so high as the leaves; their orifice dilated. Fringe dark red, its teeth not (as in some species) pierced with holes. Lid broad at the base, convex, its point short, and but slightly curved.

1645

Sept. 1806 Published by Ja.t Sowerby London.

GRIMMIA rivularis.

River Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovate, rather pointed, beardless. Capsule cup-shaped, sessile. Lid straight. Stem much branched.

SYN. Grimmia rivularis. *Sm. Fl. Brit.* 1200. *Turn. Musc. Hibern.* 21. *t.* 2. *f.* 2.

SENT from Northumberland by Mr. Winch. It grows on rocks and stones in the rivulets of mountainous countries, bearing fruit in March.

It is next akin to the common *Grimmia apocarpa* figured in *v.* 16. *t.* 1134, but differs in many essential particulars,—the want of bristles, or transparent white points, to the leaves, the shorter capsule, and much smaller and flatter lid.

The stems are perennial, 2 inches or more in height, much branched, spreading, leafy, black and wiry; their lower part bristly with the remaining ribs of old leaves. Leaves rather spreading, of a dark dull green, ovate, entire, keeled, bluntish, with one rib. Capsules solitary, terminal, sessile or nearly so, overtopped by the surrounding leaves, of a short cup-like form, smooth, brown. Lid somewhat hemisphærical, with a little straight point. Fringe of 16 red imperforate teeth, transversely striated, turning brown with age.

Augt. 1. 1804. Published by Jos. Sowerby, London.

GRIMMIA apocarpa.

Seſſile Grimmia.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Fringe* ſimple, of 16 teeth, broadeſt at their baſe. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovate, pointed: the uppermoſt bearded. Capſule ovate, ſeſſile. Stem much branched.

SYN. Grimmia apocarpa. *Hedw. Sp. Muſc.* 76. *Crypt.* *v.* 1. 104. *t.* 39. *Sibth.* 276.

Bryum apocarpum. *Linn. Sp. Pl.* 1579, α. *Hudſ.* 474, β. *With.* 809, *var.* 1. *Relh.* 424. *Abbot.* 236.

Fontinalis apocarpa. *Hull.* 274.

Sphagnum cauliſerum et ramoſum ſaxatile hirſutum vireſcens, capitulis obſcurè rubris. *Raii Syn.* 104.

S. ſubhirſutum obſcurè virens, capſulis rubellis. *Dill. Muſc.* 245. *t.* 32. *f.* 4.

NOT rare upon ſtones and the trunks of trees. The bright red lids of its capſules render it conſpicuous in the ſpring months.

The ſtems form looſe tufts of various ſizes, and are branched and ſpreading, thickly clothed with imbricated, ovate, keeled, entire, acute leaves, often tipped with a white pellucid briſtly point; indeed thoſe which ſurround the fruit have always this appendage. The capſules ſtand ſolitary and ſeſſile at the end of each branch, and are ovate or ſomewhat cylindrical, ſhort, reddiſh-brown, ſmooth (not furrowed), crowned with a bright red lid, whoſe beak varies in length and thickneſs, but is generally nearly ſtraight, and always much ſhorter than the capſule itſelf. Fringe of 16 red, entire, ſpreading teeth, broad at the baſe, tapering to a fine point. Veil remarkably ſmall, not exceeding the lid in dimenſions.

The variety β of Linnæus, which Mr. Hudſon has unaccountably choſen to make the original ſpecies, is a totally different plant, and even genus, the *Gymnoſtomum ciliatum* of late writers.

Feb.y 1. 1803 Published by Ja.s Sowerby, London.

V

GRIMMIA stricta.

Upright Brown Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves ovato-lanceolate, pointed, somewhat bearded, imbricated, a little spreading. Capsule top-shaped, stalked. Branches straight, erect.

SYN. Grimmia stricta. *Turn. Musc. Hib.* 20. *t.* 2. *f.* 1.

MR. TURNER, to whom we are obliged for this very rare moss, and who alone has hitherto mentioned it, received this specimen from Dr. Scott, who found it in Ireland, on stones near Swanlinbar. Afterwards Mr. Turner himself gathered the same on the rocks of Snowdon.

Its dark copper-colour is remarkable. The stems are more upright and straight, as well as less copiously branched, than those of *G. apocarpa, t.* 1134, and the leaves are narrower, with very slight traces in general of any hair at the tip, though in some that appendage is evident. The capsules are elevated on a stalk, full as long as themselves, and are top-shaped, or urn-shaped, very dark-coloured, smooth, with a convex, blunt-pointed, straight lid. The whole plant when dry is blackish and very brittle, compared by Mr. Turner to *Andræa alpina, t.* 1278, in its first aspect.

Dec. 1.1.8.4 Published by Jas. Sowerby, London.

BRYUM scoparium.

Broom Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Capsules a little curved, with an awl-shaped lid. Leaves curved to one side. Stem reclining.

SYN. Bryum scoparium. *Linn. Sp. Pl.* 1582. *Huds. Fl. An.* 483. *With. Bot. Arr. v.* 3. 106. *Relh. Cant.* 403. *Curt. Lond. fasc.* 1. *t.* 69.

B. erectis capitulis angustifolium, caule reclinato. *Raii Syn.* 95.

B. reclinatum, foliis falcatis, scoparum effigie. *Dill. Musc.* 357. *t.* 46. *f.* 16.

Dicranum scoparium. *Sibth. Ox.* 281.

A COMMON moss on heaths, dry pasture ground, and the trunks of trees, growing in large patches, easily discernible by their silky glossiness, and which make an elegant kind of artificial turf for clothing the mould of garden pots, when kept in the house.

The stems are perennial, long, standing close together, but a little curved or reclining; clothed with brown silky down, and with numerous, thick-set, narrow, finely tapering, entire leaves, curved towards one side, especially about the summit. The stalks appear in the early part of summer, arising from the scaly termination of each stem, and are long, erect, of a reddish shining yellow, and twisted. They are mostly solitary, and we have reason to suspect the kind with clustered stalks, see *Dill. fig.* D, is a distinct species. The capsules are nearly cylindrical, a little curved. Lid long and taper. Veil of the same figure, straw-coloured. Male flowers few, terminating some of the stems, and surrounded with leaves spreading in the form of a star.

DICRANUM majus.

Great Clustered Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves ovate, long-pointed, even, sickle-shaped and curved to one side. Fruit-stalks several from each sheath.

SYN. Dicranum majus. *Sm. Fl. Brit.* 1202. *Turn. Musc. Hibern.* 58.

Bryum reclinatum, foliis falcatis scoparum effigie, setis pluribus. *Dill. Musc.* 358. *t.* 46. *f.* 16. D.

TO this fine species we alluded in *v.* 5. *p.* 354. Our specimen was gathered on rocks near the sea at Bangor by Mr. Turner; the Rev. Mr. Dalton has sent the same from Yorkshire, and Mr. Borrer from Sussex. It bears fruit in the middle of summer, and is perennial.

The whole plant is larger than the common *D. scoparium*, and generally of a lighter and brighter green. Leaves all leaning to one side, falcate; broad and ovate in their lower part, even, not undulated, and furnished with a slender nerve. Each terminates in a very long roughish point. Fruit-stalks yellow, commonly 2 or 3 from the same sheath, which consists of many imbricated leaves. Capsule rather shorter than in *D. scoparium*, as well as thicker and somewhat more curved, dark brown, smooth and even. Lid awl-shaped, as long as the capsule. Veil brownish, slender. Fringe red.

June 1. 1815. Published by Jas. Sowerby London.

DICRANUM undulatum.

Waved Clustered Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves slightly curved to one side, ovato-lanceolate, waved, with a long serrated point. Fruitstalks several from each sheath.

SYN. Dicranum undulatum. *Schrad. Spicil.* 59. *Sm. Fl. Brit.* 1203. *Ehrh. Crypt.* 271. *Roth. Germ. v.* 3. 167. *Turn. Musc. Hib.* 59. *Winch. v.* 1. 101.
D. polysetum. *Swartz. Musc. Suec.* 34 *and* 87. *t.* 3. *f.* 5.
Muscus capillaceus, foliis pallidis, pedunculis pluribus e communi thecâ egredientibus. *Buxb. Cent.* 2. 8. *t.* 4. *f.* 1.

A NATIVE of alpine woods and turfy bogs, bearing fruit in July. Mr. Templeton sent it from Ireland, and Mr. Winch from Durham.

This differs from the common *D. scoparium*, *t.* 354, somewhat, though not much, in size, as also in its paler and tawny hue; but still more materially in its leaves being but very slightly curved to one side, and more or less undulated transversely, especially when dry, as well as tipped with a triangular, serrated or toothed point. The fruitstalks are two or more, sometimes four, from one common sheath. Capsules cylindrical, curved, smooth. Lid bristle-shaped, rather longer than the capsule.—In many of these marks the moss before us agrees with *D. majus*, *t.* 1409, which in its smooth and curved leaves rather resembles *scoparium*. Linnæus, Hedwig, Haller, Dillenius, and recently Mohr, have supposed them all one species, but we can scarcely assent to this opinion.

The fruitstalks, when so many as seven or eight grow together, though apparently proceeding from one sheath, as mentioned in *Fl. Brit.*, will be found to have two close together.

Marrison published by J. Sowerby London.

√

DICRANUM fuscescens.

Brown Fork-moss.

CRYPTOGAMIA Musci.

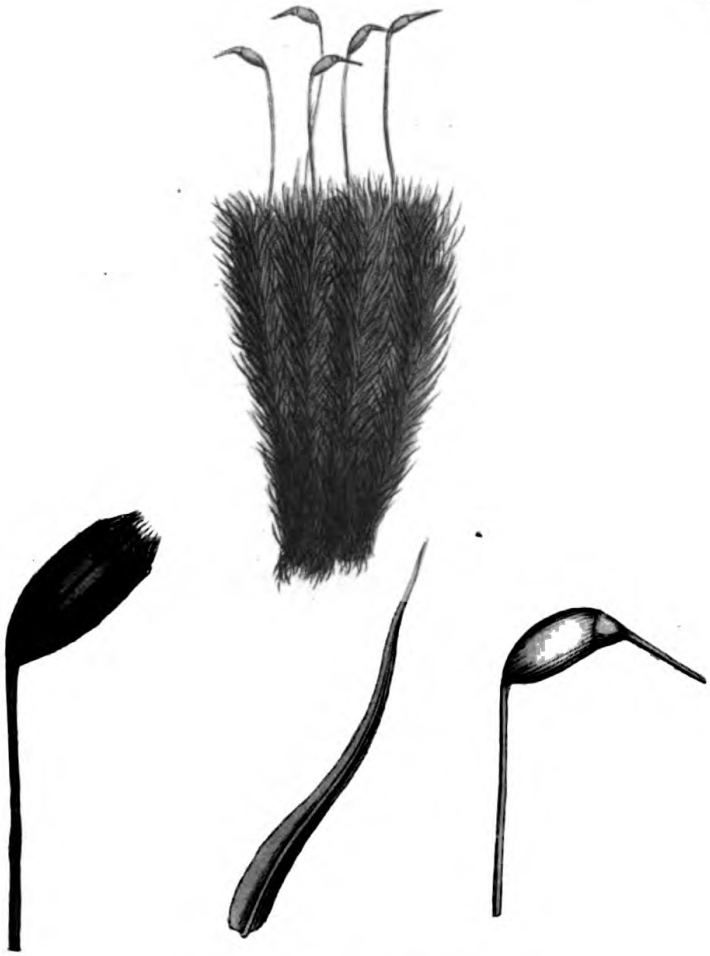
GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves awlshaped, keeled, curved to one side. Fruit-stalks solitary, from a small sheath. Capsule obovate, curved, furrowed.

SYN. Dicranum fuscescens. *Sm. Fl. Brit.* 1204. *Turn. Musc. Hib.* 60. *t.* 5. *f.* 1. *Winch Bot. Guide*, 102.

WHEN I first found this moss in 1782 near Edinburgh (in Rivelston wood if I mistake not) and brought it to London, no one would allow it to be distinct from *D. scoparium*, see *v.* 5. *t.* 354. The accurate Schrader has however observed and distinguished it in Germany, and I did not hesitate to describe it in *Fl. Brit.* Mr. Turner too has adopted it in his elegant work on Irish Mosses, and Mr. Winch has favoured us with specimens from Waskerly park, Durham.

The whole plant is rather smaller than *D. scoparium*, but agrees with it in habit, except that the old leaves and capsules are more apt to assume a brown hue. It differs essentially from that species in having a furrowed and more obovate capsule, the stalk of which is sheathed with much fewer and narrower leaves than in *D. scoparium*. The leaves of the stem are also more taper and always perfectly entire in *D. fuscescens*. *D. flagellare* differs from it in being smaller, with an upright capsule, more zigzag-pointed leaves, curled (as Mr. Turner observes) when dry, and almost entirely destitute of a rib or nerve.



May 1 1806 Published by Jas. Sowerby, London.

36.

DICRANUM heteromallum.

Silky Heath Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem generally simple. Leaves capillary, leaning one way, single-nerved, dilated at the base. Capsule obovate, gibbous.

SYN. Dicranum heteromallum. *Sm. Fl. Brit.* 1204. *Hedw. Sp. Musc.* 128. *Crypt. v.* 1. 68. *t.* 26. *Sibth.* 282.

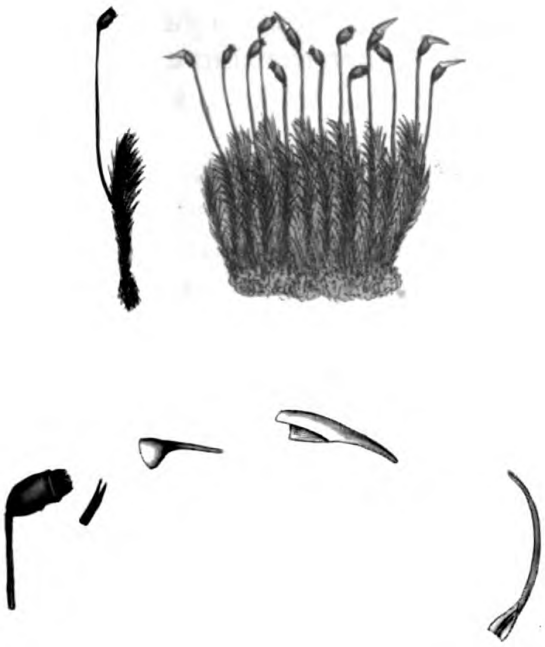
Bryum heteromallum. *Linn. Sp. Pl.* 1583. *Huds.* 484. *Hull.* 263. *Abbot.* 240. *Dicks. H. Sicc. fasc.* 12. 23. *Dill. Musc.* 375. *t.* 47. *f.* 37.

B. trichoides, reclinatis cauliculis, capitulis erectis acutis. *Raii Syn.* 96.

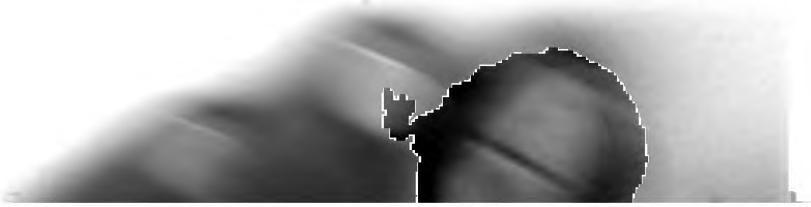
Mnium heteromallum. *With.* 801. *Relh.* 418.

HARD gravelly walks in woods, broken shady banks, and such kind of dry situations, produce this moss in abundance. In the winter and spring it sometimes forms a wide-extended velvet carpet of a vivid green, and in texture like the softest silk. The capsules are plentiful in spring, and continue during some part of the summer, especially if the season be moist.

Root probably annual. Stems erect, mostly undivided, leafy, about half an inch high. Leaves all curved towards one side, long, soft and flexible, capillary, gradually dilated towards the base, in which part a strong rib is visible. Fruit-stalks solitary, about an inch high or more, capillary, twisting, yellow or brownish. Capsule of a shining chesnut colour, obovate, gibbous on one side, which seems to occasion its inclined position. Lid with a fine taper curved point as long as the capsule. Fringe red, large and ornamental.



Feb.ᵗʰ 1. 1804. Publ.ᵈ by Jas. Sowerby, London.



37.

DICRANUM interruptum.

Interrupted Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem somewhat branched. Leaves capillary, single-nerved, dilated at the base, interruptedly curved to one side; curling when dry. Capsule ovate.

SYN. Dicranum interruptum. *Hedw. Sp. Musc.* 129. *t.* 29. *f.* 8—12. *Sm. Fl. Brit.* 1205. *Winch, v.* 1. 102.

Bryum heteromallum β. *Huds.* 484. *Hull.* 263.

B. pilosum, interruptè falcatum. *Dill. Musc.* 376. *t.* 47. *f.* 38.

Mnium heteromallum, var. 2. *With.* 801.

COMMUNICATED by Mr. Winch, from banks near Gateshead, Durham. This is a species which has always caused us some perplexity, on account of its near resemblance to *D. heteromallum, t.* 1272. The interrupted growth, or rather occasional shortness of its leaves by intervals, is not so rigidly to be trusted as the more ovate form of the capsule, and the smaller proportion of the fringe. The leaves are broad at the base, then suddenly contracted, roughish at the point; curled when dry.

2508.

Tab. 1013 published by Jas. Sowerby London

38

DICRANUM Bruntoni.

Bruntonian Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves lanceolate, acute, serrated at the point, spreading every way; curled when dry. Capsule ovate, oblique, tapering at the base. Lid awlshaped, curved, nearly the length of the capsule.

ACCORDING to Mr. Turner's desire, so consonant with our own, we commemorate in this nondescript species our lamented correspondent the late Mr. Wm. Brunton, who found it in June 1805, on Brimham rocks, near Ripon.

In natural affinity, and general aspect, this *Dicranum* seems nearest to *interruptum*, *subulatum*, and others in their neighbourhood; whilst in definition it may appear more like some towards the end of the first section in *Fl. Brit.* from which its habit greatly differs. The stems compose dense soft tufts, and divide into many short leafy branches. The leaves spread every way when moist, but curl variously in drying; their form is lanceolate and acute, gradually tapering from a broad base, entire, except some fine serratures towards the point, and furnished with a strong mid-rib. Fruitstalks capillary, pellucid, half an inch high. Capsule inclining, ovate, unequal, smooth, of a pale shining brown, contracted or tapering at the base, but we scarcely perceive any *apophysis*. Fringe small, crimson. Lid broad and conical at the base, with a curved taper point, nearly as long as the capsule.

Fel. 1012 published by Jas. Sowerby, London

DICRANUM flagellare.

Slender-branched Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched, fibrous. Leaves bristle-shaped, dilated at the base, with a pellucid broadish nerve; all curved to one side. Capsule erect, cylindrical, somewhat furrowed.

SYN. Dicranum flagellare. *Hedw. Sp. Musc.* 130. *Crypt. v.* 3. 1. *t.* 1. *Sm. Fl. Brit.* 1206. *Turn. Musc. Hib.* 61.

Bryum flagellare. *Dicks. Crypt. fasc.* 3. 6. *With.* 831. *Hull.* 262.

A RARE inhabitant of mountainous rocky heaths. Mr. Dickson found it on Ben Nevis; Mr. Turner gathered our present specimens in fructification in the vicinity of Lough Bray, Ireland, and we have found it, without fructification, but with very fine red fibres on the stem, on Cromford moor near Matlock. It bears fruit at uncertain periods during the summer months.

The stems are perennial, branched, leafy, growing in tufts, from 1 to 3 inches high, clothed with delicate dense fibres, or radicles, which are either of a rusty brown, or almost blood-red. Some branches are occasionally elongated, and furnished rather with scales than leaves. The leaves in general are curved to one side, at least in the young growing plant, and are yellowish, shining, awlshaped, entire, with a very slender, slightly zigzag, point, and a dilated concave base, in which a broadish pellucid rib, that vanishes upwards, is more or less visible. Fruitstalks solitary, erect, of a pale, pellucid brown, twisted when dry, enveloped at the base with some dilated sheathing leaves. Capsule a little incurved, cylindrical, with a fine taper lid of about half its own length; when old furrowed or angular in the upper part. Fringe small, brown.

Jan. 1, 1819. Published by Jas. Sowerby London.

40.

DICRANUM subulatum.

Awl-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple. Leaves slender-awlshaped, leaning one way, dilated at the base. Capsule ovate, slightly furrowed, drooping.

SYN. Dicranum subulatum. *Hedw. Sp. Musc.* 128. *t.* 34. *f.* 1—5. *Sm. Fl. Brit.* 1206.

SPECIMENS of this moss gathered at the village of Rathmines near Dublin by Dr. Whittley Stokes, and sent to Mr. Turner, are our authority for introducing it as indigenous among us. They have been compared with original ſpecimens of Hedwig, the only author who has described the *Dicranum subulatum*.

This species is annual, ripening its fruit in the autumn. Stems erect, simple, straight, leafy, blackish, from a quarter to half an inch in height. Leaves dull brownish or yellowish green, curved to one side, thick set, of a very slender awl-shaped figure, acute, single-ribbed, broadest at the base, entire. Stalk capillary, red, somewhat more than half an inch high. Capsule cylindrical inclining to ovate, curved and a little drooping, when old dark brown and obscurely furrowed; at least so we have found it in some specimens, but on examination of others, this last character does not seem to be constant. Fringe red. Lid awl-shaped, curved, as long as the capsule. The fruit has nothing of the urn-like figure of *D. varium* and *rufescens*.

1824. Published by Jas Sowerby, London.

DICRANUM crispum.

Curled Fork-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple. Leaves capillary, lax, nerveless; dilated at the base. Capsule ovate, furrowed, erect.

SYN. Dicranum crispum. *Hedw. Sp. Musc.* 132. *Crypt. v.* 2. 91. *t.* 33. *Swartz. Musc. Suec.* 37.
Bryum vaginale. *Dicks. Crypt. fasc.* 3. 8. *With.* 827. *Hull.* 261.

THIS moss was discovered by Mr. Dickson in marshy places in Scotland. Our specimens were gathered by John Templeton, Esq. of Orange Grove near Belfast, on moist banks in the Manyburn River, Ireland, in July 1802.

Roots perennial. Stems growing in patches, erect, simple, leafy, scarcely a quarter of an inch high. Leaves light-green, spreading almost equally every way, lax and pliant, more or less undulated and curled, capillary, acute, sheathing the stem with their dilated base, destitute of rib or veins. Stalk terminal, capillary, red, twisted at the top, scarcely an inch high. Capsule nearly erect, ovate, short, of a red brown, but little contracted at the mouth, becoming somewhat spirally furrowed as it ripens. Lid with a long, slender, oblique, red point. Fringe red, of sixteen cloven flat teeth, the decisive character of the genus, of which the moss figured in our *t.* 354 (*Bryum scoparium*) is another species.

Apr.l 1803. Published by Ja.s Sowerby; London.

42

DICRANUM uncinatum.

Hooked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem mostly simple. Leaves bristle-shaped, keeled, ribless, curved to one side. Capsule drooping, with a lateral tumour at its base.

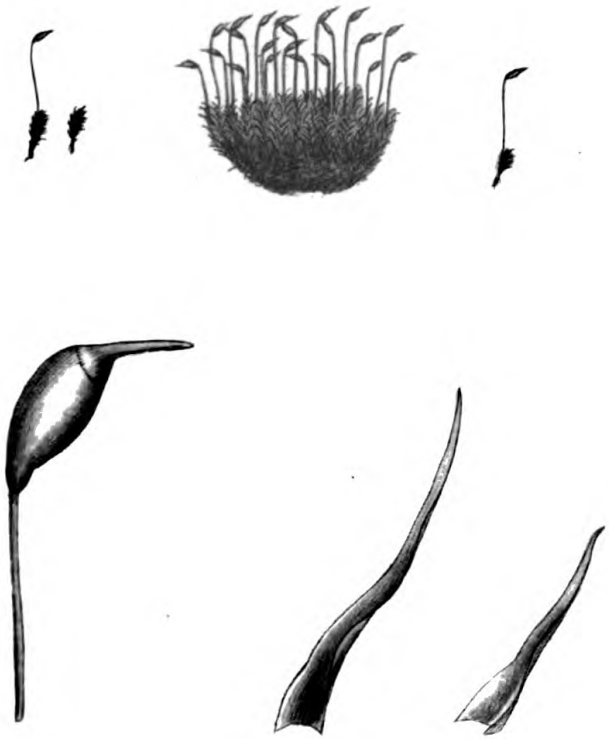
SYN. Dicranum flavidum. *Swartz. Mss.*

Bryum uncinatum. *Dicks. Crypt. fasc.* 4. 11. *t.* 11. *f.* 8.

COMMUNICATED by Mr. Dickson, who discovered this species on the naked turfy soil of some of the Highland mountains of Scotland, nor do we know of its having been found by any other person in Britain. Dr. Swartz sent specimens of the same in 1805, of which our large tuft consists, under the apt name of *D. flavidum*; but the above was first established.

The stems vary in height, and according to Mr. Dickson are sometimes nearly an inch tall. Hence we judge them to be perennial. Leaves light green, curved more or less to one side, tapering and slender-pointed, entire, keeled, but without a rib; broad at their base. Fruitstalk terminal, solitary, half an inch high, slender, pale yellow, at length wavy. Capsule inclining, rather pear-shaped, curved, smooth, tawny yellow, with a small swelling on one side at its base. Lid awlshaped, inflexed, as long or longer than the capsule. Fringe not seen by us, but described by Mr. Dickson as composed of inflexed cloven teeth, which stamps the generic character, confirmed by Dr. Swartz.

A comparison with *t.* 1151 will show how this moss differs from *D. crispum*, which it in many points resembles.



Published by J. & J. Sowerby, London.

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43.

DICRANUM falcatum.

Sickle-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem generally simple. Leaves bristle-shaped, curved one way, single-nerved. Capsule obovate, drooping, with a little swelling beneath it.

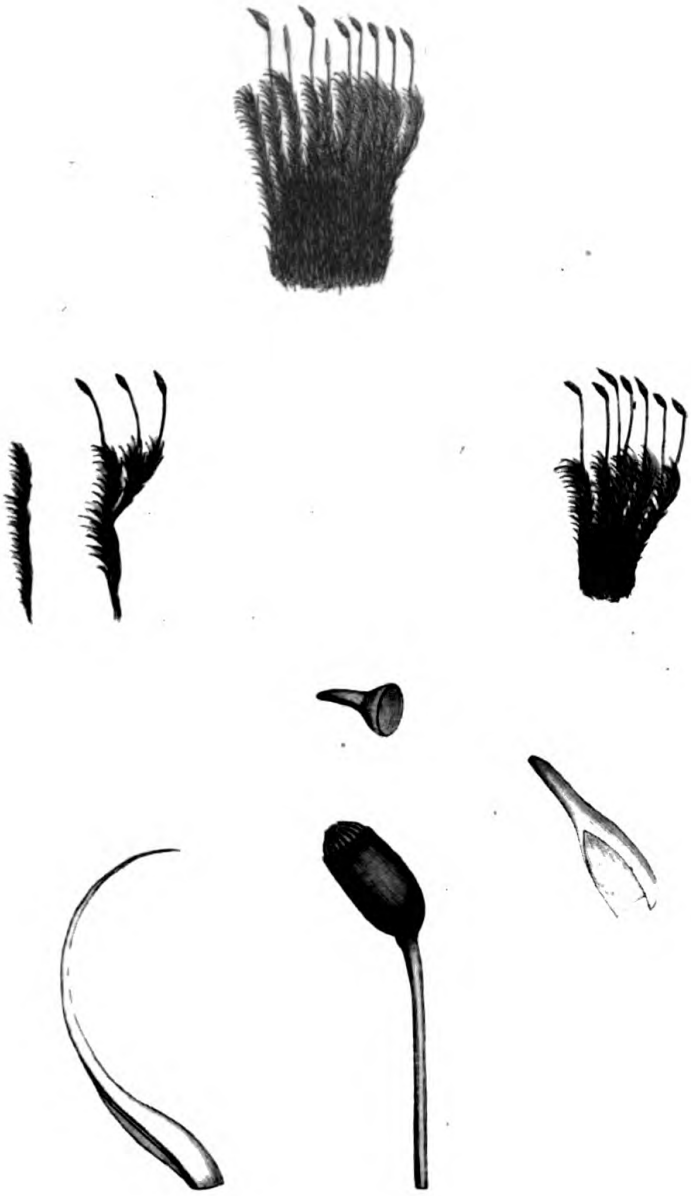
SYN. Dicranum falcatum. *Hedw. Sp. Musc.* 150. *t.* 32. *f.* 1—7. *Sm. Fl. Brit.* 1208.

Bryum longifolium. *Dicks. Crypt. fasc.* 3. 7. *With.* 834. *Hull.* 264.

GATHERED last summer by Messrs. Borrer and Hooker on the highest summit of Ben Lawers, Scotland, it being one of the most alpine of our British mosses. Mr. Dickson, who first found it, mentions its station as about rills of water.

This species has much the aspect of *D. heteromallum*, *t.* 1272, but its leaves are even more sickle-shaped and curved to one side. The capsule is essentially distinguished by an oblique, strumose, or gland-like, swelling under its base, and by the form of the lid, which is awlshaped, not of the fine setaceous figure of that species, nor is it so long. The capsule itself is moreover less turgid and not polished. Its form is sometimes nearly ovate, but generally, from the great width of the mouth, rather obovate. Veil obtuse.

The real *Dicranum longifolium*, found in Scotland by Mr. G. Don since the *Flora Britannica* was published, is a very different plant, having no nerve in the leaf, nor any swelling under the capsule, not to mention other distinctive marks.



Mar 1 1809 Publishd by Jas Sowerby London

DICRANUM Starkii.

Starkian Fork-moss.

CRYPTOGAMIA Musci.

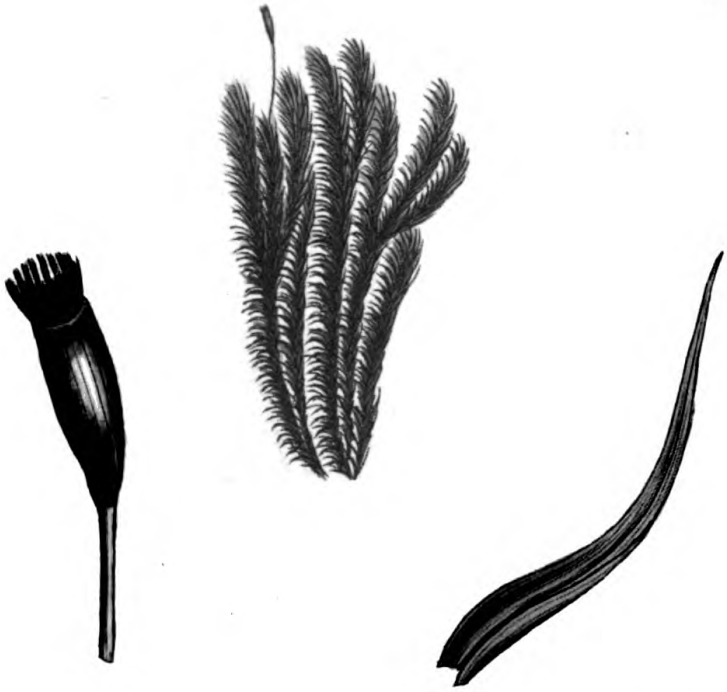
GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem somewhat branched. Leaves awl-shaped, curved one way, single-nerved, entire; ovate and sheathing at the base. Capsule obovato-cylindrical, drooping, with a little swelling beneath it. Lid as long as the capsule.

SYN. Dicranum Starkii. *Web. & Mohr. Crypt. Germ. v.* 1. 189. *n.* 27.

DISCOVERED on the alpine rocks of Ben Lawers, by Mr. G. Don, who sent us this only specimen, which we have carefully compared with one of Weber and Mohr's in Mr. Turner's possession. Their moss was found in rather alpine parts of Silesia, by the Rev. Mr. Starke, a distinguished cryptogamist; and they consider as the same Schleicher's *D. curvifolium; Cent.* 4. *n.* 14.

In our *vol.* 28. *p.* 1989, *D. longifolium* is said to have been found in Scotland by Mr. G. Don, but it proves only Mr. Dickson's *Bryum longifolium*, our *D. falcatum*. The present moss was since sent us by our indefatigable correspondent, as perhaps real *longifolium*. It comes indeed near that species, agreeing with it in size, but its leaves are not so long nor so capillary; they have moreover a central nerve, and there is a swelling, or *struma*, at the base of the capsule. It differs from *falcatum, t.* 1989, in its much greater size, and its more elongated and cylindrical capsule, contracted, not dilated, at the mouth. The lid also is longer in proportion and more slender. We suspect that some great muscologists may have confounded this with the real *longifolium*.



Lee & Nov published for Jas. Sowerby, London

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45.

DICRANUM fulvellum.

Tawny Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves bristle-shaped, single-ribbed, curved to one side. Capsule turbinate, furrowed, erect.

SYN. Dicranum fulvellum. *Sm. Fl. Brit.* 1209.

Bryum fulvellum. *Dicks. Crypt. fasc.* 4. 10. *t.* 11. *f.* 1.

β. B. immersum. *Dicks. Crypt. fasc.* 4. 15; excluding the synonyms.

NATIVE of rocks in the Highlands of Scotland. Mr. Dickson found it on Ben More. Mr. Borrer communicated it from Ben Nevis. It greatly resembles *Grimmia acuta*, *t.* 1644, but the leaves have longer points, more decidedly curved toward one side. The capsule too is essentially different, as we find by a specimen from Mr. Dickson, in being longitudinally furrowed or ribbed, and the fringe is that of a *Dicranum*. The stems are tufted, branched, rather wavy, an inch and half, or more, in height. Leaves sickle-shaped, broad at the base, of a tawny or yellowish green, shining, with capillary points, and a midrib; entire at the margin. Fruitstalk terminal, erect, scarcely taller than the leaves. Capsule short, brown, shining, with a wide mouth and long red fringe. Lid conical, rather shorter than the capsule.

We have presumed to think Mr. Dickson's *Bryum immersum* a bog variety of this, and different from *t.* 32. *f.* 3. of Dillenius, on which Linnæus founded his *Sphagnum alpinum*. See *t.* 1491.

Apr 1, 1811, published by Jas Sowerby, London

V

46.

DICRANUM varium.

Variable Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem generally simple. Leaves capillary, rather leaning to one side, waved at the point. Capsule urn-shaped, drooping, tapering at the base.

SYN. Dicranum varium. *Hedw. Sp. Musc.* 133. *Crypt. v.* 2. 93. *t.* 34. *Roth. Germ. v.* 3. 170.

D. simplex. *Sibth.* 282.

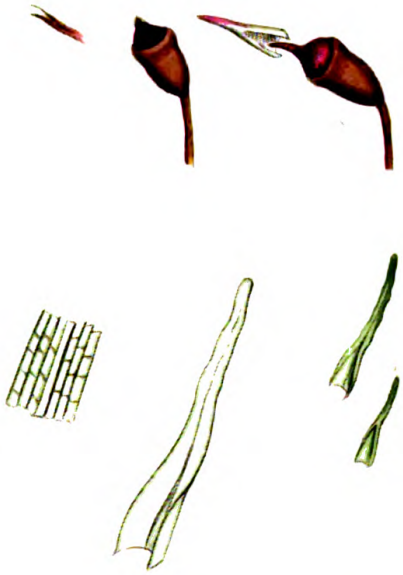
Bryum simplex. *Linn. Sp. Pl.* 1587. *Huds.* 486. *With.* 800. *Hull.* 254. *Abbot.* 239. *Dicks. H. Sicc. fasc.* 14. 20, & 17. 21.

B. trichodes, capsulis rubris cernuis. *Dill. Musc.* 390. *t.* 50. *f.* 59.

Mnium simplex. *Relh.* 418.

A NATIVE of grassy sandy moist places, not of frequent occurrence, nor is it very visible to superficial observers. These specimens were gathered by Mr. Templeton, in a moist part of a field near Lambeg moors, Ireland, in February 1801.

This minute species of Fork-moss is annual, and forms large bright-green thin patches. The stem, though generally simple (whence the Linnean name), having been found by Hedwig to be often variously branched, he changed its denomination to *varium*; and we adopt it readily, as many species are more truly simple. The leaves lean more or less to one side, and are capillary, soft and flexible, not rigid; their ends obtuse; their bases dilated: under a powerful microscope they are found to be uniformly, not very evidently, reticulated, with an entire even edge. Fruit-stalk terminal, shining, reddish. Capsule club- or urn-shaped, with a spreading mouth, inclined, and at length drooping. Fringe red. Lid awl-shaped, curved, tumid at the base, scarcely shorter than the capsule. Veil conical, thin and white.



Sept.r 1 1803 Published by Ja.s Sowerby. London.

47.

DICRANUM rufescens.

Red Fork-moss.

CRYPTOGAMIA Musci.

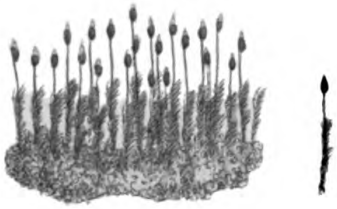
GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

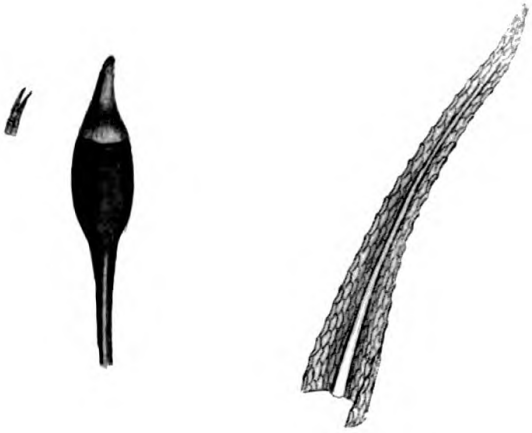
SPEC. CHAR. Stem simple. Leaves tapering, flexible, leaning one way, reticulated, apparently serrated. Capsule urn-shaped, erect.

SYN. Bryum rufescens. *Dicks. Crypt. fasc.* 3. 6. *t.* 8. *f.* 1. *With.* 818. *Hull.* 258.

WHEN a student at Edinburgh in 1782, I first detected this moss, on the moist perpendicular sandy bank of a romantic rivulet at the Hermitage, a mile south of the town. The botanists of that day did not venture to determine it. We were all ignorant even of *Dicranum varium*, except from Dillenius's plate, or this might have been referred to that species. At last Mr. Dickson published the *rufescens* in his 3d fasciculus, and Mr. G. Donn has since found it in wet fields near Forfar.

Like the foregoing this is an annual. The capsules are perfected in early spring, when the moss is observable by its red hue, in very extensive uninterrupted patches. In size it scarcely equals the last. The stem is, as far as we know, always simple. Leaves curved to one side, capillary to the naked eye; but when highly magnified their flat lanceolate form appears, and with it the curious network of their veins, which forms a marginal chain so as to make an appearance of serratures, a circumstance which alone clearly distinguishes this from the *varium*. The fruit-stalk moreover is less shining; the capsule erect, and not quite of the same figure as in that species.





Sept.r 1. 1803 Published by Jas Sowerby. London.

48.

DICRANUM rigidulum.

Rigid-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem erect, at length branched. Leaves awl-shaped, pointed: those on the branches curved towards one side. Capsule urn-shaped, incurved.

SYN. Dicranum rigidulum. *Swartz Musc. Suec.* 38 and 89. *t.* 3. *f.* 7. *Hedw. Sp. Musc.* 134. *t.* 32. *f.* 8—12. *Sm. Fl. Brit.* 1211. *Turn. Musc. Hib.* 62.

SENT by Dr. Scott from the neighbourhood of Dublin to Mr. Turner, to whom we are obliged for our specimens. It grows in a moist clay soil, and is perennial, forming dense tufts, conspicuous for the light shining green of the leaves, which are slender, awl-shaped, very acute, entire, with a single rib, rather rigid to the touch when dry: the radical ones are numerous, nearly erect, or spreading every way alike; those on the lateral branches that come out from near the base of the fruit-stalk, and rise as high as its top, are curved more or less toward one side. Fruit-stalk not half an inch high, red, shining. Capsule leaning and often curved, of a short urn-shaped form, spreading at the mouth, light-brown, smooth but not shining. Fringe half as long as the capsule, of a fine red, striated, the tips pale. Lid conical, swelled at the base, often beyond the diameter of the capsule. Veil awl-shaped, straight, often reddish.

In barren situations, or dry seasons, this moss forms no lateral shoots, in which state it seems to be Mr. Dickson's *Bryum callistomum*. It is not however *Dicranum callistomum* of *Fl. Brit.*, the description of which was made from specimens of *varium*, erroneously sent for *callistomum* before I knew the real one.

April 1. 1806 Published by Jas Sowerby, London.

49.

DICRANUM aciculare.

Dark Mountain Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem ascending, branched. Leaves lanceolate, obtuse, somewhat spreading, a little inclining to one side. Capsule cylindrical. Lid awl-shaped.

SYN. Dicranum aciculare. *Hedw. Sp. Musc.* 135. *Crypt. v.* 3. 79. *t.* 33. *Sm. Fl. Brit.* 1212. *Turn. Musc. Hib.* 67.

Bryum aciculare. *Linn. Sp. Pl.* 1583. *Huds.* 479. *Hull.* 261. *Lightf.* 725. *Dicks. H. Sicc. fasc.* 6. 20.

B. montanum hemiheterophyllum, operculis acutis. *Dill. Musc.* 366. *t.* 46. *f.* 25.

B. Hypnoides erectum montanum, erectis capitulis acutis. *Dill. in Raii Syn.* 94.

Mnium aciculare. *With.* 798.

FREQUENT and plentiful in mountainous situations, about rivulets and other watery places, flowering in autumn, and ripening fruit in the spring. The stems are about 2 or 3 inches high, taper at the base, branched and leafy above, forming loose tufts. Leaves imbricated on all sides, but rather inclining one way, opaque, dark green, except the young ones, ovato-lanceolate, obtuse, rather concave, somewhat revolute, entire, with a strong rib, but no terminal point or hair. Fruit-stalks towards the tops of the branches, finely twisted when dry, red-brown, soon becoming black. Capsule perfectly erect, smooth, cylindrical, somewhat elliptical. Lid awlshaped, straight, red at the base. Fringe deep crimson. Veil the shape of the lid, split into several teeth at its base.

When growing in water, the whole moss becomes nearly black, and is Dillenius's *t.* 46. *f.* 26. Bryum hypnoides repens aquaticum, erectis capitulis acutis. *Raii Syn.* 94.

1978.

Jan. 1. 1805. Published by Jas. Sowerby London.

50.

DICRANUM patens.

Spreading-branched Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem ascending. Lesser branches spreading. Leaves lanceolate, acute, straight, single-ribbed. Capsule nearly ovate. Fruitstalk twisting.

SYN. Dicranum patens. *Sm. Fl. Brit.* 1213.
Bryum patens. *Dicks. Crypt. fasc.* 2. 6. *t.* 4. *f.* 8.

GATHERED by Messrs. Hooker and Borrer on Ben Nevis, where it grows on stones in the alpine rivulets. Mr. G. Don finds it plentifully in the shires of Inverness and Angus, and Mr. Turner observed it on Snowdon in Wales. Foreign botanists seem not acquainted with this species. It is perennial, bearing fruit rather early in summer.

The stems ascend in a lax spreading manner, and their black wiry bases are often stripped of leaves; above they are branched, leafy, the shorter branches spreading sometimes horizontally. Leaves almost upright or but little spreading, linear-lanceolate for the most part, acute, but pointless, keeled, single-ribbed, entire, when dry slightly revolute; their colour is a dark blackish hue, except the young ones, which are of a light and pleasant green, and some of the latter are often almost ovate at their base. Fruitstalks lateral, short, in process of time becoming curved or twisted. Capsule erect, ovate or elliptical. Mr. J. D. Sowerby has observed it to be marked with 8 slightly prominent ribs. The fringe is crimson. Lid conical, straight. Veil toothed at the base.

Mar 1 1809 Published by Jas Sowerby London

DICRANUM ellipticum.

Elliptical Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stems but slightly branched, tufted. Leaves awlshaped, pointless, ovate at their base. Capsule elliptical, contracted at the mouth, erect. Lid pointed, straight.

SYN. Dicranum ellipticum. *Sm. Fl. Brit.* 1213. *Turn. Musc. Hib.* 76. *t.* 6. *f.* 2.

Bryi n. 29 varietas atra. *Dill. Musc.* 371.

DILLENIUS gathered this moss, without distinguishing it as a species from *Trichostomum microcarpon*, *t.* 1440, upon the cold summit of Snowdon, from which famous spot Mr. Turner brought our specimens. It has been found by Mr. R. Brown, a most accurate observer, on the top of the Irish mountain Bulbein. It bears fruit in June and July.

The stems form dense perennial tufts, and are about an inch high, simple or slightly branched, clothed all over with imbricated leaves. The latter are of a light green when young, but soon turn brown, and at length quite black. They taper from an ovate base, to an awlshaped, but blunt and beardless, point, and have a single rib and an entire margin. They curve a little, especially when young, toward one side. Fruit-stalk half an inch long, solitary, erect, spirally twisted when dry. Capsule upright, exactly elliptical, smooth, brown, shortish, with a contracted mouth. Teeth closely inflexed, brown. Lid straight, sharp-pointed, not so long as the capsule.

June 1. 1808. Published by Jas. Sowerby London.

DICRANUM ovale.

Oval Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stems branched, level-topped. Leaves lanceolate, hair-pointed. Capsule ovate, erect, rather wide at the mouth.

SYN. Dicranum ovale. *Hedw. Sp. Musc.* 140. *Crypt. v.* 3. 81. *t.* 34, A. *Sm. Fl. Brit.* 1214. *Turn. Musc. Hib.* 77. *Winch. v.* 2. 102.
D. ovatum. *Swartz. Musc. Suec.* 35.
Bryum ovale. *Dicks. Crypt. fasc.* 4. 14.

GRANITE rocks on Ben High, Scotland, are said by Mr. G. Don to produce this moss, but sparingly. Our specimens were gathered there by himself, and we have Irish ones from the late Dr. Scott. They all agree with what Dr. Swartz has sent, except in the different states of their capsules, which by age become more and more dilated at the orifice.

The species before us has much of the appearance of *D. ellipticum*, *t.* 1901, but the stems are more decidedly branched, taper and rather naked at the base. Leaves dark-green, opaque, lanceolate, keeled, entire, somewhat revolute, at least when dry; the upper ones each tipped with a white, entire, hair-like point. Fruitstalks erect, pale, short; twisted when dry. Capsule erect, ovate, palish; at length wide-mouthed, brown, and in some degree rugged. Fringe red, short. Lid short, with a blunt point.

2105

July 1811 published by J. Lever, Leadenhall Street, London.

DICRANUM glaucum.

White Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched, level-topped. Leaves imbricated, ovato-lanceolate, ribless, whitish. Capsule ovate, furrowed.

SYN. Dicranum glaucum. *Hedw. Sp. Musc.* 135. *Sm. Fl. Brit.* 1216. *Sibth.* 281. *Turn. Musc. Hib.* 73.

Brvum glaucum. *Linn. Sp. Pl.* 1582. *Huds.* 479. *Hull.* 263. *Abbot.* 239. *Lightf.* 723. *Ehrh. Crypt.* 4.

B. albidum et glaucum fragile majus, foliis erectis, setis brevibus. *Dill. Musc.* 362. *t.* 46. *f.* 20.

B. trichoides erectis capitulis, albidum fragile. *Raii Syn.* 97.

Mnium glaucum. *With.* 801 !

DRY mountainous stony heaths and pastures produce abundance of *Dicranum glaucum*, the great white patches of which are often very conspicuous, but the fruit is rare. The remarkable spongy, bibulous, light, elastic habit of the leaves is exactly that of a *Sphagnum*, and totally unlike all British mosses besides. The stems are branched, crowded, level-topped, 2, 3 or 4 inches high, lasting many years. Leaves opaque, closely imbricated, ovato-lanceolate, rather concave, entire, bluntish with a little point; the young ones almost white; the rest pale brownish; all destitute of rib or veins, but finely cellular, brittle when dry. Fruitstalks rather above half an inch high, brownish red, not very straight. Capsule ovate, short, brown, furrowed, inclining and curved, the mouth dilated when old. Fringe red. Lid as long as the capsule, red, awlshaped, curved, acute.

No moss can be better calculated for packing than this, where it is easily to be had.

July 1810 published by J. Sowerby London

DICRANUM purpureum.

Purple-stalked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem forked. Leaves lanceolate; twisted when dry. Capsule elliptical, at length deeply furrowed. Lid conical.

SYN. Dicranum purpureum. *Hedw. Sp. Musc.* 136. *t.* 36. *Sm. Fl. Brit.* 1217. *Sibth.* 281. *Turn. Musc. Hib.* 72. *Winch. v.* 1. 103.

Bryum purpureum. *Huds.* 482. *Hull.* 254.

B. tenue stellatum, setis purpureis. *Dill. Musc.* 386. *t.* 49. *f.* 51.

B. perangustis foliis et cauliculis, foliis crebrioribus et circa summitates magìs congestis, capitulis erectis e surculis annotinis egredientibus, pediculis purpureis. *Raii Syn.* 99.

Mnium purpureum. *Linn. Sp. Pl.* 1575. *With.* 802. *Relh.* 417. *Abbot.* 233.

β. Bryum tenue. *Dicks. Crypt. fasc.* 3. 8. *With.* 828. *Hull.* 262; but not of Weber.

B. purpureum β. *Huds.* 482; excluding synonyms.

TOPS of walls, gravelly heaths and banks, or rotten wood, glow in the spring with the copious crimson stalks of this very common moss, whose stems are perennial, not annual, and are forked, tufted, and clothed with bright green, spreading, ovato-lanceolate, entire, acute, but not bearded, leaves. These have each a strong mid-rib, and their lower part is slightly revolute. By drying they become twisted. Fruitstalks solitary, mostly from the forks between the young shoots, an inch high, very beautiful and shining, sheathed at the base. Capsule nearly erect, elliptical, shining, at first even, but by drying or age becoming marked with a few very deep furrows, when also the base is contracted. Lid conical, oblique, one fourth as long as the capsule. Teeth red, cloven beyond their middle.

Bryum tenue, communicated by Mr. Dickson, appears to us a small or starved variety; see *fig.* 2.

2.

Sowerby Lith. Stabbed by Jos. Sowerby London.

55.

DICRANUM bipartitum.

Twin-stalked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem somewhat forked. Leaves ovate, revolute. Fruitstalks often in pairs. Capsule elliptical, striated, inclining. Lid conical.

SYN. Dicranum bipartitum. *Roth Germ. v.* 3. 158. *Sm. Fl. Brit.* 1218.

Bryum bipartitum. *Dicks. Crypt. fasc.* 2. 7. *With.* 835. *Hull.* 265.

B. parvum, surculis et setis geminatis. *Dill. Musc.* 385. *t.* 49. *f.* 50.

B. parvum trichoides ramosum, erectis capitulis subfuscis, in pediculis obscurè rubris. *Dill. in Raii Syn.* 96.

DILLENIUS observed this species on banks, walls, and in gardens, bearing fruit in the early spring. He, and Mr. Dickson who favoured us with specimens, are the only botanists whom we can find to have gathered this moss in Britain. Hoffmann and Roth enumerate it amongst the productions of Germany. It may very possibly have been, by many persons, overlooked for the common *D. purpureum*, from which it differs in being smaller, with broader, shorter, ovate, revolute leaves, less incurved by drying. The fruitstalks too are paler, often, but not invariably, standing two together, but scarcely, we believe, from the same sheath. An essential difference moreover may be detected in the capsule, which, though striated, is not, at any period of growth, deeply furrowed, nor is it quadrangular at the base. The fringe is pale, much damaged in our specimens.

Jan. 1 1811 published by Jos. Gwinn by London London.

56.

[2294]

DICRANUM strictum.

Tall Shining-stalked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem forked. Leaves ovate, with awl-shaped points. Capsule cylindrical, furrowed, inclining. Lid conical.

SYN. Dicranum strictum. *Sm. Fl. Brit.* 1218. *Winch. v.* 1. 103.

D. intermedium. *Hedw. Sp. Musc.* 138. *t.* 31. *f.* 1—6?

Bryum strictum. *Hoffm. Germ. v.* 2. 36. *Dicks. Crypt. fasc.* 4. 13.

B. purpureum γ. *Huds.* 483. *Hull.* 254.

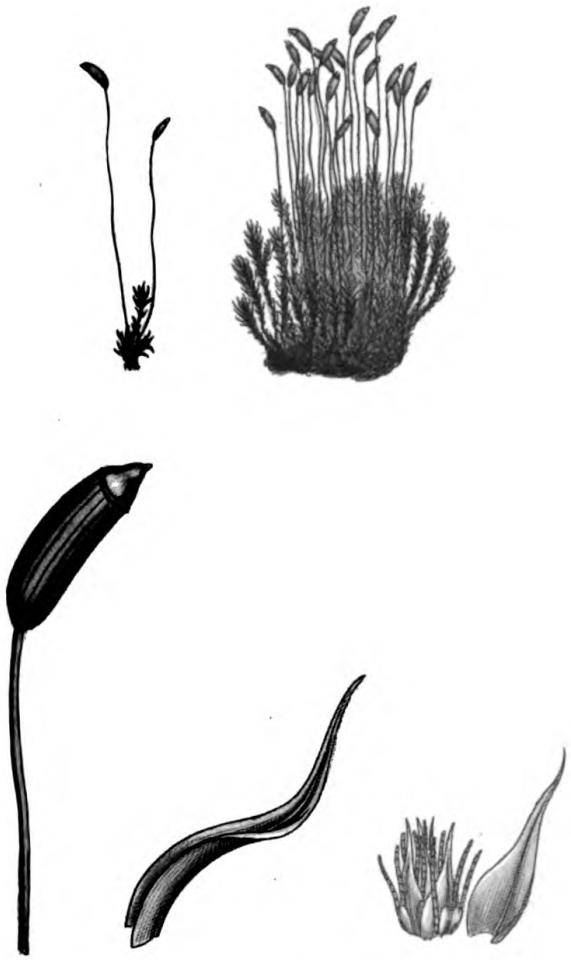
B. polytrichodes palustre, setis longioribus rubris sericeis. *Dill. Musc.* 387. *t.* 49. *f.* 52.

B. perangustis crebrioribus foliis, capitulis erectis, longiusculis pediculis e surculis annotinis innascentibus. *Dill. in Raii Syn.* 99.

Mnium purpureum, var. 2. *With.* 802.

SENT by Mr. Winch, from Prestwick Car in Northumberland. Many botanists have considered this elegant species as a mere variety of *D. purpureum, t.* 2262, from which it differs in several essential respects.

The stems are generally taller. The leaves are ovate at their base, but with much longer and more tapering points, that do not curl so much in drying. The beautiful fruitstalks, like threads of crimson silk, are an inch and half or two inches high, and sometimes grow two or three together from one point. The capsule is much more slender, curved, always furrowed in all stages of its growth, at least if dried, and the base does not exhibit that square contraction observable in *purpureum*. The present species moreover grows in boggy ground, not on walls or dry heaths.—We quote Hedwig here with doubt, merely because we have seen no authentic specimen of his *D. intermedium*.



Pubd. 1.10. published by Jas. Sowerby London

DICRANUM pusillum.

Dwarf Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple. Leaves capillary, ribless, nearly upright. Capsule ovate, inclining, with a slight prominence on one side at the base.

SYN. Dicranum pusillum. *Hedw. Sp. Musc.* 139. *Crypt. v.* 2. 80. *t.* 29, B. *Sm. Fl. Brit.* 1219. *Swartz Musc. Suec.* 38. *Sibth.* 282.

Bryum parvulum. *Dicks. Crypt. fasc.* 3. 7. *With.* 832. *Hull.* 263.

OUR specimens of this pretty little Moss were gathered by Mr. Turner at Belton, Suffolk, not far from Yarmouth. The same is found also in Scotland and Oxfordshire, as well as probably elsewhere in this island.

Hedwig asserts it to be perennial. The stems are a line or two only in height, forming dense patches, unbranched. Leaves spreading very slightly in every direction, pale green, brown when old, very narrow, concave, or somewhat keeled, at the base, where they are considerably dilated; but we believe they have no actual rib or nerve, whatever appearance the fold of the keel may sometimes give. Fruitstalks very slender, shining, sheathed at the base, yellowish, turning black with age. Capsule ovate, abrupt, turned to one side, pale brown, smooth, with a small reddish tumour at the base on the under side. Lid with a taper curved beak, as long as the capsule. Fringe large in proportion, of a fine red.

The flowers are said to be produced in autumn; which is very probable, as the capsules are found with us in the early spring.

2491

Lowe sculpt. by J. & T. Leigh & Co.

58.

DICRANUM cerviculatum.

Red-necked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple. Leaves capillary, without ribs, loosely spreading. Capsule elliptical, turgid, nearly upright, with a spur on one side at its base.

SYN. Dicranum cerviculatum. *Hedw. Sp. Musc.* 149. *Crypt. v.* 3. 89. *t.* 37, A. *Sm. Fl. Brit.* 1220. *Turn. Musc. Hib.* 64.

Bryum cerviculatum. *Dicks. Crypt. fasc.* 3. 7. *With.* 813. *Hull.* 257. *Abbot.* 237.

A NATIVE of dry turfy places, especially the borders of pits where peat is cut, in Ireland, Wales, and even the midland counties of England. The capsules are perfected copiously in July, and the roots are perennial.

The stems are simple, erect, 2 or 3 lines high, leafy, forming broad close patches, which are rendered conspicuous by the light shining yellowish green of the leaves and fruitstalks. Leaves dense, long and taper, loosely spreading, entire, destitute of nerves or keel, a little dilated and concave at the base. Fruitstalks about 3 quarters of an inch in height, solitary, terminal, slender, pellucid, a little zigzag. Capsule inclining, scarcely quite upright, elliptical, turgid, smooth, pale shining brown, contracted at the mouth, furnished at the base with a spur on one side, which is more or less red. Lid as long as the capsule, taper, incurved. Fringe crimson.

Our specimens were communicated by John Templeton, Esq. of Orange Grove near Belfast, a correspondent by whom we have frequently been favoured.

Oct 1 1806, Published by Jas Sowerby, London.

59.

DICRANUM Celsii.

Celsian Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stems very short, perfectly simple. Leaves lanceolate, pointed, single-ribbed, entire. Capsule furrowed, strumous internally at the base. Lid conical.

SYN. Dicranum Celsii. *Hedw. Sp. Musc.* 149. *t.* 33. *f.* 1—4. *Sm. Fl. Brit.* 1221. *Turn. Musc. Hib.* 71.

Bryum Celsii. *Linn. Sp. Pl.* 1585. *Dicks. Crypt. fasc.* 3. 7. *With.* 832. *Hull.* 263.

B. trichodes acaulon minimum, setis et capsulis oblongis. *Dill. Musc.* 388. *t.* 49. *f.* 54.

WE have received from Mr. Dickson the specimen in our plate, gathered by himself on rocks in the Highlands of Scotland, and we have, in his presence, compared it at Oxford with those of Dillenius, from whom Linnæus adopted the species; for we do not find that he obtained any specimens from his friend Celsius, its original discoverer near Upsal.

The root is supposed to be annual. Stem at first very short and simple, subsequently elongated above the origin of the fruitstalk, which is solitary, slender, not an inch high. Leaves numerous, ovato-lanceolate, acute, entire, single-ribbed, a little revolute, soon turning black; the upper ones paler and often broader. Capsule a little inclining, cylindrical, brown, shining, furrowed; ovate and even at the base, in which part it is internally strumous or solid. Lid conical, short. Fringe red, its teeth linear, very deeply divided, so as nearly to approach the character of a *Trichostomum*.

Maysie sculpsit. Published by J. & E. Sowerby London.

60.

DICRANUM latifolium.

Broad-leaved Hairy Fork-moss.

CRYPTOGAMIA Musci.

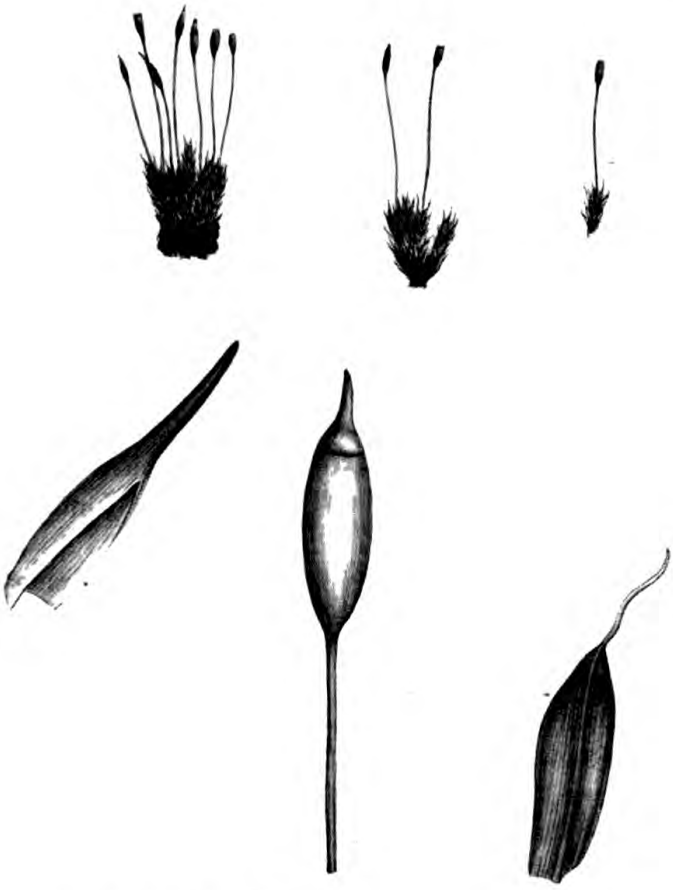
GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem simple, short. Leaves elliptic-oblong, concave, hair-pointed. Capsule erect, cylindrical, somewhat ovate. Lid awlshaped, short.

SYN. Dicranum latifolium. *Hedw. Sp. Musc.* 140. *Crypt. v.* 1. 89. *t.* 33. *Turn. Musc. Hib.* 79; excluding Dickson's syn.

GATHERED by the late Dr. Scott, upon banks in Ireland. The original specimens of *D. latifolium* were given to the younger Linnæus by Mr. Dickson, and came from North America, not from Lapland. The counter part of these remain in the Linnæan herbarium.

Hedwig, by attending to the stems, which though very short are not all of one year's growth, judged this moss to be perennial. They compose dense tufts. The leaves are crowded, light green, a little spreading, elliptical and rather oblong, concave, entire, slightly revolute, their strong midrib ending in a long white hair. When dry they become twisted or folded together. Fruitstalks solitary, an inch long, tawny, shining, twisted when dry. Capsule erect, nearly cylindrical, or slightly ovate, smooth, light brown. Lid conical, blunt, nearly straight, about a quarter the length of the capsule; Mr. Turner by mistake describes it of equal length. The fringe is so pale, delicate, and deeply cloven, that this excellent botanist rightly judges it rather to indicate a *Trichostomum*. We retain the plant in *Dicranum* merely out of deference, in a doubtful question, to so great a man as Hedwig. We cannot agree with Mr. Turner as to this being *Trichostomum piliferum* of *Fl. Brit.* the capsule of which is very short, and the leaves taper-pointed.



Drawn and published by Jas. Sowerby London.

DICRANUM spurium.

Broad-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched, level-topped. Leaves ovate, pointed, concave, entire, keeled, spreading every way. Capsule cylindrical, curved, furrowed.

SYN. Dicranum spurium. *Hedw. Sp. Musc.* 141. *Crypt. v.* 2. 82. *t.* 30. *Sm. Fl. Brit.* 1222. *Swartz. Musc. Suec.* 33.

Bryum spurium. *Hoffm. Germ. v.* 2. 38. *Dicks. Crypt. fasc.* 4. 13.

NO person that we know of has ever gathered this remarkable moss in Britain, except the late Mr. Teesdale, F.L.S., who found it on Houghton and Barnby moors, Yorkshire, growing intermixed with *Mnium palustre,* but without fruit. That defect we have supplied, as far as we could, from one of Dr. Swartz's specimens, but the fringe is still deficient. Hedwig figures some of the teeth as occasionally 3-pointed. He seems to consider this species as very nearly allied to *D. scoparium, t.* 354, not adverting to the extremely different direction of the leaves, which in the present spread every way, and are moreover so remarkably incurved and frizzled when dry. The young ones are of a fine pale green; the older brown or black, but still shining. Their points are finely serrated. The fruit and stalk resemble those of *scoparium,* but the capsule is furrowed. Fringe red, rather short. Lid awlshaped, slender.

Every thing about this *Dicranum* evinces a much greater affinity to *polyphyllum t.* 1217, *Scottianum, t.* 1391, &c., than to *scoparium* and its allies.

2167

July 1, 1810 published by J. Sowerby London

DICRANUM pellucidum.

Pellucid Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem with several level-topped branches, leaves ovato-lanceolate, acute, incurved when dry. Capsule ovate, smooth.

SYN. Dicranum pellucidum. *Hedw. Sp. Musc.* 142. *Sm. Fl. Brit.* 1223. *Turn. Musc. Hibern.* 68.

D. aquaticum. *Ehrh. Crypt.* 213.

Bryum pellucidum. *Linn. Sp. Pl.* 1583. *Huds.* 481. *Hull.* 264. *Abbot.* 237. *Dicks. H. Sicc. fasc.* 12. 22.

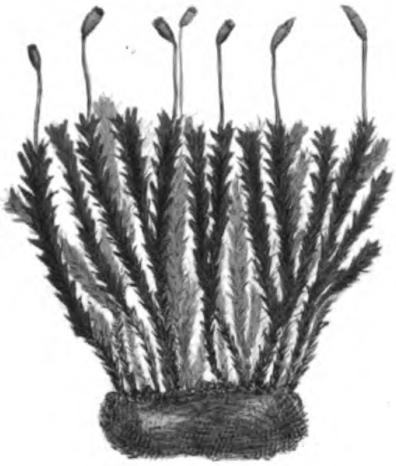
B. palustre pellucidum, capsulis et foliis brevibus recurvis. *Dill. Musc.* 364. *t.* 46. *f.* 23.

B. erectis capitulis subrotundis fuscis, foliis minoribus pellucidis rugosis. *Raii Syn.* 96.

Mnium pellucens. *With.* 802.

THIS also we received from Mr. Winch, bearing ripe capsules in March. It is an inhabitant of watery shady places in mountainous or alpine situations.

The perennial slender leafy upright stems form dense tufts, and are more or less divided into erect branches, which all rise nearly to an equal height. The lower part of the stems is clothed with dense rusty down. Leaves loosely and alternately imbricated, lanceolate, dilated at the base, transparent, of a yellowish or blackish green according to circumstances, keeled, single-ribbed, acute or sometimes pointed, variously twisted by drying soon after they are gathered, their margin (according to Mr. Sowerby and Mr. Turner) finely serrated toward the point. This I am not able to detect. Fruitstalks terminal, pale yellowish green. Capsule nodding, ovate, slightly curved, quite smooth, with a spreading margin. Lid as long as the capsule, incurved. Fringe purplish, large and handsome, tipped with yellow.



Aug.t 1. 1804. Published by Jas Sowerby, London.

DICRANUM flavescens.

Yellowish Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem erect, somewhat branched. Leaves linear-lanceolate, wavy when dry. Capsule turbinate, erect, smooth.

SYN. Dicranum flavescens. *Sm. Fl. Brit.* 1224. *Turn. Musc. Hib.* 70.

Bryum flavescens. *Dicks. Crypt. fasc.* 2. 4. *t.* 4. *f.* 5. *With.* 830. *Hull.* 254.

FOUND in alpine marshy places in Scotland, according to Mr. Dickson, who favoured us with a specimen. Mr. Turner mentions its growing on rocks wet with running water in Ireland. We find no mention of this species among foreign writers, for the *B. flavescens* of Scopoli, *Fl. Carn. n.* 1305. *t.* 62, most assuredly different, appears to be our *Tortula tortuosa*, *t.* 1708.

The stems are perennial, two or three inches tall, simple or branched, leafy, smooth, except about the bottom, where they are a little downy with rusty fibres. Leaves linear-lanceolate, acute, keeled, single-ribbed, spreading, entire, except a few occasional teeth near the tip; dilated at the base; yellowish when young; blackish when very old. Fruitstalks towards the tops of the stems, few, about half an inch high, firm, pellucid, reddish. Capsule quite erect, top-shaped, not so long as in Mr. Dickson's plate, its surface very smooth and even. The lid has not been observed. The remaining bases of the teeth in Mr. Dickson's specimen are sufficient to indicate the genus, and we have more, gathered by Mr. Menzies at Prince William's Sound, on the west coast of North America, which confirm it.

DICRANUM squarrosum.

Drooping-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched, level-topped. Leaves lanceolate, recurved, spreading every way. Capsule ovate, inclining, smooth.

SYN. Dicranum squarrosum. *Schrad. Journ. for* 1802, *fasc.* 1. 68. *Sm. Fl. Brit.* 1225. *Turn. Musc. Hib.* 69.

Bryum palustrre. *Dicks. Crypt. fasc.* 4. 11.

B. pellucidum β. *Linn. Sp. Pl.* 1583.

B. erectis capitulis brevibus, foliis reflexis. *Dill. Musc.* 365. *t.* 46. *f.* 24. *Raii Syn.* 95.

A NATIVE of mountain bogs. Mr. Hooker and Mr. Borrer inform us that the luxuriant barren variety is common in the highlands of Scotland, but that the more dwarf plants which bear fructification are rare. Some of these, gathered by our abovementioned friends on rocks by the side of Great Loch Broom, Ross-shire, are here exhibited along with the former. We first received this species from Dr. Buchanan, who gathered it at Leney near Stirling in 1784, when, the Hedwigian principles being unknown amongst us, it was suspected to belong to *Hypnum squarrosum*.

The stems are either simple or branched, in perennial level-topped tufts; such as form fructification are an inch or two in height, while others are 3 or 4 times as tall. They are all leafy, and the lower parts bear many rusty-coloured fibres or radicles. The leaves are squarrose, or project in every direction, lanceolate, recurved, entire, acute, single-ribbed, pellucid, light green, turning rusty or black as in other water mosses. Fruitstalks about an inch high, crimson, rather thick. Capsule inclining, and at length curved, ovate, smooth, dark or reddish brown. Fringe deep purple. Lid red, conical, sometimes almost as long as the capsule, and slightly curved.

Mar 1 1809 Published by Jas Sowerby London

DICRANUM polyphyllum.

Many-leaved Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched, fastigiate. Leaves lanceolate, curled when dry, minutely serrated towards the point. Capsule elliptical, erect.

SYN. Bryum polyphyllum. *Dicks. Crypt. fasc.* 3. 7. *With.* 825. *Hull.* 260.

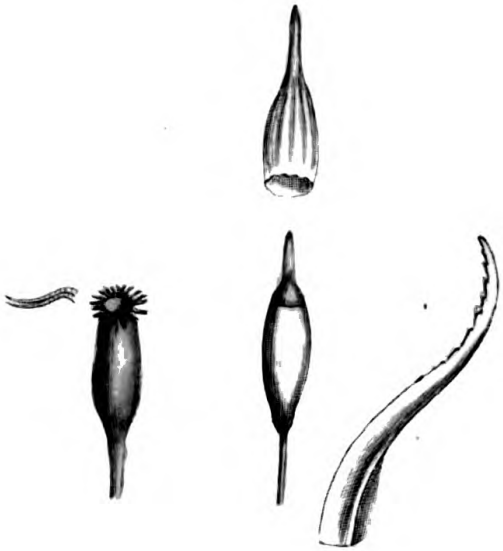
B. cirratum β. *Huds.* 486.

B. cirratum, setis et capsulis brevioribus et pluribus. *Dill. Musc.* 378. *t.* 48. *f.* 41.

B. trichoides, erectis sublongis capitulis, extremitatibus per siccitatem stellatis. *Raii Syn.* 98.

GATHERED by the Rev. H. Davies and by Mr. Turner in North Wales and in Ireland. Dillenius observed it originally on Snowdon. We have found it at Hafod, Cardiganshire. It grows in the clefts of alpine shady rocks, ripening its fruit in summer and autumn, and is perennial.

Nothing can be more distinct from the real *Bryum cirratum*, which is a *Grimmia*. This is a true *Dicranum*, and of much larger size. The stems form dense elastic tufts, an inch or more in height, and are branched, very leafy, the summits of the branches all nearly level. Leaves pale yellowish green, imbricated, linear-lanceolate, acute, keeled, with one nerve; serrated towards the point. When dry they curl inward. By age they become very black, but remain on the stem. Fruit-stalks lateral, several, erect, slender, generally solitary. Capsule erect, elliptical, smooth, brown. Fringe purplish. Lid awl-shaped, straight. Veil striated, at length torn at the edge.



Sept.1. 1803. Published by Jas. Sowerby. London.

DICRANUM Scottianum.
Curve-stalked Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

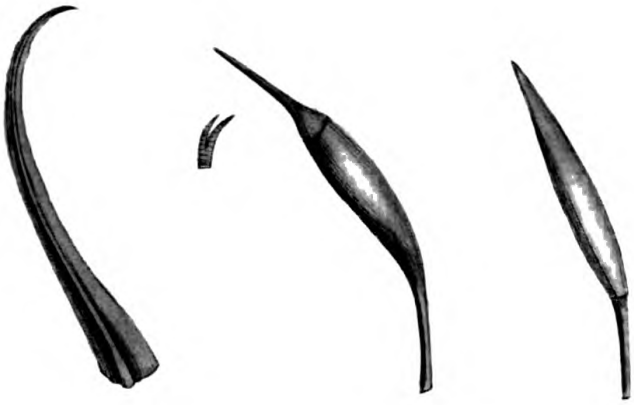
SPEC. CHAR. Stem branched, fastigiate. Leaves awl-shaped, entire, slightly incurved by drying. Capsule elliptical. Fruit-stalk curved.

SYN. Dicranum Scottianum. *Sm. Fl. Brit.* 1226. *Turn. Musc. Hibern.* 75. *t.* 6. *f.* 1.

DOCTOR SCOTT first discovered this new moss on stones near Swanlinbar in Ireland, and sent it to Mr. Turner. Mr. W. Borrer junior has found it plentifully in Sussex, producing its capsules (which indeed but rarely occur) in September. To the gentleman last mentioned we are indebted for fine specimens.

The present species has much affinity to *D. polyphyllum*, *t.* 1217, agreeing with that in general habit and colour, turning black with age. The leaves however are narrower, quite entire, and merely incurved in a slight degree, not curled or twisted, by drying. A central rib runs from their base to the tip, as in that species. The fruit-stalks are longer, tawny, curved. Capsule cylindrical, moderately swelling in the middle, straight, obscurely furrowed when ripe. Lid awl-shaped, slender, oblique, red at the base, equal in length to the capsule. Fringe red.

1391



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

67.

DICRANUM hyperboreum.

Northern Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem somewhat branched. Leaves crowded, capillary, straight. Capsule smooth, ovate, upright. Lid oblique.

SYN. Dicranum? hyperboreum. *Sm. Fl. Brit.* 1227. Bryum hyperboreum. *Dicks. Crypt. fasc.* 3. 9. *With.* 828. *Hull.* 261. *Fl. Dan. t.* 538. *f.* 1.

GATHERED by Mr. Dickson on the alpine rocks of Ben Nevis in Scotland. We are favoured by him with a specimen, which enables us to correct and improve the slight mention of this plant in *Fl. Brit.*

The stems are occasionally branched, leafy, reddish, composing dense tufts. Leaves numerous, crowded, pale green, straight, slender-awlshaped, with a strong rib, entire; their base a little dilated. Fruitstalk various in length, probably according to its age, erect. Capsule ovate, short, even, with a very oblique lid about its own length. The fringe being as yet unexamined, the genus still remains doubtful, but the analogy of other species is greatly in favour of that we have adopted.

July 1, 1815 published by Jas Sowerby London

68.

DICRANUM polycarpum.

Many-headed Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves linear-awlshaped, curled when dry. Capsule obovate, nearly straight, furrowed.

SYN. Dicranum polycarpum. *Ehrh. Crypt.* 84. *Sm. Fl. Brit.* 1227. *Swartz. Musc. Suec.* 32.
Fissidens polycarpos. *Hedw. Sp. Musc.* 159. *Crypt. v.* 2. 85. *t.* 31.

GATHERED in great perfection by Mr. G. Don, upon the summit of Ben High, Aberdeenshire, in August 1802. His specimens agree exactly with those sent us by Ehrhart and Swartz, and we believe are the first observed by any botanist in Britain.

This species is perennial, blossoming in spring, and bearing fruit in summer. The stems form tufts an inch or two high, branched, leafy, clothed with rusty down or radicles in their lower part. Leaves bright green, linear, entire, keeled, single-ribbed, with an awlshaped point, finely marked with *square* reticulations, as is generally the case with mosses that have a single fringe, those with a double one having them frequently *orbicular*. When dry the leaves are incurved and twisted. *Fruitstalks* numerous, terminal, slender, tawny or yellow, an inch high. Capsule green, smooth, and of a slender elliptical form when young; afterwards obovate, abrupt, strongly furrowed, and brown, bent very little toward one side; without any tumor at the base. Lid broad at the bottom, slender and curved upward, shorter than the capsule. Orifice and fringe red.—The male flowers being lateral, caused Hedwig to refer this moss to his *Fissidens*, but it only proves that character of no avail, being so truly a *Dicranum* in habit and affinity.

Drawn published by Jas. Sowerby London.

69.

DICRANUM strumiferum.

Swelling Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves linear-awl-shaped, twisted when dry. Capsule curved, furrowed, gibbous at the base.

SYN. Dicranum strumiferum. *Ehrh. Crypt.* 74. *Sm. Fl. Brit.* 1228. *Schrad. Spicil.* 59. *Swartz. Musc. Suec.* 33.

Fissidens strumifer. *Hedw. Sp. Musc.* 160. *Crypt. v.* 2. 88. *t.* 32.

Bryum strumiferum. *Dicks. Crypt. fasc.* 3. 8. *With.* 833. *Hull.* 264.

NATIVE of boggy pastures in Scotland, found by Mr. Dickson, and since by other botanists. It is perennial, flowering in autumn and winter, ripening fruit in summer.

Stems an inch or two high, erect, branched, tufted, leafy, covered with rusty down in their lower part. Leaves light-green, narrow, keeled, single-ribbed, entire, except their long taper point, which is finely serrated. When dry they become curled, and their edge slightly revolute. The base is rather dilated. Fruitstalks lateral, slender, an inch long, orange-coloured or reddish. Capsule pale reddish brown, shining, obovate-oblong, furrowed, strongly incurved, tapering at the base, with a swelling there in front. Veil straw-coloured, tipped with black. Lid awlshaped. Fringe pale red; its teeth transversely corrugated, with two pale taper points.

The curvature of the capsule, and the tumour at its base, distinguish this moss from *D. polycarpum*, *t.* 2269.

Jun 1 1824 published by J. & A. Arch Cornhill London.

70.

DICRANUM virens.

Green Spur-fruited Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves linear-lanceolate, twisted when dry. Capsule curved, smooth, with a prominence at the base.

SYN. Dicranum virens. *Swartz. Musc. Suec.* 33. *Sm. Fl. Brit.* 1406. *Hedw. Sp. Musc.* 142. *Crypt. v.* 3. 77. *t.* 32. *Turn. Musc. Hib.* 69.

MR. TURNER, in his work on Irish Mosses, gives the present species as a native of that country, and we have also received Scottish specimens from Mr. G. Don, gathered on the highland mountains, and have compared them with Dr. Swartz's original Swedish ones. It is perennial, and bears fruit in the summer months.

The stems form tufts, and are 2 or 3 inches high, erect, leafy, branched; blackish and downy in their lower part. Leaves of a fine bright green, linear-lanceolate, entire, slightly revolute, keeled, with a central rib; dilated and clasping the stem at their base; taper and sharp at the point, curved and twisted by drying. Fruit-stalks at first terminal, solitary, about an inch long, slender, brown when old, sheathed with broad leaves (*a*) at their base. Capsule red-brown, cylindrical, much curved, smooth (not furrowed as in *D. strumiferum* and *polycarpum*), tapering at the base, and furnished with a sharpish prominence or spur. Veil pale, tipped with brown. Lid conical, tapering, shorter than the capsule, sometimes curved.

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

DICRANUM montanum.

Mountain Curled Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven, teeth, a little inflexed.

SPEC. CHAR. Stem branched. Leaves linear-lanceolate, taper-pointed; curled when dry. Capsule cylindrical, straight.

SYN. Dicranum montanum. *Hedw. Sp. Musc.* 143. *t.* 35. *f.* 8—13. *Sm. Fl. Brit.* 1228.

MR. G. Don has gathered this on bogs in Scotland, but rarely. We are obliged to have recourse to fine exotic specimens, communicated by Professor Swartz, to execute our figure, the Scottish one, though formerly compared with these, and described in *Fl. Brit.*, not being now within our reach.

The stems vary in height from half an inch to two inches, composing dense perennial tufts, being branched and densely leafy. Leaves pale green, linear-lanceolate, taper-pointed, entire, slightly revolute, single-ribbed, curled and twisted when dry; their base dilated, and approaching an ovate shape. Fruitstalks soon becoming lateral, pale brown, straight, hardly an inch high. Capsule upright and straight, cylindrical inclining to ovate, pale brown, smooth, becoming furrowed as it ripens. Lid awlshaped, short, rather curved. Fringe brown, not, as in many of this genus, crimson. There is no tumour or appendage at the bottom of the fruit, such as is seen in *D. virens, t.* 1462.

May 1, 1811 published by Jos. Lowerby London

72.

DICRANUM flexuosum.

Zigzag Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem mostly branched. Leaves bristle-shaped, straightish. Capsule somewhat ovate, furrowed. Stalk zigzag. Veil fringed.

SYN. Dicranum flexuosum. *Hedw. Sp. Musc.* 145. *t.* 38. *f.* 1—6. *Sm. Fl. Brit.* 1229. *Turn. Musc. Hib.* 74.
Bryum flexuosum. *Linn. Sp. Pl.* 1583. *Huds.* 484. *With.* 834. *Hull.* 264. *Lightf.* 725. *Dicks. H. Sicc. fasc.* 9. 19.
B. pilosum molle, setis intortis. *Dill. Musc.* 373. *t.* 47. *f.* 33.
B. trichoides, capitulis erectis, pediculis intortis tenuibus virentibus. *Raii Syn.* 97.

SENT by the Rev. Mr. Dalton from the high moors of Yorkshire, a kind of situation in which it is not uncommon either in Scotland, Wales, Ireland, or the North of England, perfecting its fruit in April and May.

The stems form dense tufts and are leafy, mostly divided, extremely various in height from half an inch to 2 or 3 inches, and in bogs even much more. In the latter case we agree with Mr. Turner in thinking it the *Sphagnum alpinum* of Linnæus* (to which Dillenius attributed fruit that did not belong to it), and in the former it is Mr. Dickson's *Bryum fragile*.

The leaves are imbricated, awl-shaped, straight, of a pale shining green, concave, without a rib, taper-pointed; the point becoming white and pellucid in the bog variety. Stalks variously bent and twisted. Capsule brownish, ovate, erect and neatly furrowed when ripe. Lid tapering. Veil elegantly fringed.

* *Turn. t.* 5. *f.* 2.

1491

DICRANUM viridulum.

Smallest Fern Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

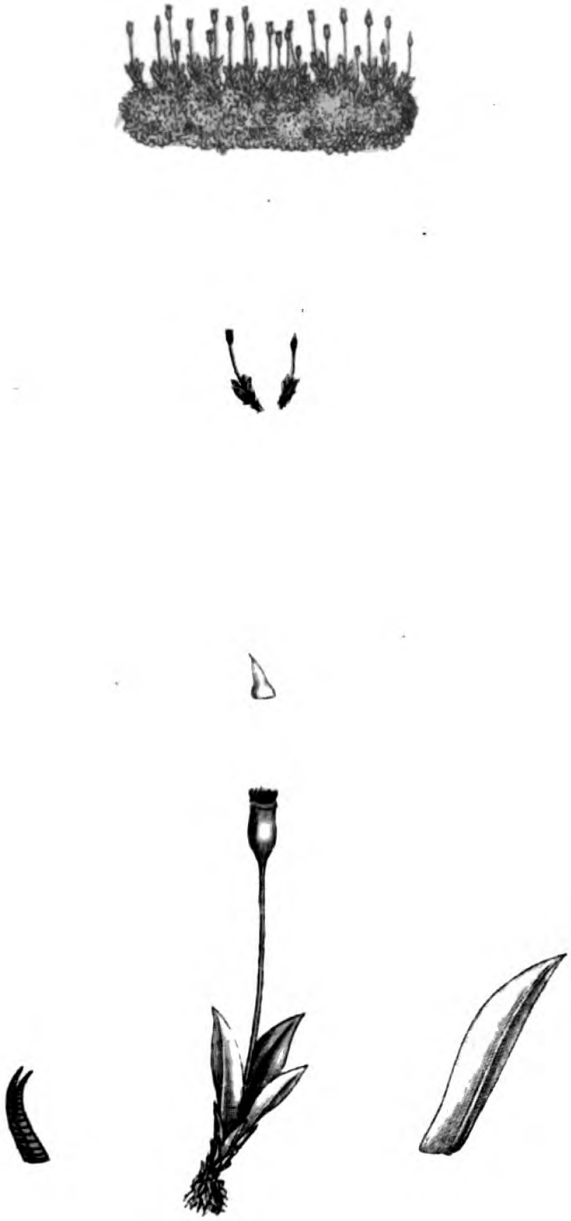
SPEC. CHAR. Stem ascending. Leaves imperfectly two-ranked, imbricated, elliptic-lanceolate. Fruit-stalk terminal. Lid swelled at the base.

SYN. Dicranum viridulum. *Sm. Fl. Brit.* 1230.
Fissidens exilis. *Hedw. Sp. Musc.* 152. *t.* 38. *f.* 7—10.
Bryum viridulum. *Linn. Sp. Pl.* 1584. *Dicks. Crypt. fasc.* 1. 3. *t.* 1. *f.* 5. *and fasc.* 4. 8.
B. paucifolium. *With.* 814. *Hull.* 257.

As the preceding moss was unknown to Linnæus, so was this (the more rare of the two) to Dillenius. It grows on a clay soil, in shady situations, bearing fruit in the winter or spring, and is generally presumed to be annual. Mr. W. Borrer found it at Hurst-perepoint in Sussex.

This is one of the smallest of mosses, the *Phasca* excepted, and so remarkable for the fewness of its leaves, that Withering's name *paucifolium* would be excellent, if wanted. He confounds its synonyms however with the preceding, and we are obliged to say his remarks, and those of Hedwig himself, respecting this species, are altogether erroneous and unwarrantable. Mr. Dickson only is right. The specimens in the Linnean Herbarium have all the marks which stamp them as original and authentic. They alone answer to all that Linnæus has said about his *B. viridulum*, and their leaves are imbricated; as well as undulated, or crisped, by drying.

Root small and downy. Stem simple, very short, mostly oblique. Leaves few, imbricated, obscurely two-ranked, elliptic-lanceolate, entire, single-ribbed: the uppermost largest, and generally curved. Stalk terminal, slender, reddish. Capsule erect, ovate, contracted below the mouth. Lid very acute, most remarkably tumid at the base.



Oct.r 1. 1804. Published by Jas. Sowerby, London

74.

HYPNUM bryoides.

Dwarf Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil* smooth. *Fruit-stalk* from a lateral tubercle invested with scales.

SPEC. CHAR. Frond perfectly simple, pinnate, lanceolate. Flower-stalk terminal.

SYN. Hypnum bryoides. *Linn. Sp. Pl.* 1588. *Hudſ.* 493. *With.* 842. *Hull.* 267. *Relh.* 408. *Abbot.* 244.

H. taxiforme exiguum, versus summitatem capsuliferum. *Dill. Musc.* 262. *t.* 34. *f.* 1.

H. repens filicifolium non ramosum, pediculis brevioribus versus foliorum summitatem egredientibus. *Raii Syn.* 88.

Dicranum bryoides. *Sibth.* 279.

THIS humble moss is found producing its capsules very early in the spring in moist shady places, much more rarely than *H. taxifolium, t.* 426, with which it nearly agrees in habit, but may at once be distinguished by the fruit-stalk being terminal, not radical. The leaflets are also more remote, and distinctly alternate. The tubercle from which the fruit-stalk grows is naked, having merely two or three little scales at its base. The lid and veil of the capsule are shorter, blunter and more conical. The teeth are in a simple row, therefore Hedwig does not admit this or the neighbouring species into the genus of *Hypnum* as he understands it, but makes a new one, called *Fissidens* from the cloven teeth. This seems sufficiently natural; but Dr. Sibthorp unites it, with several very heterogeneous species, under *Dicranum*, another Hedwigian genus.

DICRANUM osmundioides.

Close-leaved Fern Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

SPEC. CHAR. Stem erect. Leaves imbricated in two ranks, sheathing, elliptic-lanceolate, flattened laterally. Fruitstalk terminal.

SYN. Dicranum osmundioides. *Swartz. Act. Holm. ann.* 1795. 240. *Sm. Fl. Brit.* 1233. *Turn. Musc. Hib.* 55.

Fissidens osmundioides. *Hedw. Sp. Musc.* 153. *t.* 40. *f.* 7—11.

Hypnum asplenioides. *Dicks. Crypt. fasc.* 2. 10. *t.* 5. *f.* 5. *H. Sicc. fasc.* 1. 21. *With.* 843. *Hull.* 268. But not of Swartz.

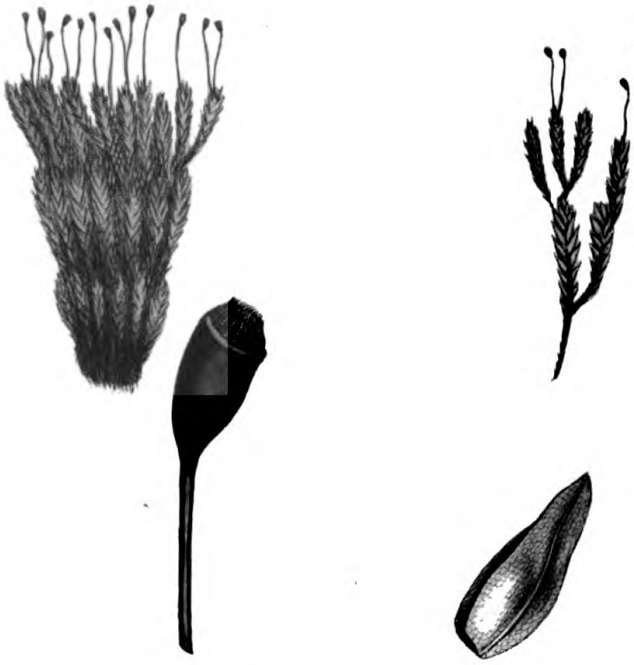
H. bryoides. *Ehrh. Crypt.* 124.

HOW different this is from the real *Dicranum bryoides*, *Hypnum bryoides* of Linnæus, may be seen by a reference to our 9th vol. *t.* 625.

D. osmundioides was sent by Mr. Templeton from various moist places on the mountains of Down and Wicklow counties in Ireland. Mr. R. Brown observed it in the county of Derry; Mr. Dickson in Scotland, and Mr. Turner at Nant Francon in Carnarvonshire. It produces fruit in the spring, and is perennial.

The stems grow in tufts, upright, an inch or two high, leafy, and are either simple, or branched in a somewhat proliferous manner. Leaves dull brownish green, numerous, closely imbricated in 2 ranks, vertical, compressed, elliptic-lanceolate, single-ribbed, bluntish, rarely pointed, clasping the stem at their base; the lower ones smallest. Fruitstalk terminal, mostly (but not always) solitary, half an inch long, wavy, dark red. Capsule nearly upright, obovate, dark reddish brown, smooth, wide-mouthed. Lid, which we have seen only in Ehrhart's specimens, as long as the capsule, awlshaped, straight.

Mr. Turner esteems this plant to be Dillenius's *tab.* 34. *f.* 4, on which alone depends the *Hypnum acacioides* of Linnæus; but if so, the figure is very bad.



Oct.1.1806. Published by Jas. Sowerby, London.

HYPNUM taxifolium.

Yew-leaved Hypnum.

CRYPTOGAMIA *Musci.*

Gen. Char. Caps. with a lid. Veil smooth. *Flower-stalk* from a lateral tubercle invested with scales.

Spec. Char. Frond perfectly simple, pinnate, lanceolate. Flower-stalks from the base.

Syn. Hypnum taxifolium. *Linn. Sp. Pl.* 1587. *Hudson. Fl. Ang.* 453. *With. Bot. Arr. ed.* 3. 845. *Relh. Cant.* 407.

H. repens filicifolium non ramosum, pediculis brevioribus ad radicem egredientibus. *Ruii. Syn.* 88.

H. taxiforme minus, basi capsulifera. *Dill. Musc.* 265. t. 34. f. 2.

Dicranum taxifolium. *Sibth. Ox.* 279.

FOUND with H. *adiantoides* (p. 264) in a shady pit, in Kensington Gardens, towards Bayswater Gate, where it produces its capsules in February, nor is it uncommon elsewhere in similar situations.

The fronds form small tufts, each of them being scarcely half an inch long, unbranched, flat, pinnate, composed of two ranks of closely imbricated alternate leaflets, which are compressed, deeply keeled, pointed, entire. From a scaly bud at the base arises a slender red stalk, twice as long as the frond, bearing a nearly cylindrical inclining capsule, the teeth of which are cloven half way down. The lid has a taper beak, as has the veil also. The parts of fructification very much agree with those of H. *adiantoides*, from which this species is however clearly distinguished by its smaller size, simple fronds, and radical stalks.

Pub.d 1st 1797 Pitch dis by J.s Pouce . Lond.

HYPNUM adiantoides.

Upright Hypnum.

CRYPTOGAMIA Musci.

Gen. Char. *Capsule* with a lid. *Veil* smooth. *Flower-stalk* from a lateral tubercle invested with scales.

Spec. Char. Frond pinnated, compressed, branched, upright. Flower-stalks from about the middle of the branch.

Syn. Hypnum adiantoides. *Linn. Sp. Pl.* 1588. *Hudson. F. Ang.* 494. *Wilt. Bot. Arr.* v. 3. 116. *Hedw. Sam.* 208.

H. erectum filicifolium ramosum, pinnulis acutis. *Dill. Muscos.* 54.

H. tenuissime palmifere ramosum, majus et erectum. *Dill. Muscos.* 54. t. 3.

NOT rare in wet boggy and shady places, among grass and other mosses, producing its capsules early in the spring. We gathered it in Kensington gardens.

The whole frond is somewhat rigid, smooth, of a fine bright green, erect, about two inches high, always more or less branched. Leaflets alternate, closely arranged in two rows, compressed, and therefore making the frond perfectly flat; they are pointed, entire, embracing the main rib at their base, and very deeply carinated at their back. One or two flower-stalks are produced from near the middle of each branch, and originating from a scaly bud. They rise much above the summit of the branch. The capsule is brown, nearly cylindrical, but not very long; the lid red, with a long taper beak; veil reflexed, tipped with brown; teeth of the capsule short, broad, deeply cleft.

77.

HYPNUM adiantoides.

Upright Hypnum.

CRYPTOGAMIA Mufci.

GEN. CHAR. *Capfule* with a lid. *Veil* fmooth. *Flower-ftalk* from a lateral tubercle invefted with fcales.

SPEC. CHAR. Frond pinnated, compreffed, branched, upright. Flower-ftalks from about the middle of the branch.

SYN. Hypnum adiantoides. *Linn. Sp. Pl.* 1588. *Hudf. Fl. An.* 494. *With. Bot. Arr. v.* 3. 116. *Relh. Cant.* 408.

H. erectum filicifolium ramofum, pinnulis acutis. *Raii Syn.* 87.

H. taxiforme paluftre ramofum, majus et erectum. *Dill. Mufc.* 264. *t.* 34. *f.* 3.

NOT rare in wet boggy and fhady places, among grafs and other moffes, producing its capfules early in the fpring. We gathered it in Kenfington gardens.

The whole frond is fomewhat rigid, fmooth, of a fine bright green, erect, about two inches high, always more or lefs branched. Leaflets alternate, clofely arranged in two rows, compreffed, and therefore making the frond perfectly flat; they are pointed, entire, embracing the main rib at their bafe, and very deeply carinated at their back. One or two flower-ftalks are produced from near the middle of each branch, each originating from a fcaly bud. They rife much above the fummit of the branch. The capfule is brown, nearly cylindrical, but not very long; the lid red, with a long taper beak; veil pellucid, tipped with brown; teeth of the capfule about fixteen, deeply cloven.

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TRICHOSTOMUM trifarium.

Three-ranked Fringe-moss.

CRYPTOGAMIA Musci.

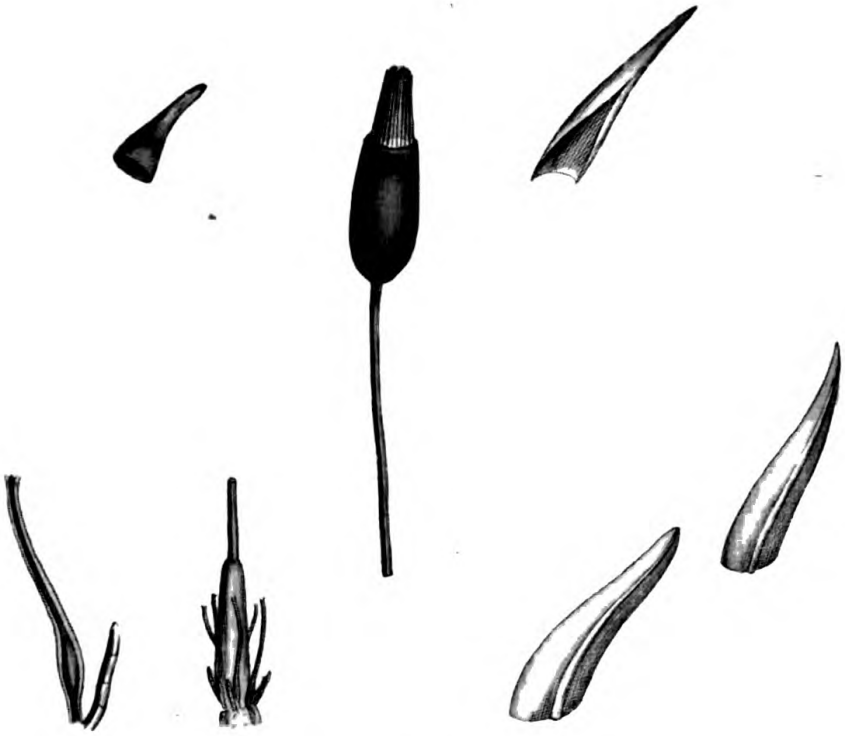
GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate or awlshaped, in three rows, keeled, entire. Capsule ovate. Stem branched. Stamens at the base of the fruitstalk.

SYN. Trichostomum trifarium. *Sm. Fl. Brit.* 1235.
Cynontodium trifarium. *Hedw. Sp. Musc.* 57.
Swartzia trifaria. *Hedw. Crypt. v.* 2. 76. *t.* 28. *Ehrh. Crypt.* 174.
Bryum trifarium. *Dicks. Crypt. fasc.* 3. 8. *With.* 827. *Hull.* 261. *Abbot.* 238.

OUR kind friend the Rev. Dr. Abbot has favoured us with specimens of this rare moss, discovered by himself at Clapham springs near Bedford. They perfectly agree with those of Mr. Dickson, and we think with Ehrhart's (which are the only authority for what Hedwig intended); but the last-mentioned having but very young capsules, we cannot ascertain whether Hedwig's figure of the fringe, certainly unlike ours, be exact. In the important and unfrequent circumstance of the stamens being in the same flower with the capsule both agree. This character Hedwig has described, but not delineated.

This moss is perennial, bearing fruit in March and April. The stems are branched, and form tufts scarcely half an inch high, of a dull and rather rusty hue. Leaves keeled, entire, with a strong rib, but no bristly point: the lower ones are lanceolate; the upper awlshaped, spreading in 3 directions. Flowers terminal. Stamens few, jointed, accompanied by a few brown pistills, of which 1 only comes to perfection. Fruitstalk red, twisted, at length lateral, bulbous at the base, surrounded by several abortive pistills. Capsule small, ovate, smooth, brown, erect. Lid conical, scarcely so long as the capsule, nearly straight. Fringe pale and long.



Feb.y 1807 Publish'd by Ja.s Sowerby London.

TRICHOSTOMUM capillaceum.

Fine-leaved Fringe-Moſs.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Capſ.* oblong. *Fringe* of 32 capillary, ſtraightiſh teeth, approximated or united in pairs.

SPEC. CHAR. Leaves in two rows, ſpreading, capillary, with a dilated ſheathing carinated baſe. Capſule erect. Lid conical.

SYN. Cynontodium capillaceum. *Hedw. Sp. Muſc.* 57.
Swartzia capillacea. *Hedw. Crypt. v.* 2. 72. *t.* 26.
Bryum capillaceum. *Dickſ. Crypt. faſc.* 1. 4. *t.* 1. *f.* 6.
With. 831. *Hull.* 262.
B. æſtivum. *Hudſ.* 485.

NOT uncommon in bogs upon mountains in Scotland, Wales, and the north of England. We have gathered it on the Pentland hills near Edinburgh, and have received fine ſpecimens from Mr. Griffith, Mr. G. Donn, and Mr. Mackay. The ſynonym of Hudſon ſtands on the indiſputable authority of the Rev. H. Davies; but the *B. æſtivum* of Linnæus and Dillenius is a widely different plant.

The ſtems form extenſive tufts, and are very ſlender, ſimple, from 2 to 4 or 5 inches high, leafy above, clothed with dark-brown fibres below. Leaves ſpreading in two ranks, of a fine green, long, capillary, acute, ſheathing the ſtem with their dilated baſe, through which runs a ſtrong central rib. Stalk terminal, upright, very ſlender, about an inch long, red and ſhining, at length a little zigzag. Capſule erect, ſmall, cylindrical, thin, pale ſhining brown, with a darker edge. Fringe of 32 very ſlender hair-like teeth, approaching each other in pairs. Lid conical, ſhort, reddiſh. Veil ſlender.

This moſs is perennial, and ripens its capſules in April and May.

We include under *Trichoſtomum* all moſſes that have a fringe of 32 teeth, whether united at the baſe in pairs or ſimply approximated. Such as have only 16 teeth go much more conveniently to the genus *Grimmia*.

Apr.1 1803 Published by Jas Sowerby London

80.

TRICHOSTOMUM pusillum.

Dwarf Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves concave at the base, with a long taper point. Capsule cylindrical, somewhat ovate. Lid awl-shaped. Stem perfectly simple.

SYN. Trichostomum pusillum. *Hedw. Crypt. v.* 1. 74. *t.* 28. *Sm. Fl. Brit.* 1237.

Didymodon pusillum. *Hedw. Sp. Musc.* 104. *Swartz. Musc. Suec.* 29.

Bryum pusillum. *Dicks. Crypt. fasc.* 2. 6. *With.* 812. *Hull.* 257.

GATHERED by Mr. Dickson in sandy ground. It is annual, bearing fruit in the spring. Our specimens were communicated by Dr. Swartz; Mr. Dickson, though he has liberally supplied us with nearly all his rarest mosses, not having been able to furnish this; but there is no doubt about the species or its synonyms.

The root is small and fibrous. Stem solitary, short and perfectly simple, leafy. Leaves light green, imbricated every way, sometimes leaning to one side, capillary, acute, entire, with a dilated concave sheathing base and a single midrib. Fruitstalk terminal, erect, slender, scarcely an inch high, tawny or rose-coloured, shining. Capsule erect, smooth and even, light brown, cylindrical inclining to ovate, rather short Lid tapering, oblique, red at the base, about half as long as the capsule. Fringe of thirty-two upright red teeth, in pairs.

2380

Fol. 1002 published by Jas. Lowerby London.

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81.

TRICHOSTOMUM rigidulum.

Little Rigid Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, pointed. Capsule elliptical. Lid awlshaped. Stem branched.

SYN. Trichostomum rigidulum. *Sm. Fl. Brit.* 1238. *Turn. Musc. Hib.* 34.

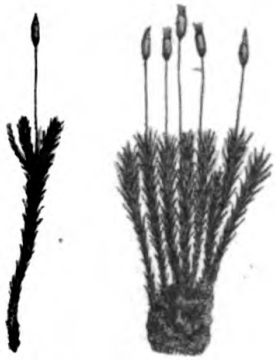
Didymodon rigidulum. *Hedw. Sp. Musc.* 104. *Crypt. v.* 3. 8. *t.* 4. *Roth. Germ. v.* 3. 198.

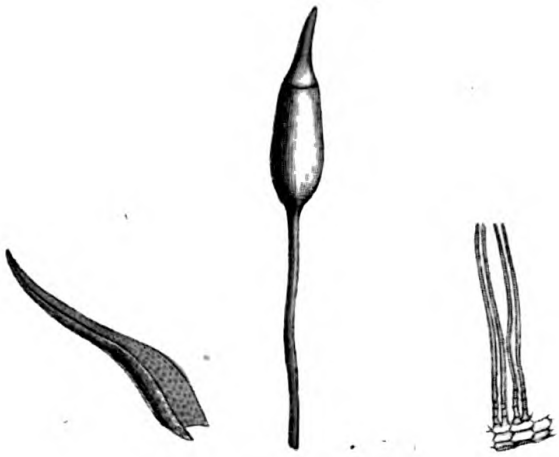
Bryum rigidulum. *Dicks. Crypt. fasc.* 4. 12. *Hoffm. Germ. v.* 2. 40.

MR. R. BROWN seems first to have discovered this moss on walls near Dublin, and in Northamptonshire. Mr. G. Don communicated our specimens from the King's Park, Edinburgh. It is perennial, bearing fruit in the spring, or early part of summer.

The stems are about an inch high, branched and leafy, growing in tufts. Leaves pale green, soon turning brown, imbricated on all sides, spreading, broadly lanceolate, keeled, single-ribbed, entire, taper-pointed, beardless, rather rigid, twisted when dry. Fruitstalks immediately becoming lateral, erect, pale red, hardly an inch high. Capsule erect, elliptical, brown when ripe. Lid awlshaped, shorter than the capsule, curved, rather slender. Fringe pale brown, erect, of 32 extremely slender teeth, connected in pairs by a broad base.

2178





Published by Jas. Rennie by London

TRICHOSTOMUM papillosum.

Papillary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves awlshaped, keeled. Capsule elliptical, nearly erect, gibbous on the lower side at the base. Lid conical. Stem branched.

SYN. Trichostomum papillosum. *Sm. Fl. Brit.* 1238. Bryum papillosum. *Dicks. Crypt. fasc.* 4. 12. *t.* 11. *f.* 5.

MR. DICKSON alone, as far as we have any information, has gathered the present moss, on turfy bogs in the Highlands of Scotland. We have no specimen, and are therefore obliged to use a sketch of Mr. Sowerby's, made from the plant when first found. Mr. Turner indeed has critically examined the fringe, and to him we are obliged for the information of the teeth being placed in pairs. In a poor specimen seen when the *Fl. Britannica* was written, we ascertained their number to be 32, and verified, as far as possible, Mr. Dickson's description, and Mr. Sowerby's drawing.

The stems are about half an inch high, branched, leafy, tufted, and level-topped. Leaves dark green, imbricated in every direction, moderately spreading, awlshaped, channelled, keeled, entire. Fruitstalks terminal, solitary, erect, red, an inch high, with a cylindrical sheath at the base. Capsule a little inclining, elliptical, red-brown, smooth, with a prominence or short spur at the bottom on one side. Lid conical, the colour of the capsule, scarcely one fourth so long.

TRICHOSTOMUM heterostichum.

Serrated Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

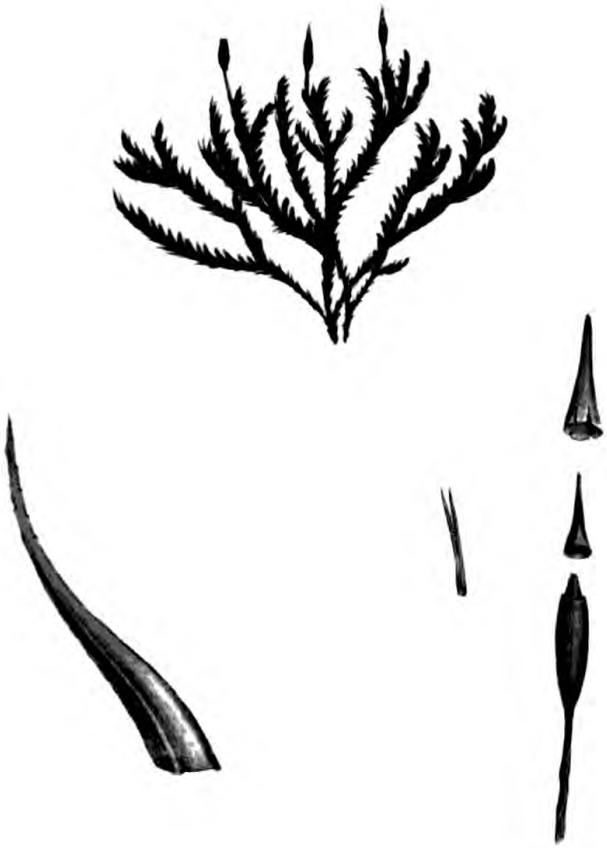
SPEC. CHAR. Leaves lanceolate; with a pellucid serrated point. Capsule cylindrical, erect. Stems forming tuf s.

SYN. Trichostomum heterostichum. *Hedw. Sp. Musc.* 109. *Crypt. v.* 2. 70. *t.* 25. *Sm. Fl. Brit.* 1239. *Turn. Musc. Hibern.* 37. *Ehrh. Crypt.* 153.
Bryum heterostichum. *Dicks. Crypt. fasc.* 4. 14.
B. hypnoides, hirsutie canescens, vulgare. *Dill. Musc.* 368. *t.* 47. *f.* 27, A, F, G; according to the observations of Mr. Turner.

GATHERED on Wascherley Edge in the county of Durham by Mr. John Thornhill, and sent us by Mr. Winch. It is indeed not uncommon upon stones in mountainous heathy places; we have gathered it near Edinburgh. The capsules are produced from March to May, nor are they of rare occurrence.

The stems are an inch or two high, branched and leafy, forming dense perennial tufts. Leaves dull green, imbricated, more or less curved to one side, lanceolate, keeled, single-ribbed, entire, tipped with a white pellucid point, whose margins are finely serrated, not toothed. Fruitstalks terminal, almost always solitary, erect, brownish green, twisted, from half an inch to nearly an inch long. Capsule quite erect, cylindrical inclining to oval, smooth, brown, with a purple orifice. Fringe shortish, red, its teeth united at the base in pairs. Lid awlshaped, taper, reddish, about half as long as the capsule. Veil of the same figure, greenish, split into many parts at the base.

If the white serrated points of the leaves be attended to, this species cannot be confounded with the following.



Aug.t 1. 1804. Published by Tod[illegible] by T. [illegible]

84.

TRICHOSTOMUM lanuginosum.

Toothed Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, with a pellucid toothed point. Capsule ovate. Stem procumbent, branched in a pinnate manner.

SYN. Trichostomum lanuginosum. *Hedw. Sp. Musc.* 109. *Crypt. v.* 3. 3. *t.* 2. *Sm. Fl. Brit.* 1240. *Turn. Musc. Hibern.* 38.

T. serratum. *Ehrh. Crypt.* 94.

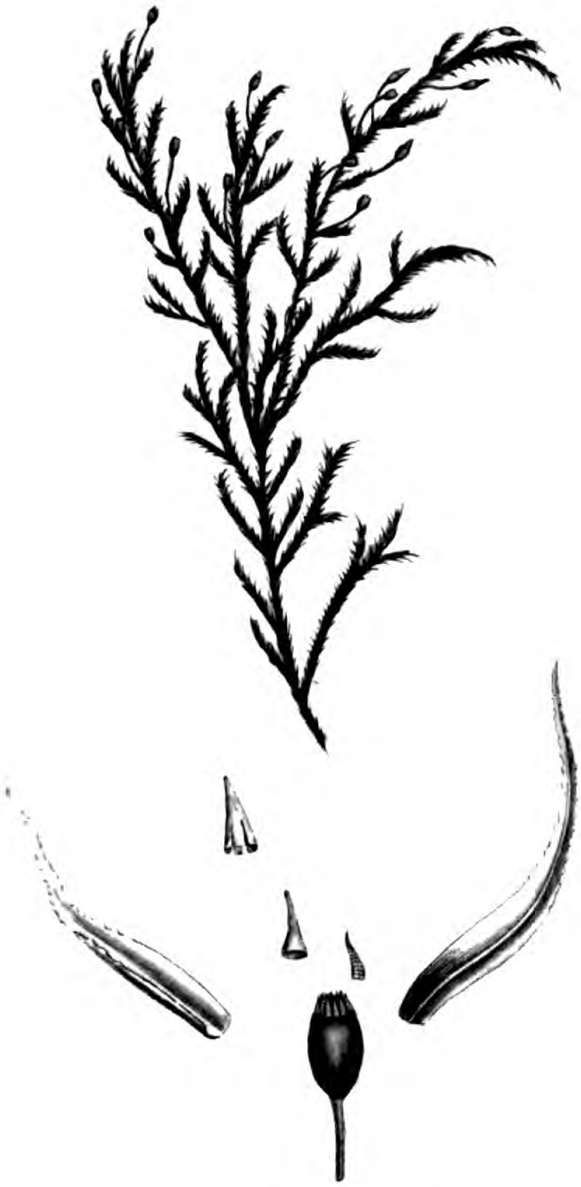
Bryum hypnoides. *Linn. Sp. Pl.* 1584, α. *Huds.* 480, ζ. *With.* 819, *var.* 1. *Hull.* 259. *Abbot.* 242.

B. hypnoides polycephalon, lanuginosum, montanum. *Dill. Musc.* 372. *t.* 47. *f.* 32.

B. hypnoides, capitulis plurimis erectis, lanuginosum. *Raii Syn.* 97.

THIS is a very common moss in dry mountainous woods, and on exposed rocks, walls, and heaths, but the capsules are rare. We have them from Wales and Northumberland. They are perfected in autumn.

Stems perennial, often a span long, procumbent, or spreading in an arched position, divided into several principal branches, and those subdivided into numerous short ones, ranged alternately in a sort of pinnate manner, though not with great regularity; their summits incurved. Leaves of a dull yellowish green, a little curved inward, imbricated, lanceolate, or linear-lanceolate, keeled, single-ribbed, entire, terminating in a very long pellucid white point, whose margins are closely set with little blunt projecting teeth like those of a wheel, totally different from the serratures of all the other species. Fruitstalks from the small branches, solitary, half an inch long, tawny, twisted. Capsule erect, ovate, thick and short, smooth, yellowish brown. Lid awlshaped, straight. Fringe red. Veil conical, brown, toothed at the edge.



Aug.t 1. 1804. Published by Jas. Sowerby. London.

85.

TRICHOSTOMUM ericoides.

Heath-like Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves ovato-lanceolate, recurved, keeled and deeply channelled, with a pellucid finely serrated point. Capsule ovate. Stem erect, with very short branches.

SYN. Trichostomum ericoides. *Schrad. Spicil.* 62. *Sm. Fl. Brit.* 1241. *Turn. Musc. Hib.* 38.

T. elongatum. *Ehrh. Crypt.* 233.

Bryum ericoides. *Dicks. Crypt. fasc.* 4. 14.

B. hypnoides. *Linn. Sp. Pl.* 1585, *γ*. *Huds.* 480, *ε*. *With.* 820, *var.* 4. *Hull.* 259, *var.* 4.

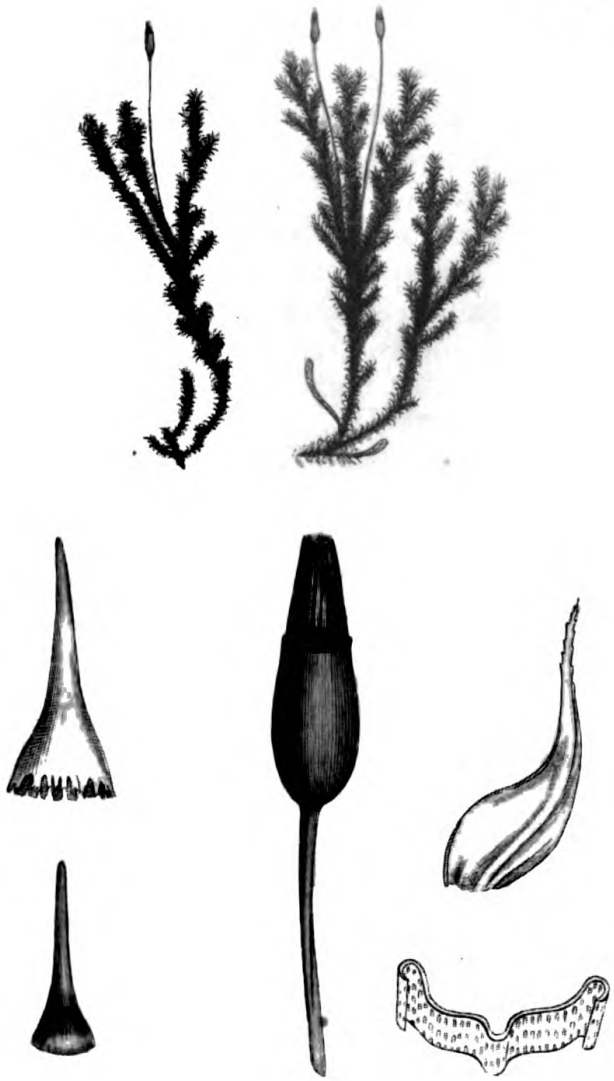
B. hypnoides, ericæ facie, capsulis barbatis, alpinum. *Dill. Musc.* 371. *t.* 47. *f.* 31.

B. hypnoides, capitulis plurimis erectis, non lanuginosum. *Dill. in Raii Syn.* 478.

RICHARDSON communicated this moss to Dillenius from the higher part of Snowdon, and few British botanists besides have ever seen it. Messrs. Borrer and Hooker met with our specimens last summer on the sandy shores of the Tay near Dunkeld.

The stems are perennial, 2 or 3 inches high, growing upright in loose tufts, subdivided, furnished with abundance of little, short, alternate, spreading or recurved, branches. The stem and branches are clothed with lanceolate, or ovato-lanceolate, spreading and recurved leaves, entire at their edges, each marked with a deep channel and keeled, without a mid-rib, and terminating in a white, transparent, hair-like, finely serrated point. Fruitstalks terminating the last-year's shoots, erect, an inch or more in length, dark purple, twisted. Capsule erect, ovate inclining to cylindrical, smooth, brown. Lid awlshaped, straight. Fringe purple, straight, nearly as long as the capsule. Veil toothed.

We find the leaves of this species, even in Ehrhart's specimen, have no true nerve, and therefore that mark of distinction fails us with respect to *T. canescens*.



Mar 1 1809 Published by Jas Sowerby London

86.

TRICHOSTOMUM canescens.

Common Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves ovato-lanceolate, with a central channel, but no nerve, and a pellucid rough point. Capsule ovate, stem erect, with upright branches.

SYN. Trichostomum canescens. *Hedw. Sp. Musc.* 111. *Crypt. v.* 3. 5. *t.* 3. *Sm. Fl. Brit.* 1242. *Sibth.* 283. *Turn. Musc. Hib.* 39. *Winch v.* 1. 104.

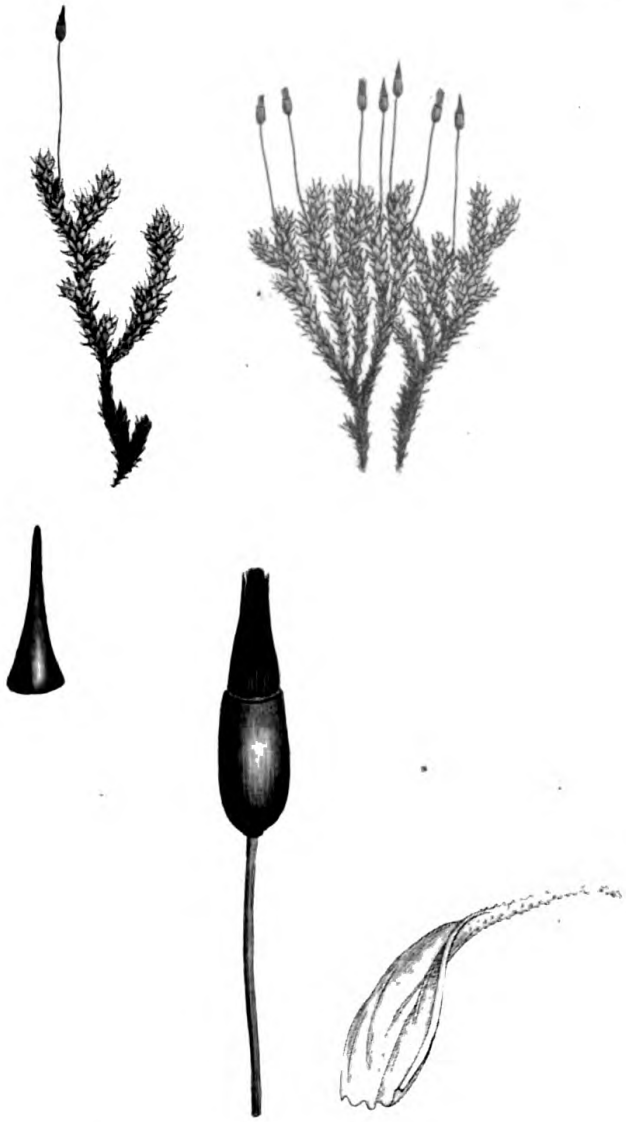
Bryum hypnoides. *Huds.* 480, *α.*

B. canescens. *Hoffm. Germ. v.* 2. 41.

B. hypnoides, hirsutie canescens, vulgare. *Dill. Musc.* 368. *t.* 47. *f.* 27?

B. trichoides, erectis capitulis, lanuginosum. *Raii Syn.* 97.

VERY common on open dry sandy or mountainous heaths and moors, bearing capsules in February or March, but not frequently. When moist the leafy branches are of a yellowish green; but when dry they assume, as Dillenius observes, a hoary aspect, in consequence of the pellucid rough hairs which terminate each leaf, and become, in that state, white and opaque. Hedwig points out the central channel of the leaf, which resembles a nerve, or cluster of vessels, but is not such, as a character of this species, and we find it so, though some of Dillenius's own leaves appeared to us to have an actual nerve. On the other hand, *T. ericoides, t.* 1991, described by all authors as having a nerve, proves to have none, (see our plate and description,) and is therefore perhaps justly considered by Hedwig as a variety of the present, differing only in its darker colour, and numerous short lateral branches ranged closely along the main shoots.



Apr. 1, 1815 published by Jas. Sowerby London.

V

87.

TRICHOSTOMUM fasciculare.

Beardless Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, pointed, revolute, keeled. Capsule ovate-oblong. Stem branched, diffuse.

SYN. Trichostomum fasciculare. *Schrad. Spicil.* 61. *Sm. Fl. Brit.* 1243. *Hedw. Sp. Musc.* 110. *Turn. Musc. Hib.* 39. *Winch Guide, v.* 1. 104.

Bryum fasciculare. *Hoffm. Germ. v.* 2. 42.

B. hypnoides β. *Linn. Sp. Pl.* 1585. *Huds.* 480. *With.* 820, *var.* 7. *Hull.* 259.

B. lutescens. *Dicks. Crypt. fasc.* 4. 14.

B. hypnoides, hirsutie virescens, fasciculare alpinum. *Dill. Musc.* 370. *t.* 47. *f.* 28.

NOT uncommon on dry rocky mountains in the north. The Rev. Mr. Dalton and Mr. Hooker communicated it from Ingleborough, Yorkshire. We have the same also from Wales, Scotland and Ireland. It is perennial, bearing abundance of fruit in the spring, and the empty capsules remain long on the stalks.

The stems spread widely, forming elastic entangled tufts, and are leafy, furnished with numerous short branches. The lower parts and old leaves are black. The young leaves are of a light yellowish green, imbricated, straight, lanceolate, entire, revolute, single-ribbed, keeled, more or less pointed, but not tipped with a pellucid or white appendage. Fruitstalks copious, solitary, nearly terminal, half an inch or more in length, twisted and bent, brown. Capsule ovate or somewhat cylindrical, erect, brown, very smooth. Lid awlshaped, very taper-pointed, straight, yellowish, as long as the capsule. Fringe about a third as long, reddish.

April 1 1809 Published by Jas Sowerby London

88.

TRICHOSTOMUM microcarpon.

Small-fruited Hoary Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, keeled, acute, with a slightly pellucid point. Capsule ovate. Stem much branched, spreading.

SYN. Trichostomum microcarpon. *Hedw. Sp. Musc.* 112. *t.* 23. *f.* 1—5. *Sm. Fl. Brit.* 1243. *Turn. Musc. Hib.* 40.

Bryum hypnoides δ. *Linn. Fl. Suec.* 392.

B. hypnoides γ. *Huds.* 480.

B. macrocarpon. *With.* 822. *Hull.* 260.

B. hypnoides alpinum, setis et capsulis exiguis. *Dill. Musc.* 370. *t.* 47. *f.* 29.

A RARE inhabitant of the rocky mountains of Scotland and Wales, found by Dillenius on Snowdon, where Mr. Griffith has since gathered it. Mr. G. Don collected our specimens on the highland mountains in August 1802, within about two yards of the snow which had already clothed their summits.

The stems are leafy and repeatedly branched, loosely spreading, and forming lax tufts. Leaves imbricated every way, but little spreading, lanceolate, entire, single-ribbed, keeled, acute, mostly tipped with a short white pellucid entire point or hair. They are of a pale green, turning black with age, and permanent. Fruit-stalks not half an inch long, pale brown, curved and twisted. Capsule erect, ovate, short, pale brown, rather wide-mouthed. Fringe red, delicate. Lid awl-shaped, straight. Veil of the same form, unequally toothed at the edge.

The name *macrocarpon* in Withering can only be an error of the press.

April 1 1805 Published by Jas. Sowerby, London.

V

89.

TRICHOSTOMUM glaucescens.

Glaucous Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

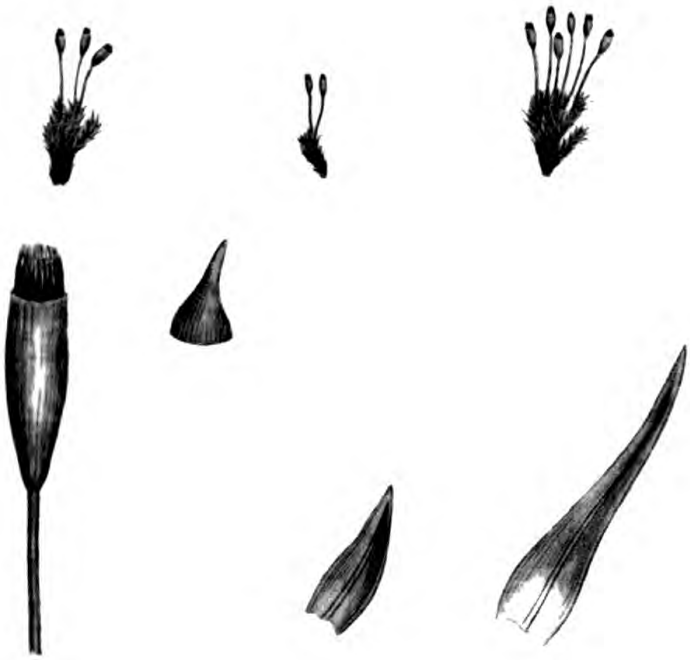
SPEC. CHAR. Leaves linear-lanceolate, acute, rather glaucous. Capsule ovate, slightly furrowed. Stem erect, somewhat branched.

SYN. Trichostomum glaucescens. *Hedw. Sp. Musc.* 112. *Crypt. v.* 3. 103. *t.* 37, B. *Sm. Fl. Brit.* 1245. *Swartz. Musc. Suec.* 30.

Bryum glaucescens. *Dicks. Crypt. fasc.* 4. 10.

DISCOVERED in shady rather mountainous situations in Scotland by Mr. Dickson, whose specimens, in Mr. Turner's collection, we have compared with ours.

The stems compose perennial tufts, scarcely half an inch high, and are erect, generally branched, densely leafy. Leaves nearly erect, a little incurved when dry, of a light rather glaucous green, linear-lanceolate, broad at the base, taper-pointed but not awned, entire, keeled, with a midrib. Fruitstalks terminal, erect, slender, pale yellow. Capsule upright, ovate, of a light shining brown, and a thin substance, slightly and unequally furrowed. Lid tapering, oblique, broad and reddish at the base, half as long as the capsule. Fringe red, about half as long as the lid. There is a slight stricture, just above the base of the capsule, giving the appearance of an *apophysis*, but merely owing to the internal cavity, or lining, not extending quite so low as the outer coat. The general aspect of this pretty moss is not unlike *Dicranum polycarpum, t.* 2269; but their characters are abundantly distinct, and the present is a smaller plant.



Pub: as expedited by J. Sowerby London.

TRICHOSTOMUM piliferum.

Hairy Fringe-moss.

CRYPTOGAMIA Musci.

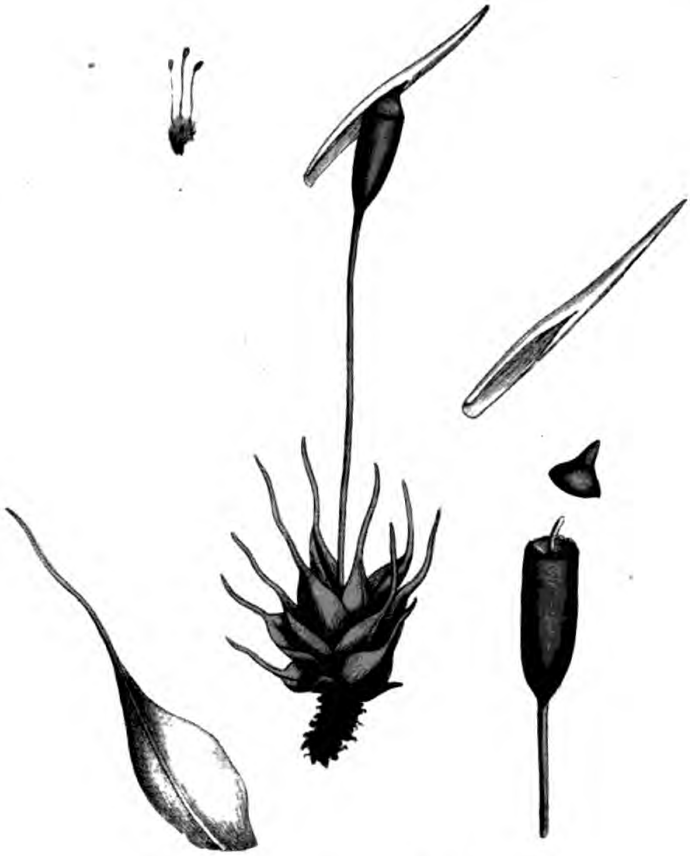
GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves ovate, slightly concave, acute, hair-pointed. Capsule ovate. Stem very short.

SYN. Trichostomum piliferum. *Sm. Fl. Brit.* 1245. Bryum piliferum. *Dicks. Crypt. fasc.* 4. 10. *t.* 10. *f.* 14.

OUR learned friend Mr. Turner, in his book on Irish Mosses, p. 79, has cited this plant as the same with *Dicranum latifolium, t.* 2492. To us they appear distinct. The leaves of the present, in one of Mr. Dickson's specimens before us, as well as in his figure, are short, truly ovate, and pointed, each tipped with a very long terminal hair. The capsule moreover is shorter and broader.

This moss was found by Mr. Dickson, on shady banks, near Aberfeldy, in North Britain. The stems are very short, and grow in patches. Leaves few, of a dull green, with a hair of their own length, and a central rib. Fruitstalk central, solitary, erect, capillary, brown, twisted, rather above half an inch high. Capsule erect, ovate, short, wide-mouthed, brown and smooth. Lid short, beaked.



Apr. 1. 1813. published by Jas. Sowerby, Lond.

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91.

TRICHOSTOMUM flexifolium.

Wave-leaved Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves oblong, sheathing, waved; serrated in their upper part. Capsule cylindrical, somewhat ovate. Stem branched at the base.

SYN. Trichostomum ? flexifolium. *Sm. Fl. Brit.* 1246.

Bryum flexifolium. *Dicks. Crypt. fasc.* 3. 5. *t.* 7. *f.* 9. *With.* 815. *Hull.* 258.

FOUND on barren sloping ground, near Croydon, Surrey, by Mr. Dickson, and, as far as we can learn, by no other person. Our only resource therefore is one of his specimens in Mr. Turner's hands, the same described in *Fl. Brit.*

The roots are presumed to be perennial. Stems tufted, divided from the very base into several lax branches, scarcely half an inch high. Leaves of a light bright green, imbricated, spreading, ovate-oblong, concave, waved or twisted, keeled, single-ribbed, pointless; sheathing and entire in their lower part; serrated towards the extremity. Fruitstalks solitary from the tops of the branches, erect, capillary, straw-coloured, not an inch long. Capsule cylindrical, somewhat ovate, striated, nearly erect. Lid conical, curved, the length of the capsule. We have never seen the fringe, and therefore judge of the genus by habit alone.

2493

Dove [illegible] published by Jas. Sowerby, London

92.

TRICHOSTOMUM lineare.

Linear-leaved Fringe-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

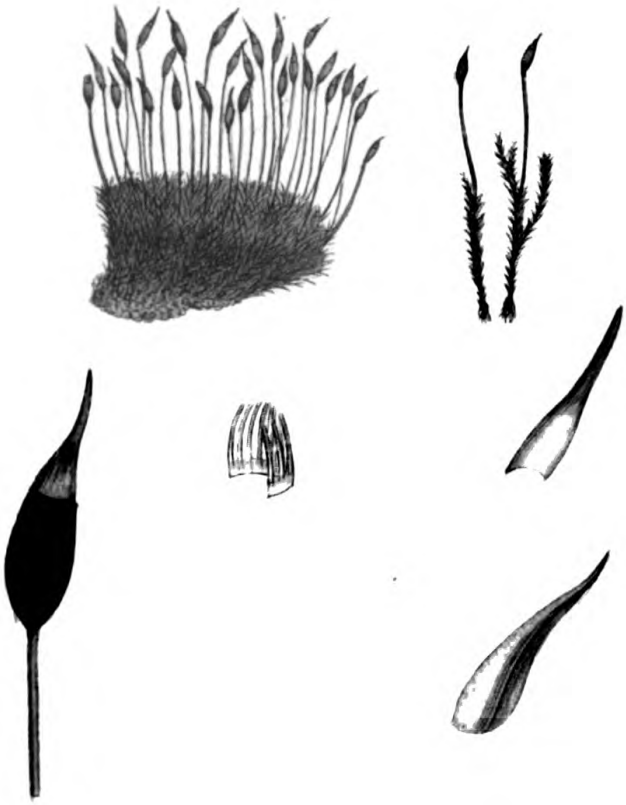
SPEC. CHAR. Leaves linear-lanceolate, imbricated, acute. Capsule elliptical. Lid conical, oblique. Stem erect.

SYN. Trichostomum lineare. *Sm. Fl. Brit.* 1246. *Winch Bot. Guide*, 105.
Bryum lineare. *Dicks. Crypt. fasc.* 3. 6. *t.* 8. *f.* 2. *With.* 837. *Hull.* 265.

MR. DICKSON discovered this moss in the south of Scotland. The Rev. H. Davies has gathered it in many parts of North Wales, and Mr. Winch has communicated it to Mr. Sowerby from rocks in the Ouse Bourn near Haddrick's mill, Northumberland. It grows in wet places, on a calcareous or sandy soil, and bears its fruit in the spring.

Roots perennial. Stems tufted, branched, erect, an inch or inch and half high, leafy. Leaves loosely imbricated, rather spreading, varying from a narrow, acute, almost linear, to an ovate form; they are indeed always rather broad at their base; their margin is entire and somewhat revolute, and they have a strong reddish rib; their colour in Mr. Davies's specimens is yellowish, in Mr. Winch's inclining to a blackish hue, both indicating a watery place of growth. Fruitstalks red, near an inch long. Capsule erect, elliptical, smooth, brown. Lid nearly of the same length, conical, with an oblique taper point. Fringe reddish, delicate, straight, shorter than in many other species.

The habit of this plant rather indicates a *Tortula*, but the fringe is truly that of a *Trichostomum*.



May 1806 Published by [illegible]

TRICHOSTOMUM linoides.

Flax-leaved Fringe-moss.

CRYPTOGAMIA Musci.

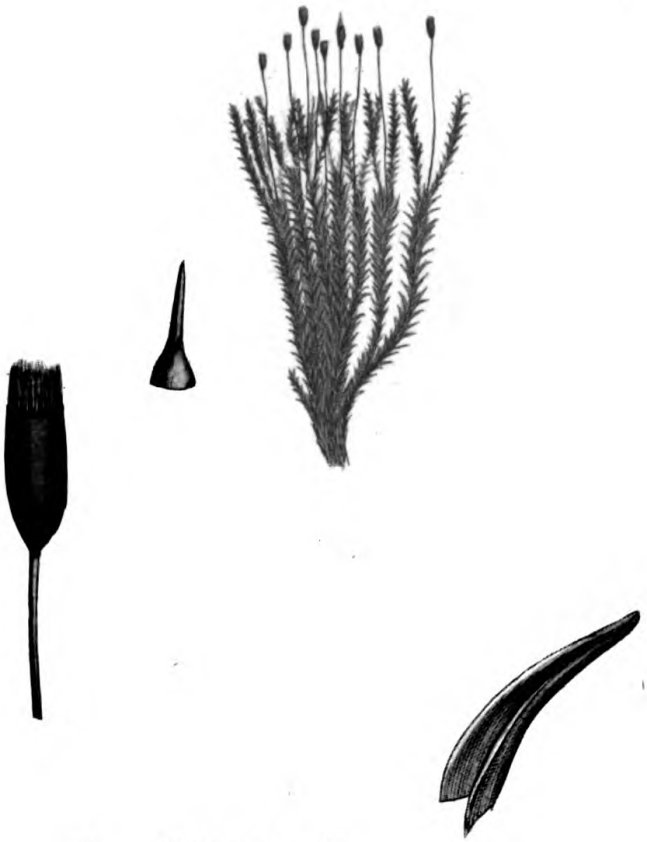
GEN. CHAR. *Caps.* oblong. *Fringe* of 32 capillary, straightish teeth, approximated or united in pairs.

SPEC. CHAR. Leaves lanceolate, bluntish with a minute point. Capsule ovate. Lid awlshaped, as long as the capsule. Stem but little branched.

SYN. Trichostomum linoides. *Sm. Fl. Brit.* 1247.
Bryum linoides. *Dicks. Crypt. fasc.* 3. 8. *t.* 8. *f.* 3. *With.* 824. *Hull.* 260. *Hedw. Sp. Musc.* 114.

WE are obliged to Mr. Winch for a far more perfect specimen of this beautiful moss than we had ever before seen, which enables us to correct the description in *Fl. Brit.* It was gathered by Mr. Backhouse at the High Force, Teesdale. Mr. Winch had found some less complete, several years ago, in Weardale, in the same neighbourhood.

The stems compose lax tufts in watery situations, and are from half an inch to two inches high, generally divided above the flowering point. Leaves rather distantly imbricated, spreading, bright green, but soon turning rusty, lanceolate, or somewhat ovate, keeled, entire, bluntish, their strong midrib extending into a minute point more or less evident. Fruitstalks red, at length brown, from half an inch to an inch high, solitary, terminating the shoots of the year preceding, twisted when dry. Capsule ovate, quite erect, brown; obscurely striated when old only; its mouth very slightly dilated. Lid awlshaped, slender, tawny, not more than the length of the capsule, very acute. Fringe reddish, scarcely half the same length, straight, not twisted.—In the specific character in *Fl. Brit.*, *calyptrá* is accidentally written for *operculo.*



June 1, 1811 published by Jas. Sowerby London

94.

FONTINALIS minor.

Lesser Water-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* with a lid and veil, sessile, enclosed in an imbricated calyx.

SPEC. CHAR. Leaves ovato-lanceolate, concave, acute, in three ranks. Fructification terminal. Calyx-leaves pointed.

SYN. Fontinalis minor. *Linn. Sp. Pl.* 1571. *Huds.* 468. *With.* 788. *Abbot* 231. *Dicks. Dr. Pl.* 17.

F. minor, foliis triangularibus, minùs complicatis, capitulis in summis ramulis sessilibus. *Dill. in Raii Syn.* 79.

F. triangularis minor carinata, e cymis capsulifera. *Dill. Musc.* 257. *t.* 33. *f.* 2.

A FIGURE of the most common *Fontinalis* has been given in our *t.* 359. The *minor* is a much more rare species, and is chiefly found on the walls which embank the Thames at Lambeth; and from thence, here and there, up to Wandsworth, or further. The Rev. Mr. Abbott sent this specimen from the mill-dam at Oakley, Bedfordshire, the place indicated in his *Flora Bedfordiensis* lately published.

This agrees with the above-mentioned species in habit, but its stems and branches are shorter, and leaves not so compressed. Its essential differences, however, reside in the fructification, which is terminal, not lateral; the capsules are more slender, and stand on much more evident footstalks within the calyx, in which respect they disagree somewhat with the generic character; the calyx-leaves moreover are sharp-pointed, not blunt as in the F. *antipyretica.*

Linnæus characterizes this moss "*foliis passim geminis,*" and adds underneath "*folia in ramis crassioribus gemina;*" which explains his meaning, that the leaves are now and then, or here and there, in pairs. His erroneously using the word *passim*, as Mr. Hudson does, to express something of rare occurrence, whereas it means the reverse, a thing found *at every step*, has led Dr. Withering and Mr. Abbot into a mistaken translation of the specific character in question.

J. J. Pallisbery del. Sc.

95.

BRYUM rigidum.
Rigid Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* with a lid. *Veil* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Stem scarcely any. Capsules cylindrical, erect, bordered with twisted ciliæ. Veil longer than the capsule. Leaves spreading, lanceolate, involute, rigid.

SYN. Bryum rigidum. *Hudſ. Fl. An.* 477. *With. Bot. Arr.* 105. *Smith's Tour on the Continent, vol.* i. 191.

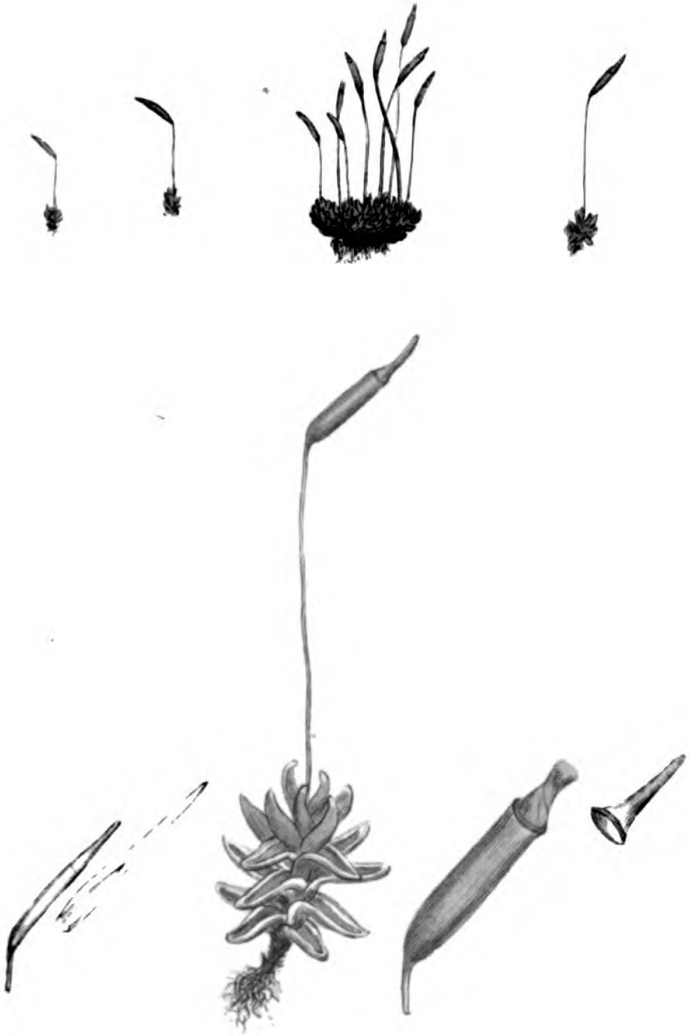
B. acaulon, Ericæ tenuifoliæ Gerardi folio. *Dill. Muſc.* 388. *t.* 49. *f.* 55.

Barbula rigida. *Hedwig. Muſc. vol.* i. 65. *t.* 25.

DR. Smith, we believe, firſt found this moſs, ſince the time of Dillenius, in November 1780, on a clay bank on the right-hand ſide of the Yarmouth road, two miles and an half from Norwich, where he alſo gathered the preſent ſpecimen in January laſt. Mr. T. F. Forſter has obſerved it in a chalk-pit on Banſtead downs.

Its firſt appearance is very like the common Bryum murale; but the leaves of that have a ſtrong mid-rib, which this wants, and are paler and thin at the margin, nor are they ever involute. By drying, the points of the leaves are curved inwards. The ſtalks are longer, and the capſules larger than in B. murale. The veil very long, covering the whole young capſule, but ſoon falling off. Lid of the capſule red at the baſe. The fringe of the orifice conſiſts of numerous hairs or teeth, which Hedwig found to be 32 in number. They are twiſted into a cylinder.

How much ſoever we may admire the accuracy of obſervation and phyſiological acuteneſs of the celebrated author laſt mentioned, we think the characters of his genera rather too minute and artificial. At leaſt we beg leave to retain for the preſent thoſe of Linnæus, though very imperfect, till repeated obſervations enable us to judge more correctly upon ſo abſtruſe a ſubject.



96.

TORTULA mucronulata.

Pointed-leaved Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem often divided. Leaves spreading, lanceolate, pointed, keeled. Capsule cylindrical inclining to ovate. Lid awl-shaped.

SYN. Tortula mucronulata. *Swartz. Musc. Suec.* 40. *Sm. Fl. Brit.* 1250.

T. decipiens. *Sibth.* 285.

Barbula unguiculata. *Hedw. Sp. Musc.* 118. *Crypt. v.* 1. 59. *t.* 23, without the synonyms.

Bryum mucronulatum. *Dicks. Crypt. fasc.* 3. 3. *With.* 817. *Hull.* 258.

B. tenue barbatum, foliis angustioribus et rarioribus. *Dill. Musc.* 385. *t.* 48. *f.* 49.

COMMON on walls, heaths, and sandy banks, bearing fruit in moist weather from the end of January till April.

Roots fibrous, perennial. Stems upright, about half an inch high, forming tufts, leafy, simple or divided. Leaves pale green, loosely imbricated, rather spreading, lanceolate, entire, keeled, furnished with a strong elevated rib, which is extended beyond the tip into a short point. In some young shoots the leaves are remote and much smaller. Stalk terminal, solitary, erect, half an inch or more in height, of a beautiful crimson below, greenish yellow above. Capsule erect, slightly ovate, smooth, brown, with a purple mouth. Lid awl-shaped, mostly oblique, red or tawny, about as long as the capsule. Fringe of the same length, red. Veil pellucid.

Sometimes the fruitstalk swells towards the top, and in that state we suspect it to be Dr. Sibthorp's *T. unguiculata*. It often much resembles *Dicranum purpureum*, but the generic character is sufficient to distinguish them.

April 1. 1804 Published by Jas. Sowerby, London.

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TORTULA unguiculata.

Bird's-claw Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched. Leaves spreading, lanceolate, keeled, pointed. Capsule ovate. Lid curved.

SYN. Tortula unguiculata. *Sm. Fl. Brit.* 1251. *Sibth.* 285 ? *Turn. Musc. Hib.* 47.

Bryum unguiculatum. *Huds.* 482. *With.* 830. *Hull.* 262. *Relh.* 426 ? *Abbot.* 242. *Dicks. H. Sicc. fasc.* 6. 21.

B. unguiculatum et barbatum, surculis in summitate crassioribus. *Dill. Musc.* 383. *t.* 48. *f.* 47.

B. angustis viridibus foliis, capitulis erectis, brevibus pediculis insidentibus, calyptrâ falcatâ, vel avium unguiculas referente. *Dill. in Raii Syn.* 96.

FOUND, composing dense tufts, on walls or on dry sandy ground, producing its fruit from March to May. We are obliged to Mr. W. Borrer for these specimens, which agree with the plant of Dillenius and Dickson, though not with that of Hedwig. See our *T. mucronulata, v.* 19. *t.* 1299.

The stems are from half an inch to an inch high, more or less branched, level-topped, and entangled. Leaves deep green, in exposed places yellowish, of a narrow lanceolate form, with a long taper point, entire, keeled, with a strong midrib; by drying they turn inward. Fruitstalk not quite erect, deep red, scarcely an inch high, terminal, at least till the lateral branches overtop it. Capsule erect, ovate, not cylindrical, smooth, brown. Lid half as long, reddish, awl-shaped, incurved. Veil with a brown point, soon incurved in its position from the swelling of the fruit, and compared by Dillenius to a bird's claw.

Sowerby sc. published by J. & J. Sowerby, London

98.

TORTULA fallax.

Fallacious Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched. Leaves linear-lanceolate, keeled, spreading, recurved. Capsule somewhat elliptical. Lid oblique.

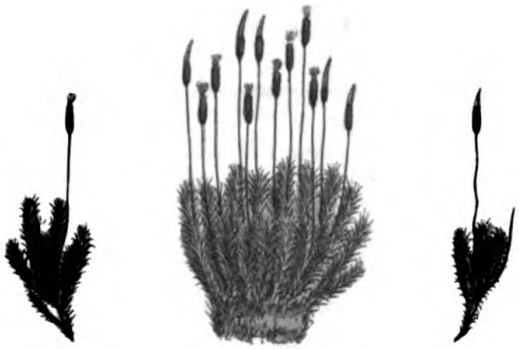
SYN. Tortula fallax. *Swartz. Musc. Suec.* 40. *Sm. Fl. Brit.* 1252. *Turn. Musc. Hib.* 48.

Barbula fallax. *Hedw. Sp. Musc.* 120. *Crypt. v.* 1. 62. *t.* 24.

Bryum fallax. *Dicks. Crypt. fasc.* 3. 5. *With.* 833. *Hull.* 264.

WE received these specimens from Mr. W. Borrer. The moss is not uncommon on the tops of walls, but care is requisite to distinguish it from some of its congeners, and the great Hedwig has misapplied synonyms belonging to *T. imberbis* Fl. Brit. 1261.

This species is perennial, and bears capsules abundantly in March or April. Stems an inch high, much branched, leafy. Leaves of a full but yellowish green, linear-lanceolate, dilated at the base, keeled, slightly revolute, entire, considerably recurved, furnished with a thick rib, but no hair-like point; rather inflexed by drying. Fruitstalk an inch high, dark red, at first terminal, but the branches are soon greatly elongated beyond its insertion. Capsule upright, nearly cylindrical, brown, smooth. Lid reddish, awlshaped, as long as the capsule, oblique, scarcely curved. Fringe deep crimson, soon falling off, so as to mislead an incautious observer respecting the genus.



Pubd 1810 published by Jas Sowerby London.

99.

TORTULA convoluta.

Convoluted Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Branches short. Stem-leaves lanceolate, keeled; those of the sheath obtuse, convoluted and ribless. Lid taper, oblique.

SYN. Tortula convoluta. *Sm. Fl. Brit.* 1253. *Turn. Musc. Hib.* 49. *Sibth.* 285?

Barbula convoluta. *Hedw. Sp. Musc.* 120. *Crypt. v.* 1. 86. *t.* 32; excluding the synonym of Linnæus.

Bryum convolutum. *Dicks. Crypt. fasc.* 2. 6. *H. Sicc. fasc.* 1. 20. *With.* 816. *Hull.* 254. *Relh.* 427. *Abbot.* 237.

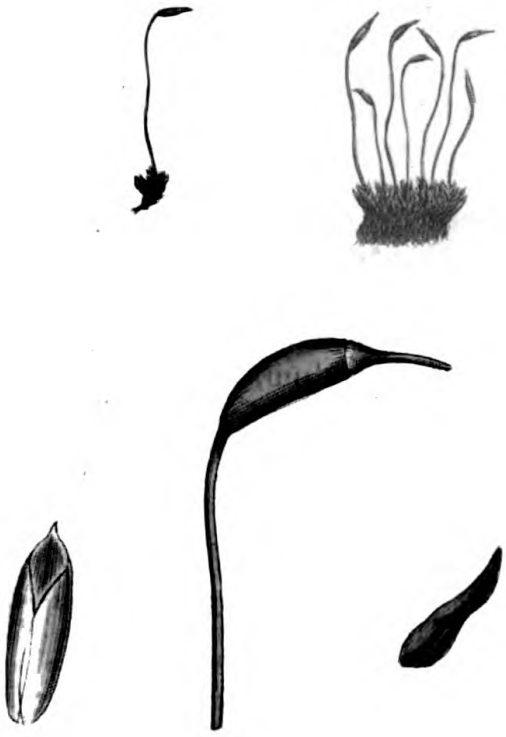
B. setaceum. *Huds.* 481. *Lightf.* 729.

B. stellare nitidum pallidum, capsulis tenuissimis. *Dill. Musc.* 381. *t.* 48. *f.* 44.

B. trichoides exile pallidum, erectis capitulis e surculis annotinis egredientibus. *Raii Syn.* 96.

THIS is found upon sandy heaths, dry banks and walls, in various places, bearing fruit in winter and spring. Dillenius says it is extremely abundant about Oxford. The roots are perennial. The stems form broad, dense, but very little elevated patches, their branches being extremely short. The leaves also are short, of a full bright green, imbricated, spreading, lanceolate or somewhat ovate, bluntish, entire, pointless, keeled, with a strong rib. The sheaths which envelop the base of the fruitstalks are very large in proportion, standing between the branches, solitary, conspicuous for their very pale green colour, and composed of a few broad, tumid, convoluted leaves or scales, which are quite destitute of rib or veins, and blunt, with or without a small point, at their summits. Fruitstalks solitary, slender, an inch high, of a pale shining yellow. Capsule slender, nearly cylindrical, incurved, pale brown, smooth. Lid half its length, awlshaped, slender, brownish, oblique.

Hedwig and Hudson mistook this for the Linnæan *Mnium setaceum*, Linnæus having misapplied the synonym of Dillenius to that moss.



Feb 1 1829 published by Jos. Sowerby London

[2383]

TORTULA nervosa.

Rib-sheathed Screw-moss.

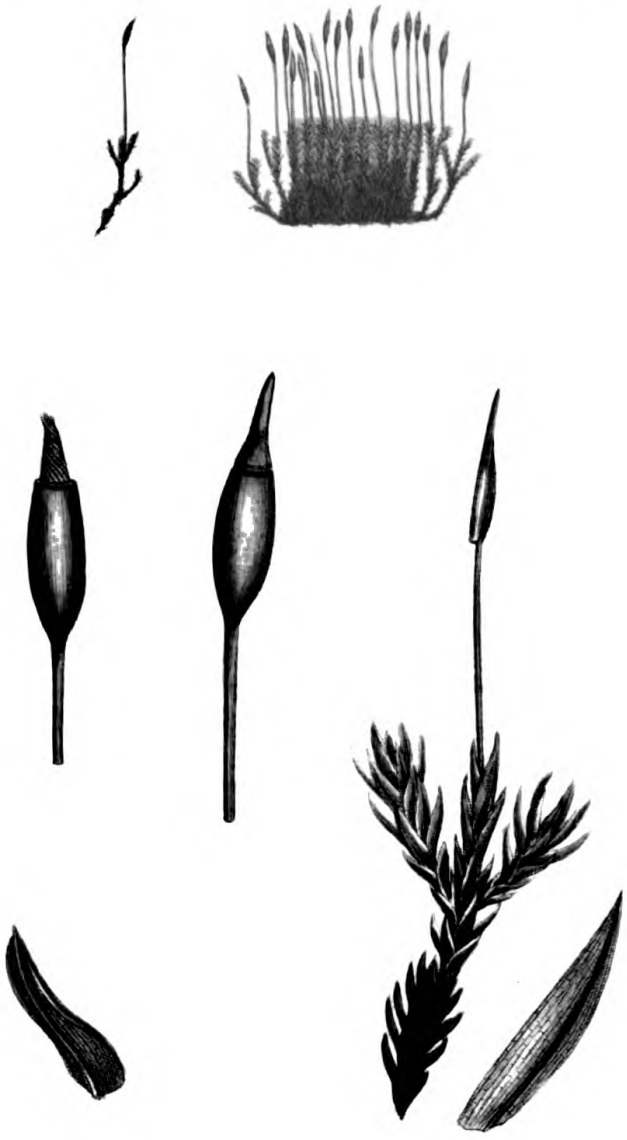
CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem much branched. Leaves all ovate, acute, keeled, with a midrib. Sheaths between the branches, imbricated.

SYN. Tortula convoluta. *Swartz. Musc. Suec.* 41. *Schrad. Spicil.* 66.

WHEN the *Flora Britannica* v. 3. was published, we were not aware of the above celebrated authors having mistaken this moss for *T. convoluta, t.* 2382; but having specimens from themselves, and having since gathered the same at Thorpe near Norwich, as well as received it from the Rev. Mr. Hemsted, through Mr. Turner, we clearly perceive the differences between the two. The tufts of this are much higher, the stems being divided into longer and more numerous branches. The leaves are more ovate and pointed, those of the sheath are more numerous, imbricated, not convoluted, and differ very little from those of the stem, both being furnished with a strong midrib. The lateral situation of the fruitstalk and its sheath, between the branches, common to both, distinguishes these from most British *Tortulæ*. The present is apparently the most common of the two, on sandy or gravelly banks, bearing fruit in March. Its fruitstalks are tawny. Capsule erect, brown, smooth, more ovate, with a shorter and thicker lid, than in *T. convoluta*.



Tab. unpublished by Jos. Sowerby Junior

101:

TORTULA stellata.

Starry Furrowed Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

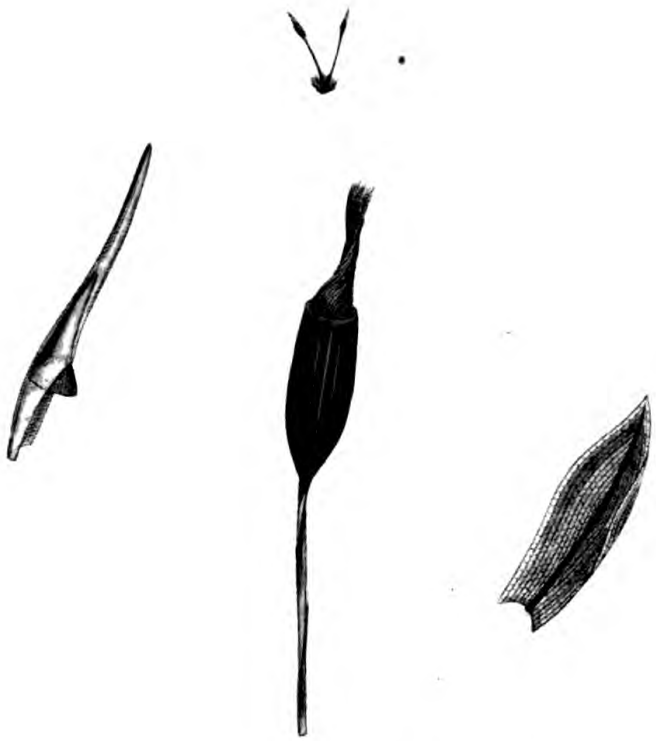
SPEC. CHAR. Stem none. Leaves ovate, keeled, incurved. Capsule erect, ovate, somewhat cylindrical, furrowed. Lid oblique.

SYN. Tortula stellata. *Sm. Fl. Brit.* 1254.

Bryum stellatum. *Dicks. Crypt. fasc.* 2. 6; excluding the synonyms. *With.* 812. *Hull.* 257.

WE feel ourselves particularly obliged to Mr. Dickson for enabling us to give a figure of a moss, concerning which there has been so much controversy and error as the present. He only has found it, about banks and by the sides of rivers in Scotland. We have struck out his synonyms, which Hedwig has justly observed to be confused. In fact they belong to three different species. But Hedwig has fallen into a much more unaccountable error, in asserting Mr. Dickson's plant to be not different from that in our *t.* 2382, *T. convoluta*, which the slightest inspection will refute.

Whether the roots of our *T. stellata* be annual or perennial is not known, but the plants are small, without stems, growing in patches. Leaves radical, broad-ovate, concave, bluntish, entire, somewhat tapering at the base, of a shining green, strongly reticulated, and furnished with a stout red midrib, but no point. Fruitstalks solitary, central, reddish, half an inch high. Capsule ovate rather than cylindrical, singular in the whole genus, if we mistake not, for being strongly and regularly furrowed lengthwise, like that of a *Mnium*. The lid is oblique, as long as the capsule. Fringe light red-brown, nearly of the same length. Veil much longer.—No figure of this moss has yet been published.



Published by Jas. Sowerby London.

V

TORTULA ruralis.

Great Hairy Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

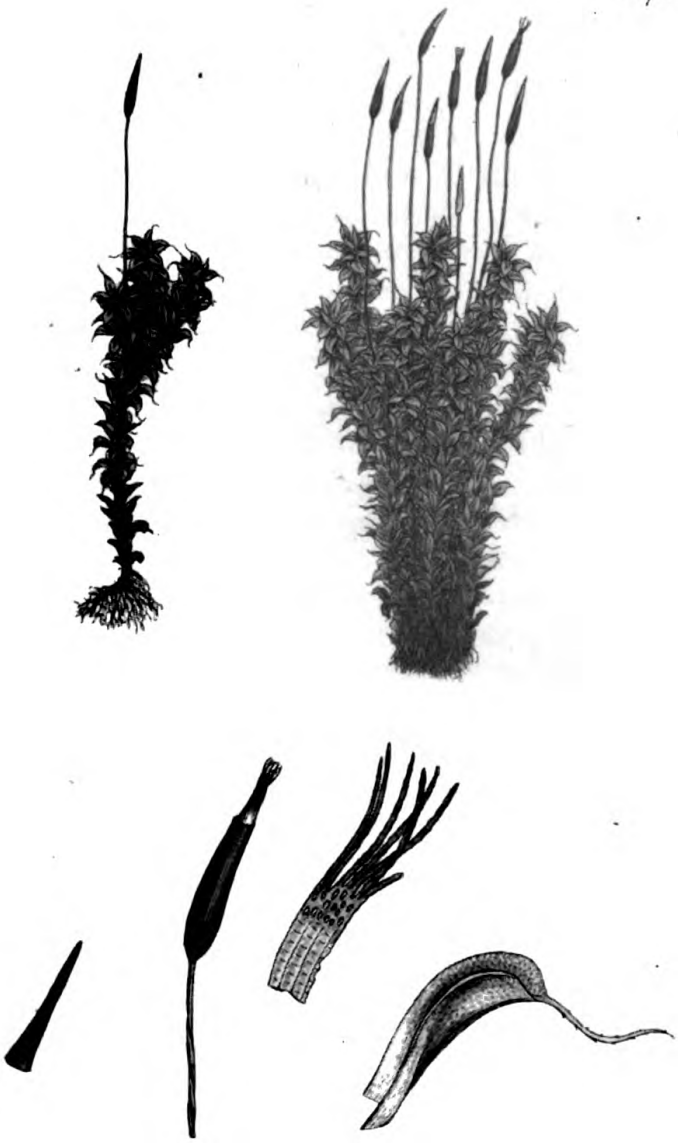
SPEC. CHAR. Stem branched. Leaves obtuse, recurved, hair-pointed; the uppermost stellated. Capsule cylindrical, somewhat ovate.

SYN. Tortula ruralis. *Ehrh. Crypt.* 184. *Sm. Fl. Brit.* 1254. *Sibth.* 285. *Turn. Musc. Hib.* 50.
Barbula ruralis. *Hedw. Sp. Musc.* 121.
Bryum rurale. *Linn. Sp. Pl.* 1581. *Huds.* 476. *With.* 836. *Hull.* 265. *Relh.* 426. *Abbot.* 241. *Dichs. H. Sicc. fasc.* 15. 18.
B. rurale unguiculatum hirsutum, elatius et ramosius. *Dill. Musc.* 352. *t.* 45. *f.* 12.
B. majus, erectis falcatis capitulis, foliis latiusculis extantibus, in pilum canescentem desinentibus. *Raii Syn.* 94.

COMMON upon walls and the old trunks of trees, but especially on the roofs of cottages or barns in the country, which it generally overspreads in broad thick cushion-like patches, of a dirty brown, somewhat hoary, aspect in dry hot weather; dark green in the winter and spring; when the capsules and their red stalks are copiously produced.

The stems are an inch or two high, branched, elastic, level-topped, leafy. Leaves of a dull green, oblong, very obtuse, so as to be almost obovate, entire, recurved, having a central red nerve, which ends in a long, tawny, roughish, wavy hair. Fruitstalks at first terminal, but soon becoming lateral, firm, erect, an inch and half long. Capsule slender, erect, smooth, chesnut-coloured. Lid scarcely shorter than the capsule, curved, red. Fringe tawny, shorter than the lid, closely twisted, the teeth at the base pale, and united into a firm perforated tube, from which last character some late botanists have made a new genus of this and a few other *Tortulæ*. The veil is long, awlshaped, brown, a little dilated at the lower part.

2070.



Certificates published by Jas. Sowerby, London

V

TORTULA ſubulata.

Awl-ſhaped Tortula.

CRYPTOGAMIA Muſci.

GEN. CHAR. *Fringe* ſimple, of numerous capillary teeth, ſpirally and repeatedly twiſted together.

SPEC. CHAR. Stem nearly ſimple, ſhort. Leaves ovato-lanceolate, bearded, entire. Capſule cylindrical. Lid awlſhaped.

SYN. Tortula ſubulata. *Hedw. Sp. Muſc.* 122. *t.* 27. *Swartz. Muſc. Suec.* 39. *Sibth.* 284.

Bryum ſubulatum. *Linn. Sp. Pl.* 1581. *Hudſ.* 476. *With.* 832. *Hull.* 263. *Relh.* 423. *Abbot.* 242. *Curt. Lond. faſc.* 3. *t.* 66. *Dickſ. H. Sicc. faſc.* 14. 19.

B. capſulis longis ſubulatis. *Dill. Muſc.* 350. *t.* 45. *f.* 10.

B. erectis longis et acutis falcatis capitulis, calyptra ſubfuſca, foliis ſerpylli pellucidis. *Raii Syn.* 92.

THOUGH common here in damp ſhady places, Dr. Swartz informs me this moſs is very rare in Sweden, and indeed I have obſerved it to be, as Lightfoot ſays, rather unfrequent in Scotland. Its fruit ripens in March and April, and the roots ſeem to be annual.

The plants form denſe tufts, eaſily diſcoverable by the broad roſaceous entire leaves, of a bright green colour, of which the lowermoſt are ſmalleſt, the reſt moſt ovate, all furniſhed with a central rib, and tipped with a ſhort beard or briſtly point. Fruit-ſtalk an inch high, tawny red, bearing a long, cylindrical, ſlender, upright capſule, which becomes ſlightly curved, and of a brown colour, in ripening. The veil and lid are long and tapering. The mouth is fringed with a ſimple row of numerous, white, capillary teeth, cloſely and ſpirally twiſted together, apparently united or conglutinated for almoſt their whole length, but divaricated at the ſummit. This peculiar fringe characterizes the genus, to which belongs our *Bryum rigidum*, *v.* 3. *t.* 180, for we beg leave to unite the *Barbula* and *Tortula* of Hedwig into one genus.

Decr 1 1802 Published by Ja^s Sowerby London

TORTULA muralis.

Wall Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem mostly simple, very short. Leaves ovate, acute, hair-pointed. Capsule cylindrical, slightly elliptical. Lid conical.

SYN. Tortula muralis. *Hedw. Sp. Musc.* 123. *Sm. Fl. Brit.* 1256. *Sibth.* 284. *Turn. Musc. Hib.* 50.

Bryum murale. *Linn. Sp. Pl.* 1581. *Huds.* 477. *With.* 811. *Hull.* 256. *Relh.* 423. *Abbot.* 240.

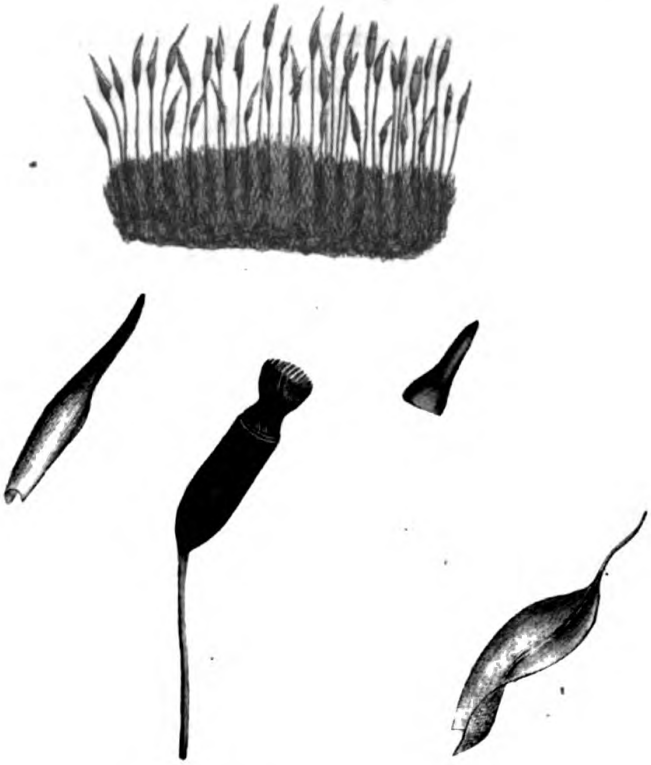
B. tegulare humile, pilosum et incanum. *Dill. Musc.* 355. *t.* 45. *f.* 14.

B. minus, erectis minùs falcatis capitulis, foliis latiusculis congestis, in pilum canescentem desinentibus. *Raii Syn.* 94.

NOTHING can be more plentiful than this *Tortula* upon walls and roofs. It is perhaps the most common of all mosses, and is known by the hoary appearance which the terminal white hairs, various in length, give to its deep-green leaves, and by the numerous brown capsules, nearly erect, and slightly elliptical, with a reddish fringe of moderate length, which appear in profusion throughout the spring.

The roots are perennial. Stems very short, though sometimes divided. Leaves crowded, spreading, flattish, ovate, or oblong-obovate, acute, entire, with a single rib. The terminal hair is sometimes almost wanting, in which state we have found the plant this year at Charlton. Fruitstalk terminal, straight, reddish brown. Old capsule a little curved, when the fringe falls off. Lid red, conical, not half so long as the capsule, slightly oblique. Veil awlshaped, slender, brownish.

2033.



Published by Ta. Lowell y London

105.

TORTULA cuneifolia.

Wedge-shaped Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem very short, mostly simple. Leaves obovate, reticulated, pellucid, slightly pointed. Capsule cylindrical. Lid conical.

SYN. Tortula cuneifolia. *Sm. Fl. Brit.* 1257. *Turn. Musc. Hib.* 51.

Bryum cuneifolium. *Dicks. Crypt. fasc.* 3. 7. *With.* 811. *Hull.* 256.

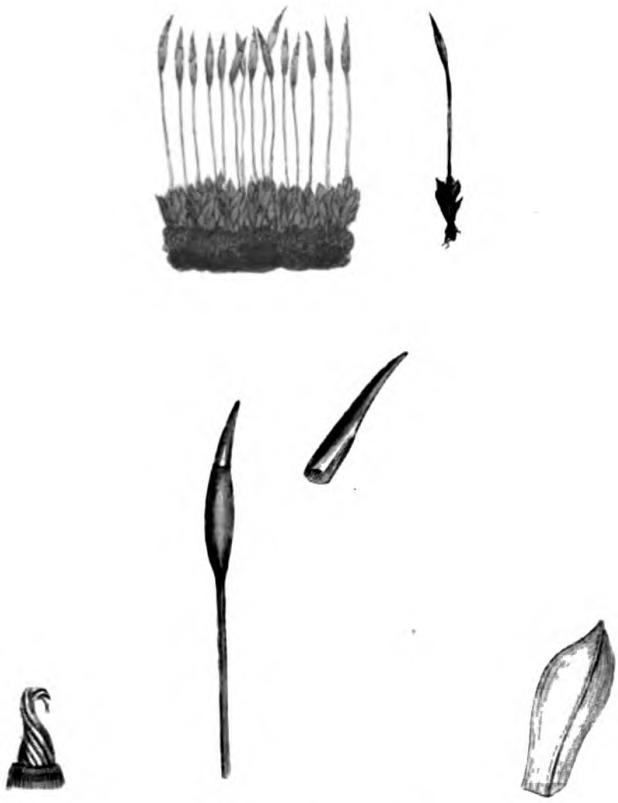
B. murale β. *Huds.* 477.

B. humile, pilis carens, viride et pellucidum. *Dill. Musc.* 356. *t.* 45. *f.* 15.

WE have often sought in vain for this moss about Oxford, where Dillenius says it is very common. Mr. Turner collected the specimens here represented on some old banks at Hopton, Suffolk, near Yarmouth, in April 1805.

According to Dillenius its root is biennial. Stem very short and mostly simple. Leaves wedge-shaped, or rather obovate, entire, of a bright pellucid green, very strongly and conspicuously reticulated, furnished with a central nerve, and either quite blunt, or tipped with a small short point, never with a hair. Fruit-stalk half an inch or more in height, of a tawny hue. Capsule erect, pale brown, cylindrical, a little swelling. Veil awl-shaped. Lid about half as long as the capsule, conical, acute, slightly curved, reddish. Fringe bright red.

Its leaves are totally distinct in form and texture from the common *Tortula muralis*, with which it has been confounded.



Oct. 1 1815 Pub. Lond. by Jas. Sowerby London

V

106.

TORTULA ericetorum.

Curling Heath Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched. Leaves lanceolate, acute, twisted when dry; the uppermost stellated. Capsule cylindrical, slightly ovate.

SYN. Tortula ericetorum. *Sm. Fl. Brit.* 1258.

Bryum ericetorum. *Dicks. Crypt. fasc.* 2. 5. *With.* 826. *Hull.* 261.

B. ruralis facie, foliis minoribus et non pilosis. *Dill. Musc.* 354. *t.* 45. *f.* 13.

FOUND on turfy heaths in Scotland by Mr. Dickson, from whose specimens we have delineated it. The stems are branched, upright, tufted. Leaves crowded, spreading, lanceolate, narrow, concave, entire, acute, with a strong, pale or yellowish, nerve, but no extended point or hair; when dry they curl and bend inwards. The uppermost are drawn by Dillenius much more large and spreading than we have found them in Mr. Dickson's plant, or in his own at Oxford. Fruitstalk scarcely an inch high, brownish red, terminal, though the branch is often subsequently extended above its insertion. Capsule erect, cylindrical inclining to ovate, abrupt, brown, shining and very smooth. Fringe very brittle. We know nothing of the lid or veil.

Dillenius had this moss from Patagonia, nor did he know of it as a native of Europe; yet we find no reason to doubt his synonym.

Jas. Mapplebeck by Jno. Thornby London.

107.

TORTULA tortuosa.

Frizzled Mountain Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched, even-topped. Leaves linear inclining to lanceolate, keeled; twisted and undulated when dry. Capsule cylindrical, slightly ovate. Fringe lax.

SYN. Tortula tortuosa. *Hedw. Sp. Musc.* 124. *Sm. Fl. Brit.* 1258. *Turn. Musc. Hib.* 52.

Bryum tortuosum. *Linn. Sp. Pl.* 1583. *Huds.* 486. *With.* 830. *Hull.* 255. *Lightf.* 727. *Relh.* 423. *Dicks. Dr. Pl.* 48.

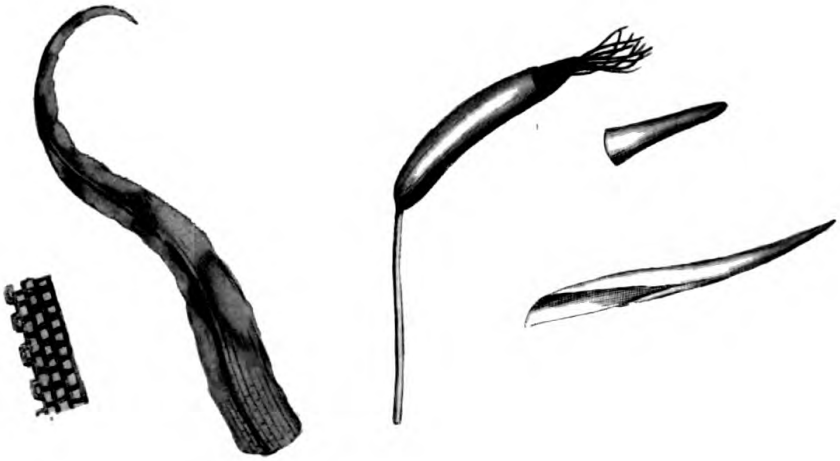
B. cirratum, setis et capsulis longioribus. *Dill. Musc.* 377. *t.* 48. *f.* 40.

B. trichoides longifolium, crassiusculis cauliculis, capitulis erectis, aduncis, acutis. *Dill in Raii Syn.* 98.

FOUND copiously on the mountains of Wales, Scotland and the north of England. On mossy limestone rocks behind Matlock bath it abounds, but does not always bear capsules. Its fructifying season is the summer.

The stems are branched, an inch or two, often more, in height, forming dense even-topped tufts, many inches broad. Leaves closely imbricated, permanent, of a beautiful bright green; rusty when old: their form is lanceolate, almost linear, with a rib, but no point; the margin for the most part entire, but here and there obtusely toothed, and every where so crisped and undulated, especially when dry, (in which state the whole leaf is incurved and curled), that some have thought it serrated. Fruitstalks an inch and half long, of a shining crimson, pale yellow at the summit. Capsule a little inclining, slender and cylindrical, but finally erect and more ovate, smooth, light reddish brown, with a crimson edge. Lid thin, tapering, a little curved, half as long as the capsule. Fringe long, crimson, rolled up under the lid as in others of the genus, but afterwards so lax as to approach the nature of a *Trichostomum*. The veil is long and slender.

1708



Feb 1 1807 Published by Jas Sowerby, London

TORTULA apiculata.

Small-tipped Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem simple, rather short. Leaves rather distant, oblong-lanceolate, minutely pointed, spreading. Capsule oblong. Lid beaked.

SYN. Tortula apiculata. *Turn. Musc. Hib.* 46.

Barbula apiculata. *Hedw. Sp. Musc.* 117. *t.* 26. *f.* 1—3.

GATHERED by Dr. Stokes at Killesandra in Ireland, growing on the ground. Mr. Turner found it sufficiently agree with Hedwig's Pennsylvanian moss, cited above; which is not the only instance of such a coincidence between the botany of those two countries.

The stems are from two lines to half an inch high, erect, slender, clothed loosely with more or less spreading leaves, of a linear-oblong form, bluntish, entire, concave, keeled and single-ribbed, tipped with a little short point, which is an elongation of the rib. When dry they are incurved, but hardly twisted. Fruit-stalk terminal, solitary, purplish, an inch long, not quite straight. Capsule oblong, upright, cylindrical when quite ripe. Fringe crimson, half as long as the capsule. Lid the length of the latter, according to Hedwig, and slightly incurved.

Dec. 1823 published by Jos. Lowry Lond.

109.

TORTULA humilis.

Dwarf Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

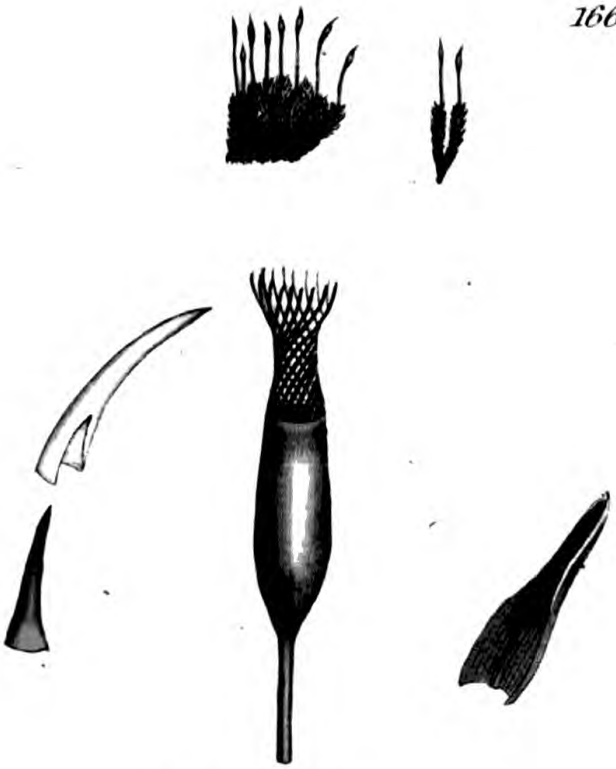
SPEC. CHAR. Stem simple, or divided at the base. Leaves oblong, somewhat spatulate, crowded, keeled, with one rib and a small point. Capsule nearly cylindrical. Lid awl-shaped, curved.

SYN. Tortula humilis. *Turn. Musc. Hib.* 45.
Barbula humilis. *Hedw. Sp. Musc.* 116. *t.* 25. *f.* 1—4.

AMERICA afforded the celebrated Hedwig many new mosses which have appeared in his posthumous work, the *Species Muscorum*, and which we have also received from the same liberal correspondent, the Rev. Dr. Muhlenberg of Lancaster in Pensylvania. This is one of them, which since the publication of the 3d vol. of *Fl. Brit.* has also been found in Ireland, and is mentioned in Mr. Turner's work above quoted. Our specimens were gathered on rocks in Kerr's Glen, near Belfast, by Mr. Templeton.

The stems form perennial tufts, and are erect, from a little above a line in height to nearly half an inch. They are mostly simple, and if divided, only at the base. Leaves thickly clothing the stem, of a light bright green, or sometimes reddish, pale at the base; their form is oblong and obtuse; their margin entire. The strong midrib ends in a little blunt point. When dry the leaves are much twisted. Fruitstalks from the upper (not lower) part of the stem, palish red, not half an inch high. Capsule almost always erect, cylindrical, a little swelling, red-brown, smooth. Lid more than half as long as the capsule, awlshaped, curved; shorter and obtuse when young. Veil slender. Fringe long, red.

1663.



Novr. 1806. Publishd by Jas. Sowerby London.

TORTULA brevifolia.

Short-leaved Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem simple or branched. Leaves ovato-lanceolate, keeled, revolute. Fruitstalks lateral. Capsule cylindrical.

SYN. Tortula brevifolia. *Sm. Fl. Brit.* 1259. *Winch v.* 2. 22.

Bryum brevifolium. *Dicks. Crypt. fasc.* 2. 4. *H. Sicc. fasc.* 11. 19. *With.* 831. *Hull.* 262.

B. palustre brevifolium, capsulis nigricantibus. *Dill. Musc.* 377. *t.* 47. *f.* 39.

B. trichoides, erectis capitulis fusco-nigris. *Dill. in Raii Syn.* 96.

THIS moss, which few botanists have observed, was originally found in Yorkshire by Dr. Richardson, and subsequently in Scotland by Mr. Dickson. It is a native of mountain bogs. Our present specimen we owe to the favour of Mr. Winch, who found the plant in bogs on the moors near Blanchland, in Northumberland and Durham.

Its general hue is dark, like most water mosses. The stems are about an inch high, simple or branched, growing in uneven tufts. Leaves when young pale green, but soon turning brownish. Their shape is lanceolate with an ovate broad base; rather acute, but not awned, at the point; the edges entire, strongly revolute; and there is a strong, prominent, reddish central rib, besides two small lateral ones. When dry the leaves become close-pressed, or slightly incurved. The fruitstalks are lateral, solitary on each stem or branch, an inch high, red brown, blackish when old. Capsule erect, cylindrical, smooth and even, dark brown, in some measure ovate at the base. Fringe slender, of a rather light, reddish brown, not crimson.

Sp. 1 is published by Jos. Lindley & Sons.

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TORTULA barbata.

Bearded Lateral Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched from the base. Leaves elliptic-lanceolate, spreading, somewhat revolute. Fruitstalks lateral. Capsule ovate.

SYN. Tortula barbata. *Sm. Fl. Brit.* 1260.

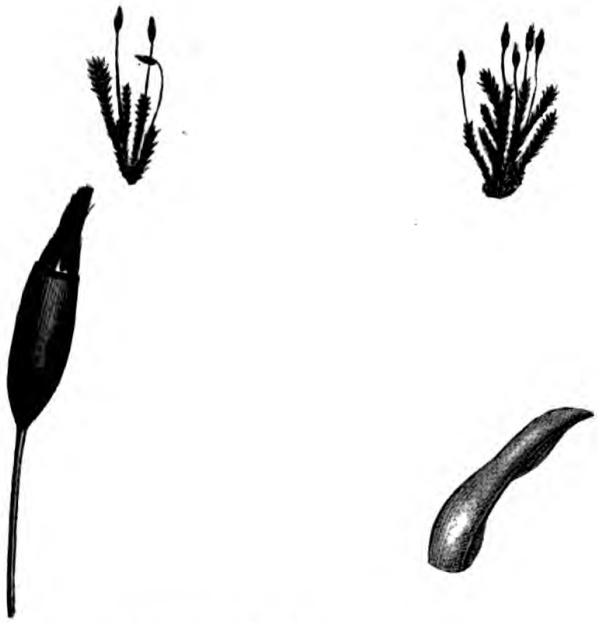
Bryum barbatum. *Curt. Lond. fasc.* 4. *t.* 65. *With.* 829. *Hull.* 254. *Relh.* 426. *Abbot.* 237.

B. decipiens. *Abbot* 239, from the author.

B. unguiculatum et barbatum, tenuius et stellatum. *Dill. Musc.* 384. *t.* 48. *f.* 48.

COMMUNICATED by Mr. Dickson, under the above name, as not uncommon on heaths and walls in the winter and spring, about Charlton and elsewhere, according to Mr. Curtis's account; yet his figure does not so well agree with our plant as could be wished. We are certain however, from actual comparison, that ours is the plant of Dillenius. The Rev. H. Davies gave us the very surprising information of Mr. Hudson's having confounded this moss with *Tortula convoluta*, *t.* 2382; or possibly with our *nervosa*, *t.* 2383.

The stems are level-topped, branched from the base, from which part also the fruitstalks seem to originate; yet we think it extremely probable that they spring from what was the summit of the branch the season before. The leaves are recurved by drying, without awns; the topmost ones larger and stellated. Capsule erect, ovate, slender, smooth and shining. Fringe red, not very much twisted. The lid in Curtis is awl-shaped, oblique, nearly as long as the capsule.



Mori sc. published by Jas. Sowerby London

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it. 1261.
. 309. *Huds.* 481.

dum, foliis crebrioribus.
f. 46.
, cauliculis, foliis crebrioribus
ates magìs congestis, capitulis
itatem magìs egredientibus. *Raii*

, we are obliged to Mr. Dickson, and we have
pared his plant with that of Dillenius. It is found
s, walls, and amongst grass, ripening fruit at the
ter.

ms are branched and level-topped. Leaves of a pale
green, spreading, tapering and rather long, acute,
led, single-ribbed; broad and somewhat ovate at the
the edges entire, slightly revolute: the lower ones are
lest; uppermost crowded or stellated: all of them turn in-
d in drying. Fruitstalks about the upper parts of the
nches, erect, purplish, an inch high. Capsule upright,
lindrical, in some degree elliptical or ovate, smooth, brown.
id brown, but half the length of the capsule, a little oblique,
of a thick awlshaped figure, by which we cannot but think this
species sufficiently distinct from *fallax*, *t.* 2179, notwithstand-
ing a passage in Mr. Turner's Musc. Hib. 49, and Hedwig's
misquotations. The fringe is light brown, very soon decidu-
ous, whence it was supposed by some to be wanting.

2392.

May 1, 1824 published by Jas. Sowerby London.

TORTULA imberbis.

Deciduous Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched. Leaves awlshaped, spreading; ovate at their base. Stalks about the upper part of the branches. Capsule cylindrical, somewhat elliptical.

SYN. Tortula imberbis. *Sm. Fl. Brit.* 1261.

Bryum imberbe. *Linn. Mant.* 309. *Huds.* 481. *With.* 829. *Hull.* 254.

B. tenue, imberbe et pallidum, foliis crebrioribus. *Dill. Musc.* 382. *t.* 48. *f.* 46.

B. perangustis foliis et cauliculis, foliis crebrioribus et circa extremitates magis congestis, capitulis erectis ad summitatem magis egredientibus. *Raii Syn.* 99.

FOR this also we are obliged to Mr. Dickson, and we have carefully compared his plant with that of Dillenius. It is found on dry banks, walls, and amongst grass, ripening fruit at the end of winter.

The stems are branched and level-topped. Leaves of a pale yellowish green, spreading, tapering and rather long, acute, channelled, single-ribbed; broad and somewhat ovate at the base; the edges entire, slightly revolute: the lower ones are smallest; uppermost crowded or stellated: all of them turn inward in drying. Fruitstalks about the upper parts of the branches, erect, purplish, an inch high. Capsule upright, cylindrical, in some degree elliptical or ovate, smooth, brown. Lid brown, but half the length of the capsule, a little oblique, of a thick awlshaped figure, by which we cannot but think this species sufficiently distinct from *fallax*, *t.* 2179, notwithstanding a passage in Mr. Turner's Musc. Hib. 49, and Hedwig's misquotations. The fringe is light brown, very soon deciduous, whence it was supposed by some to be wanting.

2392.

May 1 1822 published by Jno Lowndes London.

✓

TORTULA aristata.

Short-pointed Screw-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of numerous capillary teeth, spirally and repeatedly twisted together.

SPEC. CHAR. Stem branched, level-topped. Leaves oblong, obtuse, with a minute point; curved inward and twisted when dry. Capsule cylindrical.

SYN. Tortula aristata. *Sm. Fl. Brit.* 1261.

Bryum aristatum. *Dicks. Crypt. fasc.* 4. 12. *t.* 11. *f.* 7.

MR. DICKSON found this moss upon walls at Croydon, and the specimens in our plate are some of his own. Dr. W. Stokes, as we are told, observed the same at Cullen's wood bridge, near Dublin. It is perennial, bearing fruit in the spring.

The stems are about an inch high, with several level-topped branches. Leaves palish green, all nearly of equal size, ovate-oblong, some rather more elongated at the upper part than the rest; all entire, slightly revolute, keeled, obtuse, with a strong rib and a very small terminal point; by drying they become inflexed and twisted, not recurved. Fruitstalks terminal, crimson, not an inch high. Capsule erect, when quite ripe cylindrical and slender, smooth, pale brown, shining, thin and partly transparent; when young it is slightly ovate. The lid is awlshaped, curved, red, not quite so long as the capsule. Fringe falling off early, as in several other species to which this is most allied.

2393

Mar. 1. 1814 published by Jos. Sowerby London.

V

ORTHOTRICHUM striatum.

Common Bristle-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, keeled, revolute, spreading. Veil entire. Inner fringe of sixteen teeth.

SYN. Orthotrichum striatum. *Hedw. Sp. Musc.* 163. *Crypt. v.* 2. 99. *t.* 36. *Sm. Fl. Brit.* 1262. *Swartz. Musc. Suec.* 42. *Dicks. Crypt. fasc.* 4. 5. *Turn. Musc. Hib.* 95. *Winch. v.* 1. 106.

Bryum striatum. *Linn. Sp. Pl.* 1579, α. *With.* 810. *Abbot.* 236. *Relh.* 425.

Polytrichum striatum. *Huds.* 471, α. *Hull.* 248.

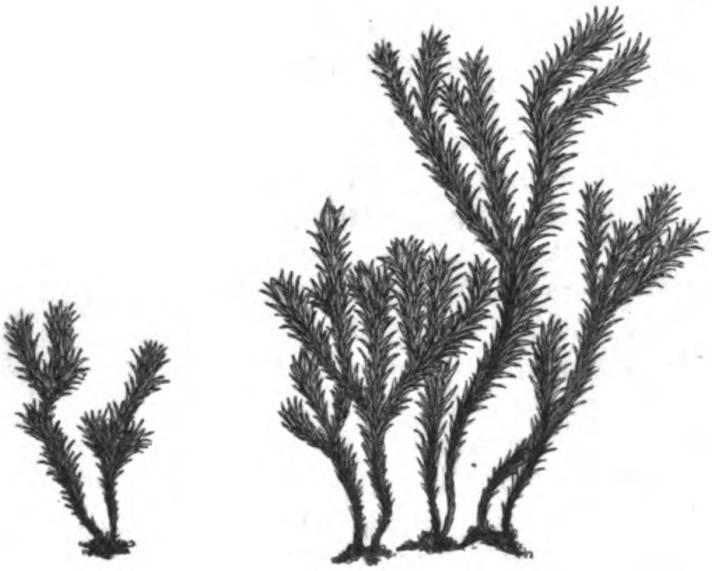
P. capsulis subrotundis, pediculis brevissimis insidentibus, calyptrâ striatâ, arboreum ramosum majus. *Raii Syn.* 91.

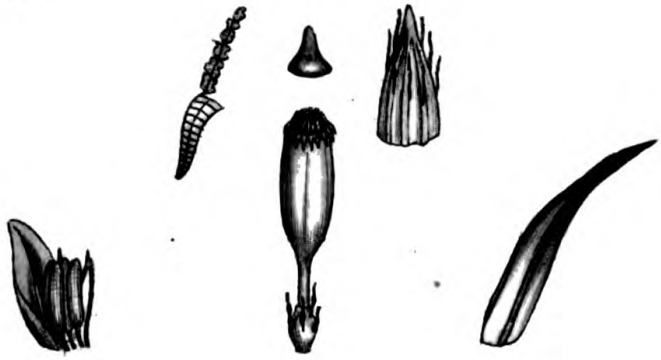
P. Bryi ruralis facie, capsulis sessilibus, majus. *Dill. Musc.* 430. *t.* 55. *f.* 8.

Weissia striata. *Sibth.* 287.

ONE of the few species of this very natural genus that is complete in its technical generic characters. It is not rare on the trunks of old trees, though perhaps more so than some of the more anomalous species already published in this work.

The stems are perennial, tufted, branched, leafy, an inch or two high, level-topped. Leaves spreading loosely, lanceolate, acute, pointless, entire, revolute, keeled, veinless, dark green; the upper ones palest, more expanded, and sometimes jagged at their extremities. Capsules on lateral shoots, extending a little beyond the leaves, furrowed in their upper part when ripe, scarcely twisted. Veil clothed with erect yellow hairs. Lid short, with a blunt cylindrical point. Outer fringe of 16 equal, flat, brownish teeth, occasionally reflexed; inner of 16 white, inflexed, jointed and jagged scales rather than bristles. Anthers in axillary clusters, on a separate plant.





Published by J. Sowerby London

ORTHOTRICHUM affine.

Pale Straight-leaved Bristle-moss.

CRYPTOGAMIA Musci.

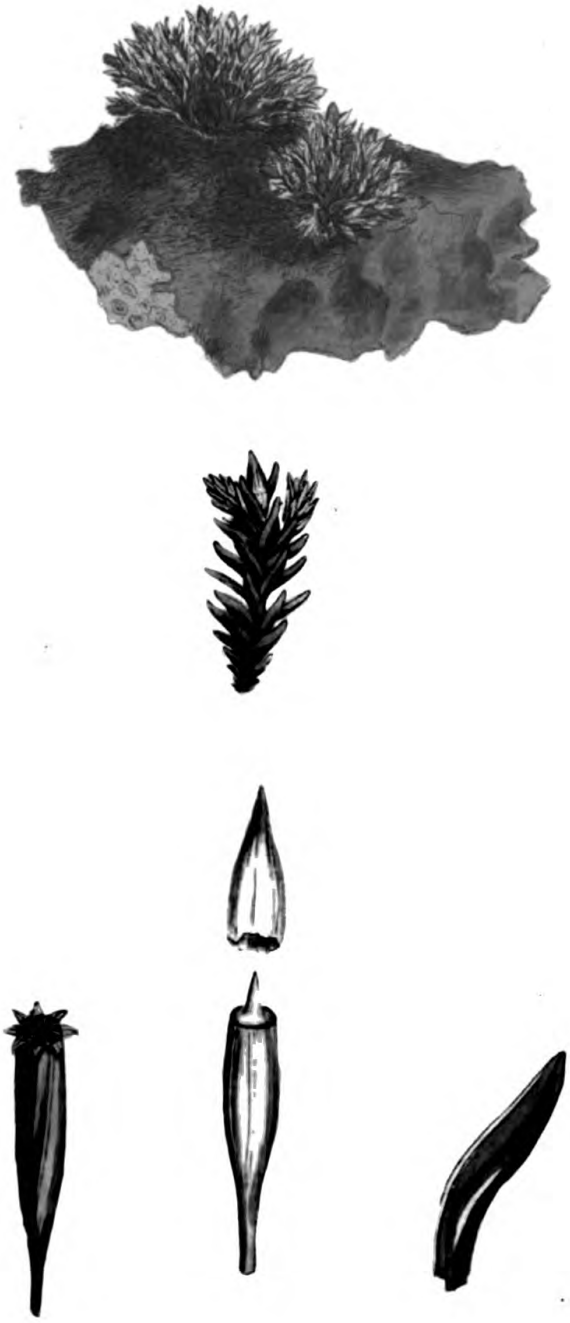
GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, keeled, revolute, spreading. Veil slightly crenate. Inner fringe of eight teeth.

SYN. Orthotrichum affine. *Schrad. Spicil.* 67. *Sm. Fl. Brit.* 1263. *Turn. Musc. Hibern.* 96.
Weissia affinis. *Roth. Germ. v.* 3. 217.
Polytrichum capsulis sessilibus, foliis brevibus, rectis, carinatis. *Dill. Musc.* 432. *t.* 55. *f.* 10?

WE first gathered this on rocks near Edinburgh in 1782, but did not learn to distinguish it from the *Orthotrichum striatum, Dill. t.* 55. *f.* 8, till we were favoured with specimens of Dr. Schrader's *O. affine* from himself. It is probably not an uncommon species. Mr. Turner finds it plentiful on the mortar of old walls about Yarmouth, and has received it from Ireland. The fruit is perfected in summer and autumn.

The stems are perennial, firmly rooted, branched, leafy, and form tufts about an inch high. Leaves pale yellowish green, rather spreading, linear-lanceolate, somewhat acute, beardless, entire, revolute, keeled, with 1 rib, but no lateral veins. Capsules on short stalks, nearly cylindrical, erect, furrowed from their infancy, and twisted as they ripen. Veil conical, acute, furrowed, more or less crenate or torn, clothed with a few upright yellow deciduous hairs. Lid with a slender point and very red margin. Outer fringe of 8 pairs of reflexed teeth; inner of 8 simple white inflexed bristles, scarcely jointed except when very old. The *O. striatum* differs in having 16 strongly jointed teeth in its inner fringe, darker coloured leaves, and a more entire veil.



June 1 1804 Published by Jos Sowerby, London

ORTHOTRICHUM pulchellum.

Elegant Smooth Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

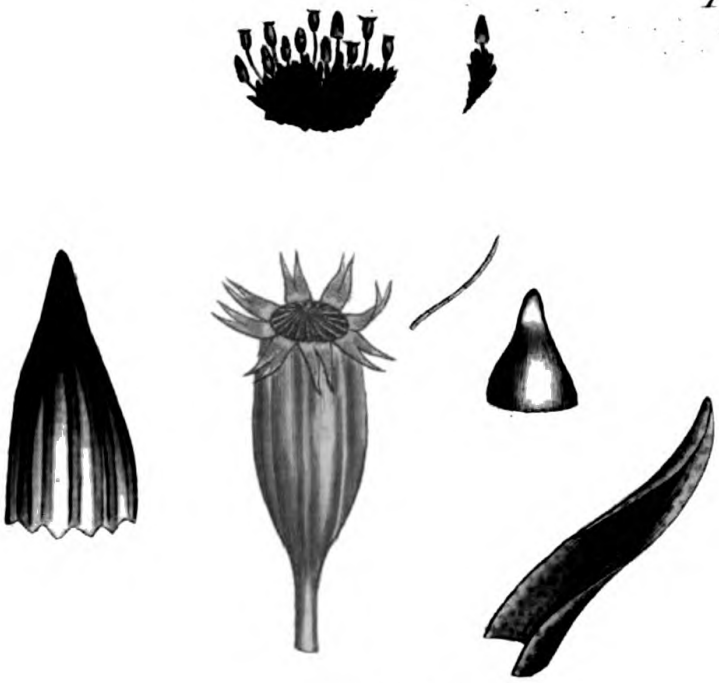
SPEC. CHAR. Stem somewhat branched. Leaves lanceolate, keeled, revolute, beardless, slightly twisted when dry. Inner fringe of sixteen bristles. Capsule with eight furrows. Veil naked.

SYN. Orthotrichum pulchellum. *Brunt. MSS. Winch Bot. Guide, v.* 2. 23.

THIS *Orthotrichum*, found by Mr. Winch and Mr. Thornhill on trees in Causey wood, also at Pont Bourn, and other places in the county of Durham, was justly determined as a new species by the late Mr. W. Brunton of Rippon, of whose observations we have partly profited in the following description.

The stems grow in tufts, and are about 3 lines high, somewhat branched or divided. Leaves bright green, lanceolate, acute, beardless, keeled, single-ribbed, revolute, entire, spreading; slightly twisted, but not curled, when dry. Fruitstalks longer than the leaves, solitary, twisted, yellowish, upright. Capsule erect, cylindrical inclining to ovate, pale, with 8 distinct ribs and as many furrows. Lid shortish. Fringe of 16 red, spreading, external teeth, and as many internal, inflexed, pale bristles. Veil conical, smooth and shining, destitute of hairs, crenate at the base.

1787



Jas. Sowerby, London

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117.

ORTHOTRICHUM pumilum.

Dwarf Bristle-moss.

CRYPTOGAMIA Musci.

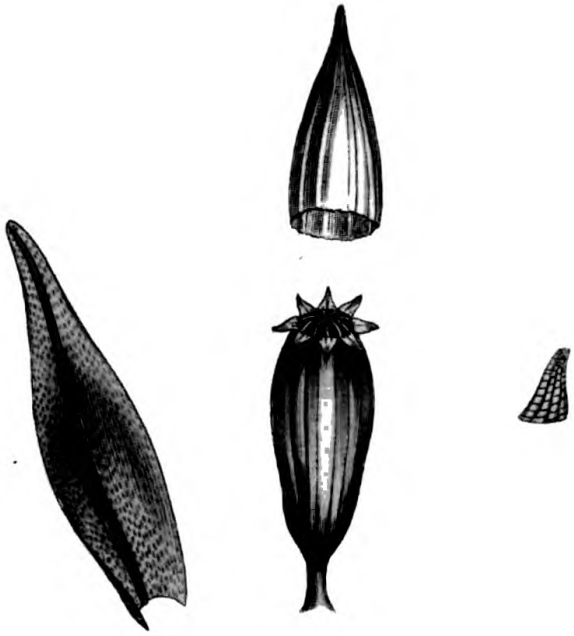
GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem somewhat branched. Leaves ovato-lanceolate, revolute, spreading, beardless. Veil naked. Each fringe of eight teeth.

SYN. Orthotrichum pumilum. *Swartz. Musc. Suec.* 42. & 92. *t.* 4. *f.* 9. *Sm. Fl. Brit.* 1264. *Dicks. Crypt. fasc.* 4. 5. *Winch. v.* 1. 106. *Turn. Musc. Hib.* 98.

GATHERED at Copgrove, Yorkshire, by the Rev. Mr. Dalton, whose specimens agree precisely with one given by Mr. Dickson. Mr. R. Brown first found this *Orthotrichum* in Ireland.

It is one of the smallest of its genus, and grows on the trunks of trees, bearing capsules in the spring. The colour of the leaves is brighter and yellower than in others of the same size; their form is ovato-lanceolate, with somewhat of a point, but blunt, and not tipped with any hair. The edges are entire, a little revolute. Capsules solitary, terminal, nearly sessile, oblong, rather pear-shaped, olive-coloured, with 8 furrows. Veil striated, quite smooth, greenish-white, with a straight brown summit. Lid with a little pale straight point. Outer fringe of 8, not 16, broad, brown, spreading teeth; inner of 8 very slender, hair-like, white, inflexed bristles.



July 1 1810 published by J. Sowerby London

ORTHOTRICHUM diaphanum.

Sharp hairy-leaved Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

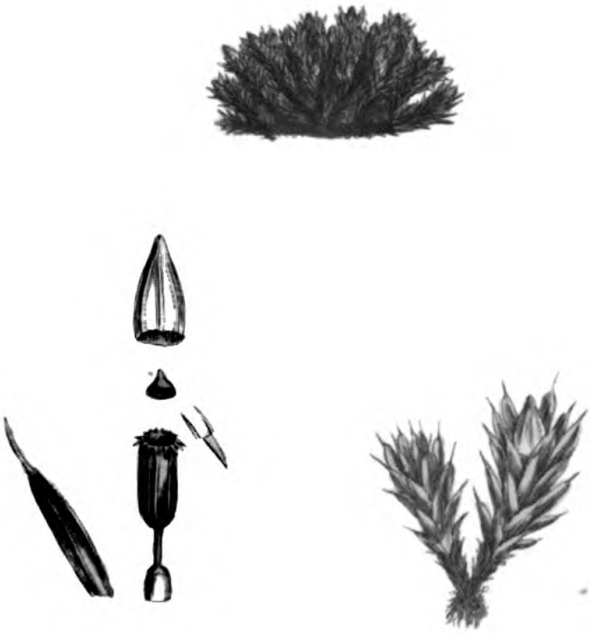
SPEC. CHAR. Stem somewhat branched. Leaves lanceolate, pointed, tipped with a transparent bristle. Veil mostly naked, slightly crenate.

SYN. Orthotrichum diaphanum. *Schrad. Spicil.* 69. *Sm. Fl. Brit.* 1265. *Turn. Musc. Hibern.* 99. *t.* 9. *f.* 1.

Weissia diaphana. *Roth. Germ. v.* 3. 223.

FOUND on old pales, and especially on the trunks of trees, in many places. Mr. D. Turner has pointed it out to us in several different parts of Norfolk. It is perennial, bearing its fruit in April, when the little reddish veils and capsules, rising up among the hair-pointed leaves, distinguish it from surrounding mosses.

The stems are tufted, scarcely branched, not half an inch high. Leaves of a dull or olive green, rather upright, closely imbricated, lanceolate, acute, entire, revolute, tipped with a white, pellucid, bristly point. Capsules terminal, on short stalks, cylindrical inclining to ovate, with 8 furrows. Veil bell-shaped, plaited, very slightly hairy, and sometimes quite naked, of a light reddish brown, darker at the tip; its edge crenate. Lid reddish, convex, with a little point. Outer fringe of 16 separate, linear-lanceolate, narrow teeth: inner of as many inflexed white bristles.



June 1 1804. Published by Jas Sowerby London.

...s.

...ovate, obtuse,

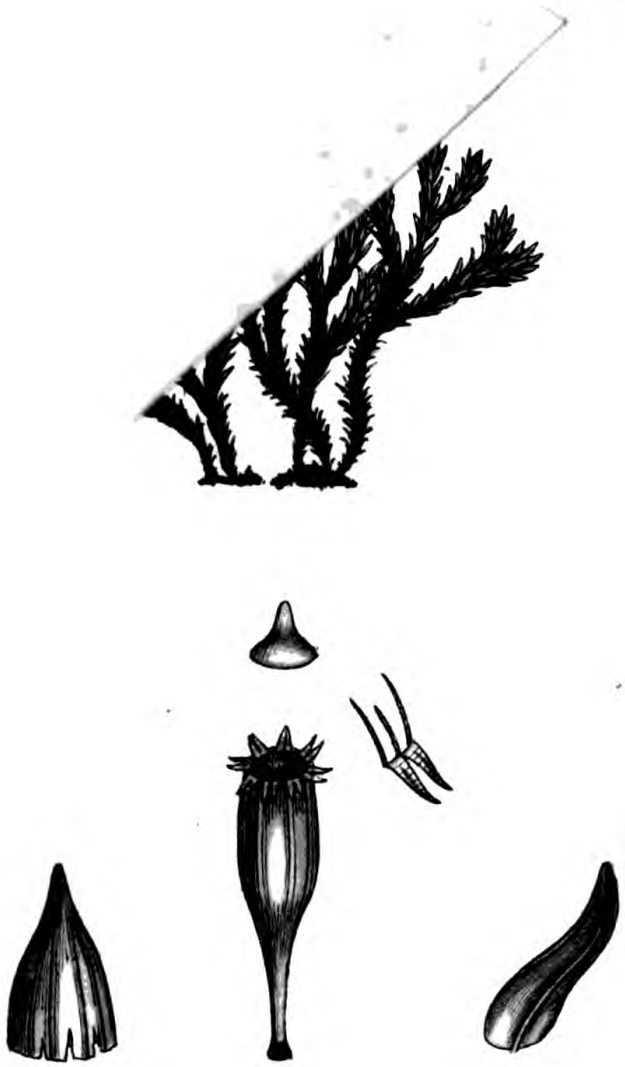
...d, naked.

Sm. Fl. Brit. 1266.

.... 8.

, from Ireland by Mr. Turner and Mr. ... found upon stones in rivulets, and has the ...sual in aquatic mosses.

... form loose tufts about two inches high, and are ..., nearly level-topped, and leafy. The leaves are of a ... dull green, spreading, ovate, obtuse, revolute, keeled, without any hair-like point; when dry they become closely pressed to the stem. Capsules terminating the branches, on short stalks, enveloped with the leaves, ovate, yellowish-brown, with 8 ribs. Veil pale brownish green, bell-shaped, quite naked, with 8 ribs, the margin torn, the point acute and brownish. Lid convex with a little straight point, the margin red. Fringe pale brown, or yellowish; the outermost of 16 teeth, united or approximated in pairs; the inner of 16 inflexed, slender, minutely jointed bristles.



Sep. 1 1811 Published by Jas. Sowerby, Lamb Court

119.

ORTHOTRICHUM rivulare.

River Bristle-moss.

CRYPTOGAMIA Musci.

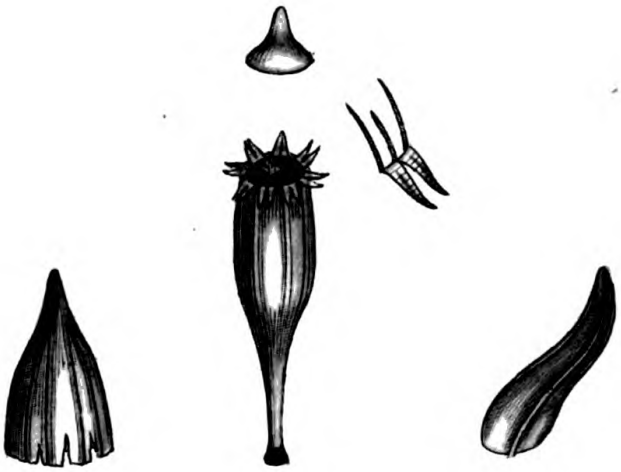
GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves ovate, obtuse, revolute, pointless. Veil toothed, naked.

SYN. Orthotrichum rivulare. *Sm. Fl. Brit.* 1266. *Turn. Musc. Hib.* 96. *t.* 8.

COMMUNICATED from Ireland by Mr. Turner and Mr. Templeton. It is found upon stones in rivulets, and has the dull lurid hue usual in aquatic mosses.

The stems form loose tufts about two inches high, and are branched, nearly level-topped, and leafy. The leaves are of a dark dull green, spreading, ovate, obtuse, revolute, keeled, without any hair-like point; when dry they become closely pressed to the stem. Capsules terminating the branches, on short stalks, enveloped with the leaves, ovate, yellowish-brown, with 8 ribs. Veil pale brownish green, bell-shaped, quite naked, with 8 ribs, the margin torn, the point acute and brownish. Lid convex with a little straight point, the margin red. Fringe pale brown, or yellowish; the outermost of 16 teeth, united or approximated in pairs; the inner of 16 inflexed, slender, minutely jointed bristles.



Sol. 1810 Published by Jas. Sowerby, Lonsdale.

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ORTHOTRICHUM crispum.

Curled Orthotrichum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* oblong. *Fringe* generally of a double row of teeth. *Veil* clothed with erect hairs.

SPEC. CHAR. Leaves crowded, linear; recurved and waved by drying. Fruit-stalk much longer than the capsule, swelling upward.

SYN. Orthotrichum crispum. *Hedw. Crypt. v.* 2. 96. *t.* 35. *Swartz. Act. Holm. ann.* 1795. 247.
Bryum crispum. *With.* 827. *Abbot.* 236.
B. striatum δ. *Linn. Sp. Pl.* 1580.
Polytrichum striatum δ. *Hudſ.* 471.
P. capillaceum. *Hull.* 249.
P. capillaceum crispum, calyptris acutis pilosissimis. *Dill. Musc.* 433. *t.* 55. *f.* 11.
P. capsulis oblongo-rotundis, calyptris pilosissimis. *Raii Syn.* 91.
Weissia crispa. *Sibth.* 287.

THE genus of *Orthotrichum*, characterized by the upright hairs which clothe its veil, is as natural and distinct as any one in the whole vegetable system; and it is high time to put an end to the jumble of names, both generic and specific, with which this and other species have been encumbered.

O. crispum grows on the trunks of trees in several parts of Britain, though less frequently than the *striatum*. The fruit ripens in March and April. The stems form tufts, being branched at the bottom, and thickly clothed with linear, acute, entire, carinated leaves, straight when moist, but becoming waved and recurved when dry, which last is its specific mark; and to this may be added the length of the fruit-stalk, which is much greater than in other species. Capsule with 8 strong furrows; its orifice fringed with 8 pairs of recurved external teeth, and with 8 internal capillary incurved simple teeth. We can find no more, though Hedwig describes 16. The hairs of the veil are finely jointed.

March 1 1802 Published by Jas Sowerby London

ORTHOTRICHUM Hutchinsiæ.

Long-stalked Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, obtuse, keeled, revolute, much shorter than the fruitstalk. Veil crenate. Inner fringe of eight teeth. Capsule ovate.

THIS new *Orthotrichum* was gathered near Bantry by Miss Hutchins, a lady whose numerous discoveries in the more difficult departments of Botany justly entitle her to commemoration in the specific name.

The habit of the plant is most like *O. anomalum, t.* 1423, but its fruitstalk is more elongated than even in that species, and much more so than in any other British one, except the very dissimilar *O. crispum, t.* 996. The leaves much resemble those of *anomalum,* and like them soon become very dark-coloured. Our *t.* 1423 was drawn from young vigorous plants. The capsule is somewhat more ovate or tumid when ripe, and the fringe essentially different in being double; the outer of eight pair of combined teeth; inner of eight inflexed bristles. Veil crenate, often split, densely covered with upright tawny hairs. Lid with a short conical beak.

Maw, as republished by Jas Sowerby London.

V

ORTHOTRICHUM anomalum.

Rough Single-fringed Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves lanceolate, keeled, revolute. Fringe simple. Veil hairy, toothed.

SYN. Orthotrichum anomalum. *Sm. Fl. Brit.* 1267. *Hedw. Sp. Musc.* 162. *Crypt. v.* 2. 102. *t.* 37. *Dicks. Crypt. fasc.* 4. 6. *Turn. Musc. Hib.* 94.

Bryum striatum β. *Linn. Sp. Pl.* 1580.

B. tectorum. *With.* 810.

Polytrichum striatum β. *Huds.* 471. *Relh. ed.* 1. 397.

P. tectorum. *Hull.* 248.

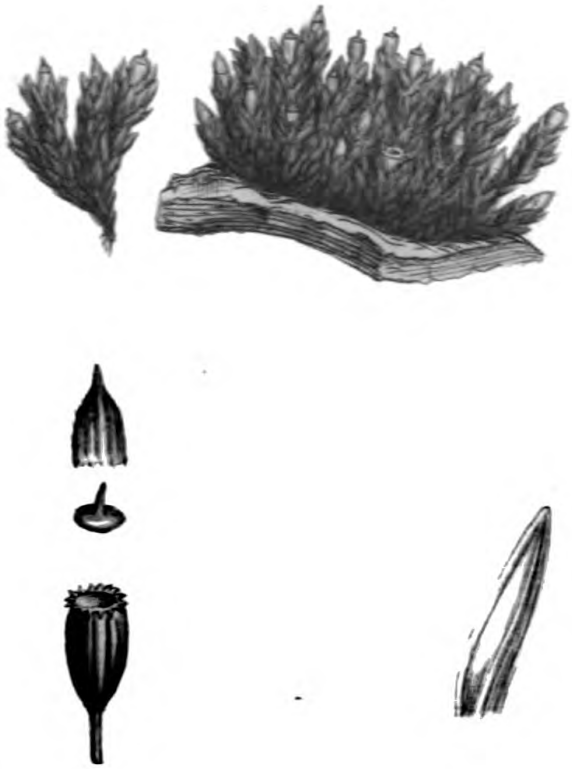
P. Bryi ruralis facie, capsulis sessilibus, minus. *Dill. Musc.* 431. *t.* 55. *f.* 9.

P. capsulis subrotundis, pediculis brevissimis insidentibus, calyptrâ striatâ, arboreum et terrestre, minùs ramosum, et breve. *Raii Syn.* 91.

Weissia anomala. *Sibth.* 287.

NOT rare on old buildings and stones, bearing fruit in February and March. We first found it on rocks near Edinburgh 22 years ago. It grows in dense perennial tufts, of a dull brownish green. It agrees with *O. nudum, t.* 1325, in having no internal fringe, but differs in its revolute leaves and hairy veil, which becomes toothed or torn, and at length loses its hairs, by age. The fruit-stalks when full-grown are longer than in most of the genus. The lid is flat with a slender beak.

1423



March 1. 1816. Published by Jas Sowerby, London.

ORTHOTRICHUM nudum.

Smooth Single-fringed Bristle-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, terminal. *Outer fringe* of 16 teeth: *inner* of 8 or 16 bristles; or none. *Veil* angular, mostly clothed with erect hairs.

SPEC. CHAR. Stem branched. Leaves ovato-lanceolate, keeled. Fringe simple. Veil naked, nearly entire.

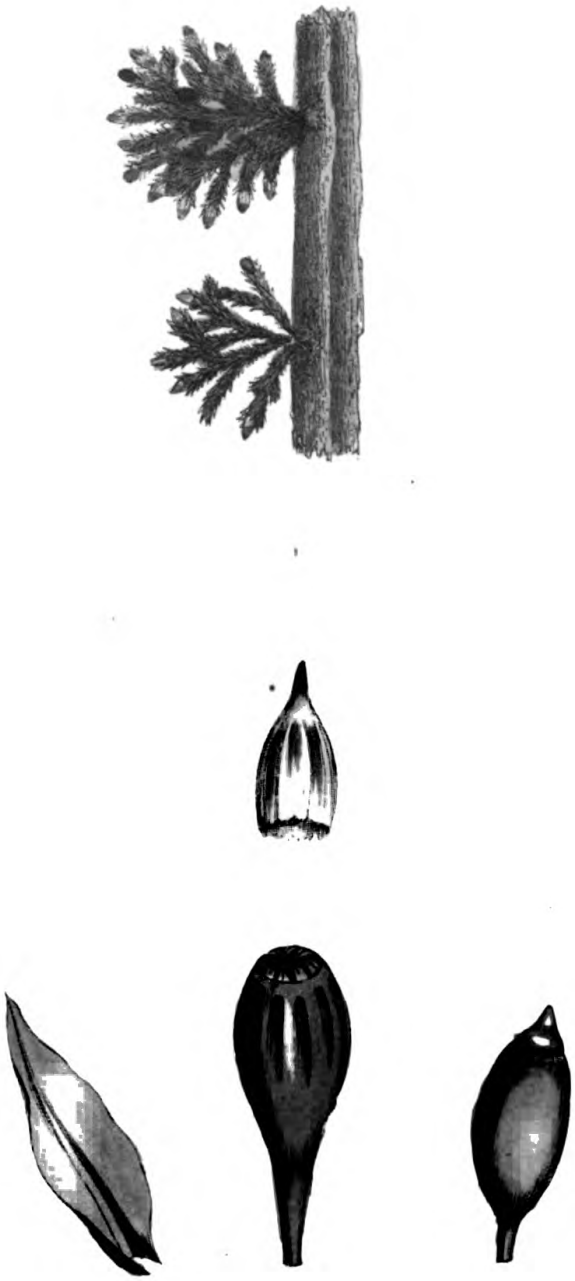
SYN. Orthotrichum nudum. *Dicks. Crypt. fasc.* 4. 6. *t.* 10. *f.* 13. *Sm. Fl. Brit.* 1268. *Turn. Musc. Hibern.* 97.

Bryum sessile. *With.* 810.

GROWS on rotten wood in damp shady places about rivers. Mr. Sowerby gathered it on upright posts by the Thames at Wandsworth, bearing fruit in April 1796, nor had it been observed before except in Wales.

The stems grow in loose horizontal tufts, about an inch long, branched and leafy. Leaves dark-green, spreading, of a broad lanceolate figure, rather pointed, beardless, keeled, entire, scarcely revolute, except when dried. Capsules on short terminal stalks, ovate, chiefly furrowed in their upper part. Veil pale and greenish with a brown tip, quite naked, unequally furrowed, its margin almost entire. Lid when young conical, but afterwards nearly flat, with a short blunt point. Fringe always simple, of 16 upright or inflexed teeth, at first combined in pairs, but afterwards separated.

O. anomalum of Hedwig, and *O. Brownianum* of *Fl. Brit.*, two very different species from this, are the only British ones besides with a single fringe.



June 1. 1804. Publish'd by Ja' Sowerby London.

PTEROGONIUM gracile.

Slender Pterogonium.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 linear, upright teeth. *Flowers* lateral. *Veil* often hairy.

SPEC. CHAR. Stems creeping, clustered. Branches cylindrical, curved. Leaves imbricated, ovate, minutely toothed. Capsules oblong, nearly erect.

SYN. Pterogonium gracile. *Swartz. Musc. Suec.* 26.
Pterigynandrum gracile. *Hedw. Sp. Musc.* 80. *Crypt. v.* 4. 16. *t.* 6.
Hypnum gracile. *Linn. Mant.* 310. *Lightf.* 766. *With.* 860. *Hull.* 272.
H. ornithopoides. *Hudf.* 508.
H. gracile ornithopodioides. *Dill. Musc.* 320. *t.* 41. *f.* 55.

THIS moss is peculiar to mountainous countries. We have no where seen it in greater abundance than in the neighbourhood of Edinburgh, where it forms great patches on rocks or trees, but the fructification has rarely been observed in Britain, though common in France and Italy. Mr. D. Turner found the plant in that state in Ireland this summer; and it must be considered as a very fortunate acquisition, as it serves to confirm Hedwig's observations respecting this new genus *Pterogonium*; for the hairy *calyptra* or veil has been observed by him in some Pennsylvanian species, though he had not seen it in this, probably because the hairs fall off very early, which we find to be the case. This mark and the want of an inner fringe are sufficient to keep *Pterogonium* separate from *Hypnum*.

The present species is known by its slender cylindrical branches, curved inward (especially when dry), thickly clothed with broad, acute, serrulated, nerveless leaves. The fruit-stalks spring from a lateral, scaly bulb. The capsule is a little curved. The veil cylindrical, and very slender.

Mr. Dickson's *Hypnum Smithii* belongs to this genus.

PTEROGONIUM sciuroides.

Squirrel-tail Wing-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stems creeping, branched. Branches cylindrical, incurved by drying. Leaves ovato-lanceolate, striated, entire. Veil smooth. Teeth of the fringe deeply cloven.

SYN. Pterogonium sciuroides. *Turn. Musc. Hib.* 32.
Dicranum sciuroides. *Sm. Fl. Brit.* 1215. *Sibth.* 280.
Fissidens sciuroides. *Hedw. Sp. Musc.* 161.
Hypnum sciuroides. *Linn. Sp. Pl.* 1596. *Huds* 507. *With.* 846. *Hull.* 274. *Relh.* 429. *Abbot.* 251.
H. arboreum sciuroides. *Dill. Musc.* 319. *t.* 41. *f.* 54.
H. trichoides erectum, ramulis recurvis, obscuri coloris. *Raii Syn.* 83.

FEW more judicious improvements in botany have been suggested than the removal of this moss from *Dicranum* to *Pterogonium* by my excellent friend Mr. Turner, in which I now heartily concur. The remarkable sheath and its lateral insertion, as well as the habit, require this, not to mention the structure and texture of the fringe, which only differs from the other known species in having deeply cloven teeth, for so I think it most intelligible to describe them.

Our specimens in fruit (which is very rare in England) were sent from the New Forest by Mr. Lyell, with many judicious remarks. He mentions the plant as frequent on the stems of old beeches, and conspicuous for its rich green hue. The creeping stems are much branched, and the branches are curved upward when dry, cylindrical, not much subdivided, thickly clothed with broadish-lanceolate, pointed, entire leaves, each marked with 3 longitudinal plaits, but not ribbed. They sometimes bear axillary branching buds. Sheaths axillary, long and taper. Fruitstalks tawny, scarcely thrice as long. Capsules erect, ovate, smooth. Veil slender, smooth. Lid conical, red. Fringe small, tender, pale, its teeth deeply divided, but resembling the internal fringe of a *Hypnum* in texture more than the firm red teeth of a true *Dicranum*. Male flowers red.

Hunt Lithog. Published by Jas. Sowerby London.

126.

PTEROGONIUM Smithii.

Curling Wing-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stems creeping, much branched. Branches pinnate, incurved by drying. Leaves entire. Sheath nearly as long as the fruitstalk.

SYN. Pterogonium Smithii. *Swartz. in Schrad. Journ. ann.* 1800, 173. *Sm. Fl. Brit.* 1271.

Hypnum Smithii. *Dicks. Crypt. fasc.* 2. 10. *t.* 5. *f.* 4. *Dr. Pl.* 19. *With.* 851. *Hull.* 270. *Hedw. Sp. Musc.* 264. *t.* 68. *f.* 5—7. *Sm. Tour, v.* 3. 234. *Dillw. Tr. of Linn. Soc. v.* 6. 183.

Muscus squamosus filicinus &c. *Mich. Gen.* 114. *n.* 98.

HAVING just been studying this moss on the trees of Italy, by singular good fortune I met with it, soon after landing in England, on a tree by a small inn on Barham downs, Kent, though without fructification. Mr. Dillwyn has since gathered it in that neighbourhood, and even near Walthamstow, and Mr. Groult near Weymouth. Mr. Sowerby has received specimens from both these gentlemen.

It is perennial, and bears fruit in the spring. The stems form broad creeping patches, and are much branched, the branches thrice pinnate, leafy, depressed, wiry and tough, curling back elastically when dry. Leaves of a full unpolished grass green, imbricated, sheathing, roundish, obtuse, concave, entire, beardless, with one rib, chiefly observable at the base. Sheaths lateral, pale, awlshaped, their inner scales hair-pointed. Fruitstalk scarcely longer than the sheath, erect, yellowish, twisted at the top when dry. Capsule upright and straight, ovate or almost cylindrical, smooth, red-brown, contracted at the mouth, and fringed with 16 little white linear deciduous teeth. Lid conical, oblique. Veil yellow and shining, clothed with erect yellow hairs.

See the other British *Pterogonium, v.* 16. *t.* 1085.

June 1 1804. Published by J. Sowerby, London.

[2297]

PTEROGONIUM filiforme.

Capillary Wing-moss.

CRYPTOGAMIA Musci.

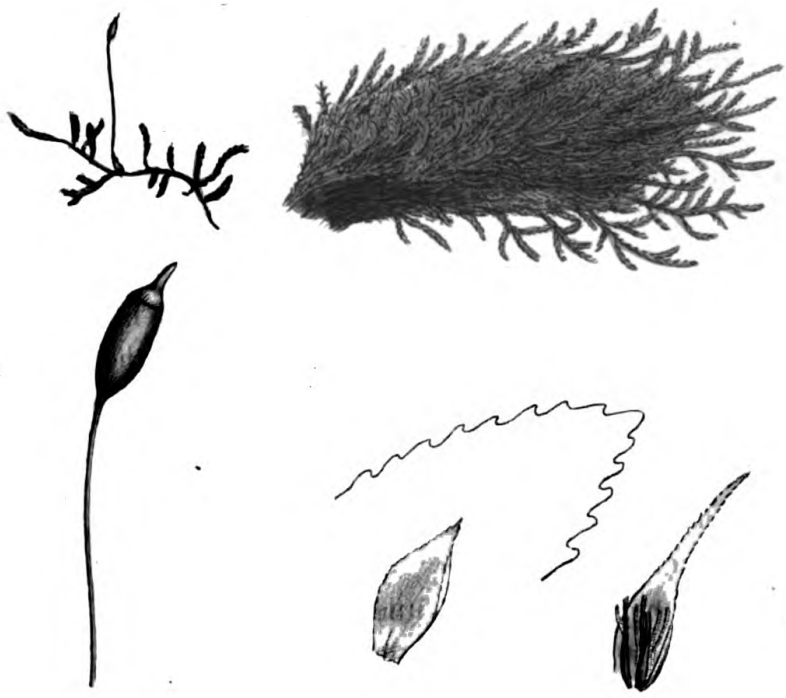
GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stem decumbent, weak, irregularly branched, creeping. Leaves ovate, serrated, closely imbricated. Capsules ovate-oblong, erect.

SYN. Pterigynandrum filiforme. *Hedw. Sp. Musc.* 81. *Crypt. fasc.* 4. 18. *t.* 7.

Hypnum filiforme. *Timm. Megapolit.* 225.

DISCOVERED in Scotland, on Ben Lawers, by Mr. G. Don, and in Ireland by Mr. I. T. Mackay, since the 3d vol. of Fl. Brit. was published. It grows in dense, prostrate, entangled patches on rocks or stones, generally in the shade. The stems are long, creeping, leafy, very slender, irregularly divided into numerous, similar, or more slender, lax branches. Leaves scarcely shining, very small, closely imbricated in about four rows, sometimes a little turned to one side. Their form is ovate, acute, concave, serrated in their upper half, without rib or furrows. Male flowers we have not seen; Hedwig says they grow on a separate plant from the females. The capsules we have seen only on a specimen communicated by Professor Swartz. Their sheaths are pale, the scales with long taper serrated points. The fruitstalk is above half an inch long, slender, tawny. Capsule somewhat ovate, erect, smooth, shorter and thicker than that of *Pt. gracile*, *t.* 1085. Lid conical, with a slightly elongated, blunt, inclined point. We have not met with the veil.—The largest specimen in our plate came from Ireland, and has several female flowers, not yet come to fruit. Mr. J. D. Sowerby detected the serratures of the leaves, which escaped Hedwig.



[illegible] Cuv. by Lowe.

V

128.

PTEROGONIUM? rotundifolium.

Round-leaved Wing-moss.

CRYPTOGAMIA Musci.

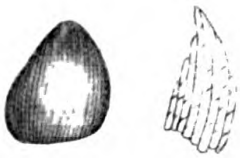
GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stems ascending, tufted, scarcely branched. Leaves closely imbricated, roundish-ovate, obtuse, entire.

SYN. Pterogonium rotundifolium. *Turn. Mss.*

AFTER the example of Mr. Turner, we venture, by the habit alone of this moss, to presume, without much scruple, upon its genus; and at the request of that gentleman, to whom we are obliged for specimens, we publish a figure of it, even though the fructification is unknown.

The plant was discovered in the south of Ireland, by Mr. Mackay, in 1805, whether on trees, rocks, or the earth, we know not. The stems grow ascending, or nearly erect, in dense tufts, being scarcely an inch high, simple, or sometimes subdivided, swelling upwards and obtuse. The leaves are closely imbricated, roundish, or broadly ovate, obtuse, entire, of a pale but dull green, minutely and obliquely reticulated, with little or no appearance of any rib.



.29.

PTEROGONIUM? cæspitosum.

Matted Wing-moss.

CRYPTOGAMIA Musci.

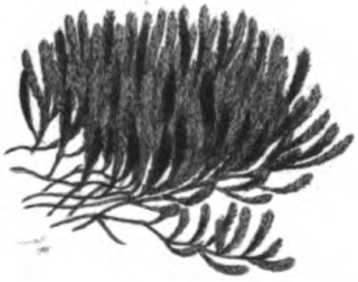
GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

SPEC. CHAR. Stems branched, entangled, prostrate, slender. Ultimate branches ascending, obtuse. Leaves ovate, concave; revolute at the base; minutely serrated at the summit.

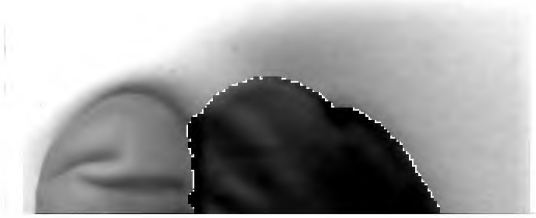
FOR the same reasons as those in the foregoing page, we here exhibit another presumed species of *Pterogonium*; as little exposed to uncertainty as any can be on the score of habit, and undoubtedly nondescript.

This was gathered in Scotland, in 1810, by Mr. W. Borrer, on rocks by the river at Dulsie bridge, but destitute of fructification. The much-divided stems are entangled and prostrate, throwing up numerous ascending, simple, obtuse branches, clothed with larger leaves than those on the main stems, and of a light bright-green colour. The leaves are closely imbricated, ovate, bluntish, concave, with a short rib at their base; revolute in their lower part; finely serrated towards the point only.

2526.



Nov. 1815 published by Jas. Sowerby London.



NECKERA pumila.

Small Feathery Neckera.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Outer fringe* of 16 sharp teeth: *inner* of 16 capillary alternate ones. *Veil* smooth.

SPEC. CHAR. Branches pinnate. Leaves in two ranks, ovate, slightly undulated. Fruit-stalk not much longer than the sheath.

SYN. Neckera pumila. *Hedw. Sp. Musc.* 205. *Crypt. v.* 3. 49. *t.* 20. *Sm. Fl. Brit.* 1272.

Hypnum pennatum. *Dicks. Crypt. fasc.* 1. 5. *t.* 1. *f.* 8. *With.* 852. *Hull.* 268.

Fontinalis pennata. *Huds.* 468; the synonyms wrong.

MR. BORRER has obligingly favoured us with specimens of this moss from several parts of Sussex. It spreads flat over the trunks of trees, and is very rare in fructification. Indeed few parts of Britain can boast it at all, nor does it seem to be known in any other country, Hedwig's figure being drawn from a specimen, destitute of lid or veil, sent him by Lightfoot. Mr. Dickson, who first observed it in Sussex, rightly described it as different from the *Fontinalis pennata*, for which Hudson had mistaken it, little suspecting it to be new. Having found the trees covered with it (but without fruit) between Troutbeck and Ambleside in the summer of 1782, I have from that time had no doubt of its being Hudson's plant.

The stems are branched and pinnated, clothed with pale pellucid shining ovate entire leaves in 2 ranks. When dry the leaves are transversely undulated or plaited, but less than in *N. crispa*, *t.* 617. Sheaths axillary, long and taper. Stalk not much longer than the sheath, straight, tawny. Capsule inclining, elliptical, tawny, smooth. Lid short, conical, incurved. Veil of a similar form, but larger. Fringe pale and tender, of 16 striated teeth, and as many very small ones between them, all soon falling off.

April 1 1805 Published by Jas Sowerby, London.

HYPNUM crispum.

Crisped Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil* smooth. *Fruit-stalk* from a lateral tubercle invested with scales.

SPEC. CHAR. Frond ascending, branched, pinnate. Leaves undulated, compressed. Beak of the capsule curved.

SYN. Hypnum crispum. *Linn. Sp. Pl.* 1589. *Hudf.* 496. *With.* 847. *Hull.* 269. *Dicks. H. Sicc. fasc.* 2. 23.

H. pennatum, undulatim crispum, setis et capsulis brevibus. *Dill. Musc.* 273. *t.* 36. *f.* 12.

H. repens crispum, ramulis compressis, filicinorum more dispositis. *Raii Syn.* 89.

THIS most elegant moss grows plentifully in shady mountainous places, more particularly on a chalky or limestone soil. We have never happened to meet with the fructification in England, till last May, in the rocky woods opposite Bristol Hotwells.

The fronds grow in an oblique position, close together, forming thick elastic tufts, or patches, of a bright pleasant green. They are perennial, evergreen, branched, pinnate, compressed. The beautifully shining leaves are imbricated in two rows, and transversely wrinkled. The reddish elliptical capsules grow on solitary lateral stalks, arising from a slender scaly bud. Their veil is pale and slender; their beak long and curved. Their orifice is fringed with an outer row of 18 denticulated pale lanceolate teeth, and an inner row of as many longer very slender filaments.

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NECKERA heteromalla.

Lateral Neckera.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* double: *outer* of 16 tapering teeth: *inner* of 16 capillary alternate ones. *Flowers* lateral. *Veil* smooth.

SPEC. CHAR. Stem branched, spreading. Leaves ovate, pointed, concave, imbricated. Capsules leaning one way.

SYN. Neckera heteromalla. *Hedw. Sp. Musc.* 202. *Crypt. v.* 3. 38. *t.* 15. *Sibth.* 304.

Sphagnum arboreum. *Linn. Sp. Pl.* 1570. *Hudf.* 465. *Abbot.* 229.

S. heteromallum polycephalum. *Dill. Musc.* 248. *t.* 32. *f.* 6.

S. cauliferum et ramosum minùs hirsutum, capitulis crebris pilosis per ramulorum longitudinem adnascentibus. *Raii Syn.* 105.

Fontinalis secunda. *With.* 790. *Hull.* 275. *Dicks. Dr. Pl.* 18.

Phascum repens. *With.* 785!

IT seems this moss has been hitherto observed in England only, nor is it common with us. It grows on the trunks of trees, the elegantly pinnate stems spreading close to the bark, and ripens its fruit in the spring. Our specimens were gathered by the Rev. Dr. Abbot in Clapham wood, Bedfordshire.

The stems are wiry and firm, doubly pinnate, their branches all over clothed with imbricated, ovate, pointed, concave, entire, keeled leaves, each with a central rib: those that envelope the capsules, which stand solitary at the end of each branch and all lean to one side of the stem, are tipped with a considerable point or awn. The capsule is elliptical, reddish brown, smooth and even. Fringe double; the outer of 16 apering teeth; the inner of as many smaller capillary and thin ones, standing alternately with the former. Lid conical, pale and thin. Veil brown, of nearly the same form, jagged at the edge.

Other species of this genus already figured in the present work are *Neckera crispa, t.* 617. and *N. viticulosa, t.* 265.

June 1 1803 Published by Jas Sowerby, London.

NECKERA curtipendula.

Pendulous Neckera.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Outer fringe* of 16 sharp teeth: *inner* of 16 capillary alternate ones. *Veil* smooth.

SPEC. CHAR. Stem branched, spreading. Leaves ovato-lanceolate, pointed, even, spreading. Capsules on longish stalks, drooping.

SYN. Neckera curtipendula. *Hedw. Sp. Musc.* 209. *Sm. Fl. Brit.* 1275.

Hypnum curtipendulum. *Linn. Sp. Pl.* 1594. *Huds.* 504. *With.* 864. *Hull.* 274. *Dicks. H. Sicc. fasc.* 4. 19.

H. dentatum curtipendulum, viticulis rigidis. *Dill. Musc.* 333. *t.* 43. *f.* 69.

H. arboreum repens, capitulis reflexis, brevibus pediculis insidentibus. *Raii Syn.* 89.

GATHERED by Mr. J. Woods and Mr. G. Sowerby on an old wall near Pont-y-pool, South Wales. It occurs now and then on rocks and trees in rather mountainous countries, bearing fruit in the early part of summer, but is far from common.

The stems grow prostrate and loosely entangled, forming a multitude of short leafy branches, which are sometimes very taper, and take root at their extremities. Leaves imbricated every way, a little spreading, of a dull or yellowish green, even (not undulated), ovate or lanceolate, pointed, with one rib and a thickish entire edge. Sheaths long and tapering, of many closely imbricated leaves. Fruit-stalks red, more than twice as long as the sheaths. Capsules ovate, pendulous till they are very old. Lid conical, short, curved. Fringe of 16 narrow incurved teeth, with the same number of minute intermediate ones.

April 1. 1805 Published by Jas Sowerby, London.

NECKERA splachnoides.

Pear-fruited Neckera.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Outer fringe* of 16 sharp teeth: *inner* of 16 capillary alternate ones. *Veil* smooth.

SPEC. CHAR. Stem branched, spreading. Leaves lanceolate, pointed, flat, spreading every way; those of the sheath six, in two rows. Fruitstalk granulated above. Capsule erect, contracted at the base. Veil fringed.

DISCOVERED by Dr. Taylor on Secawn mountain near Dublin. Mr. Hooker has favoured us with specimens, under the above name.

This very curious and pretty moss forms tufts of a fine shining green, upon the trunks of trees. Its creeping stems throw out short, compound, slender branches, hardly an inch long, clothed with spreading, minute, lanceolate, pointed, entire, single-ribbed leaves, rather thickened at the edges. Fruitstalks lateral, from the bottoms of the branches, erect, dark red, half an inch long, finely granulated about the upper part; each accompanied at the base by a pale pellucid sheath, of three narrow-lanceolate leaves, with red ribs, enclosing three internal smaller leaves of the same form. Capsule nearly erect, scarcely bigger than a grain of sand, dark brown, obovate, contracted at the base, so as to resemble the seed-vessel of a *Splachnum*. Lid conical, about as long as the capsule. Fringe pale brown. Veil cylindrical, reticulated, naked, fringed at the base with numerous, equal, linear, parallel segments, for a drawing of which, and of the lid, we are indebted to Mr. Hooker.

2564

Oct. 1. 1819 published by J. & Drewry Lowden

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135.

HYPNUM viticulosum.

Cylindrical Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* with a lid. *Veil* smooth. *Flower-stalk* from a lateral tubercle invested with scales.

SPEC. CHAR. Stems creeping. Branches erect, straggling, cylindrical. Leaves spreading, pointed.

SYN. Hypnum viticulosum. *Linn. Sp. Pl.* 1592. *Hudf. Fl. An.* 501. *With. Bot. Arr. v.* 3. 131. *Relh. Cant.* 412.

H. repens trichoides arboreum majus, capitulis et surculis erectis, minus ramosis. *Raii Syn.* 85.

H. subhirsutum, viticulis gracilibus erectis, capsulis teretibus. *Dill. Musc.* 307. *t.* 39. *f.* 43.

THIS moss was kindly communicated by the Rev. John Hemsted of Newmarket, with the *Hypnum adiantoides*. It often forms considerable dense tufts about the roots of old trees, sometimes among rocks and on chalk hills. When too much exposed to the sun, or when otherwise dried up, it turns very yellow, especially the older leaves. The creeping shoots are closely entangled, and throw up numerous branches without any order, which are very upright, often simple, but generally once or twice divided, clothed with lanceolate spreading acute leaves. The flower-stalks grow solitary towards the top, and are not very long. Capsule cylindrical, with about 16 simple teeth, and a taper lid. Veil light brown, pointed.

When dry the leaves curl in, and give the plant a very crisped appearance. The capsules are to be found in April, and remain in a dry state through the summer; but they are much more frequent in the north of England than with us.