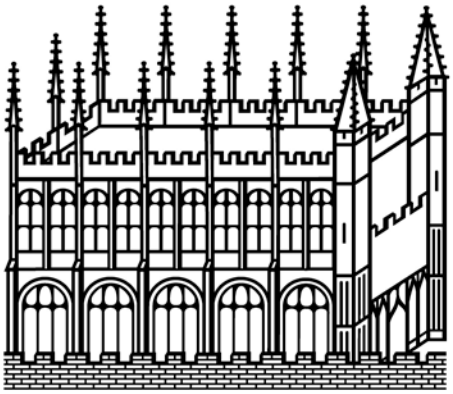

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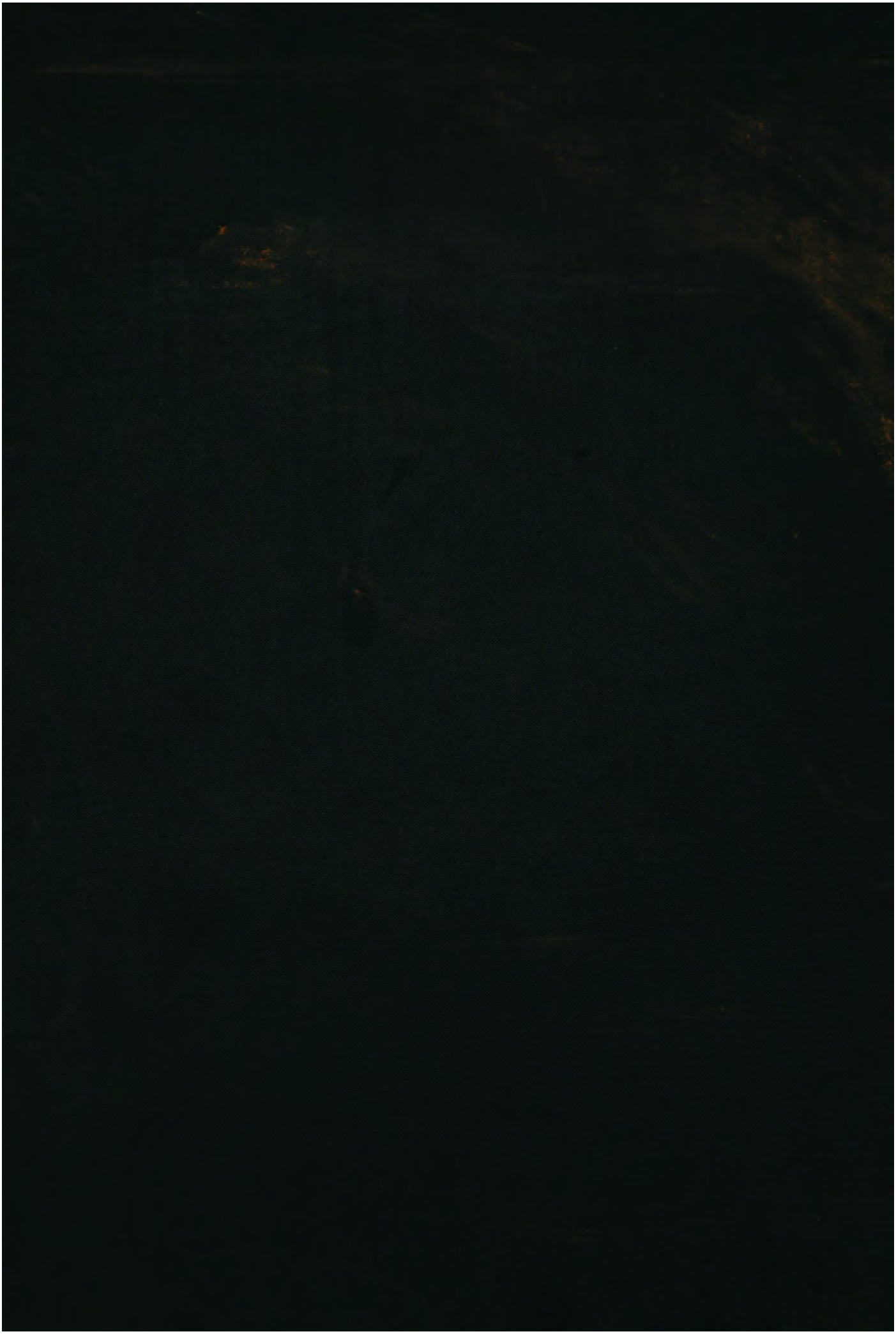

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Part 1.] MAY, 1871. [Price 10s. 6d.

MYCOLOGICAL ILLUSTRATIONS

BEING

Figures and Descriptions

OF

BIBLIOTHECA
JUL 1911
BODLEIANA

NEW AND RARE

HYMENOMYCETOUS FUNGI.

Edited by

W. WILSON SAUNDERS, F.R.S., F.L.S.

AND

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LONDON:

JOHN VAN VOORST, 1, PATERNOSTER ROW.

M.DCCC.LXXI.

19119. d. 13.

PROSPECTUS.

Under the title of 'Mycological Illustrations,' it is proposed to publish a series of coloured figures of British Hymenomycetous Fungi, drawn from fresh and well-developed specimens, with a view of giving faithful representations of many new and rare species not hitherto figured in any work published in this country; and also occasionally of refiguring such species as may be thought to require better illustration than has been given them in our standard works on the subject.

The Plates will be lithographed by Mr. W. G. Smith, almost entirely from drawings by that gentleman or by myself, and will be accompanied with such dissections as may be necessary to bring out the distinctive characters of the species. Each Plate will have descriptive letter-press, giving botanical characters, reference to figures and descriptions, localities, and other information which may be thought interesting.

W. WILSON SAUNDERS.

Hillfield, Reigate,
May 1st, 1871.

PLATE 1.

CANTHARELLUS RADICOSUS, B. & Br.

B. & Br. Ann. N. H. (1866), no. 1134. Alb. & Schw. Consp. Fung. 1124. Cooke, Handbook, p. 229.

CANTHARELLUS stipitibus subcæspitosis, farctis; pileo exumbonato, aspere, floccoso; lamellis confertis, candidis, haud dichotomis; carne haud decolorante.

Merulius carbonarius, Alb. & Schw. l. c.
Cantharellus umbonatus, var., Fr. Hym. Mon. vol. ii. p. 207; Epicr. p. 365.

Pileus three-fourths to one inch across, deeply umbilicate, dark brown, or black, rough, with radiating flocci; *stem* rooting, deeply pallid; *gills* narrow, white. Two or three pilei often grow from the same obconical root, which is white and spongy.—*B. & Br.*

Pileus subfleshy, striato-scaly, umbilicate, half an inch to an inch broad, at length black; *gills* (or folds) somewhat contracted, white, descending into the stem, of precisely the same nature as the folds in *C. aurantiacus*, Fr., and *C. umbonatus*, P., except that they are not dichotomous; *stem* rooting, clustered, ascending, often pruinose towards the apex, half an inch long, somewhat hollow, and full of chambers, somewhat thickened below; *roots* subfusiform, white, half to one inch long, coalescing into one substance, from which capituliform branches proceed, formed by the union of from ten to twenty individuals.

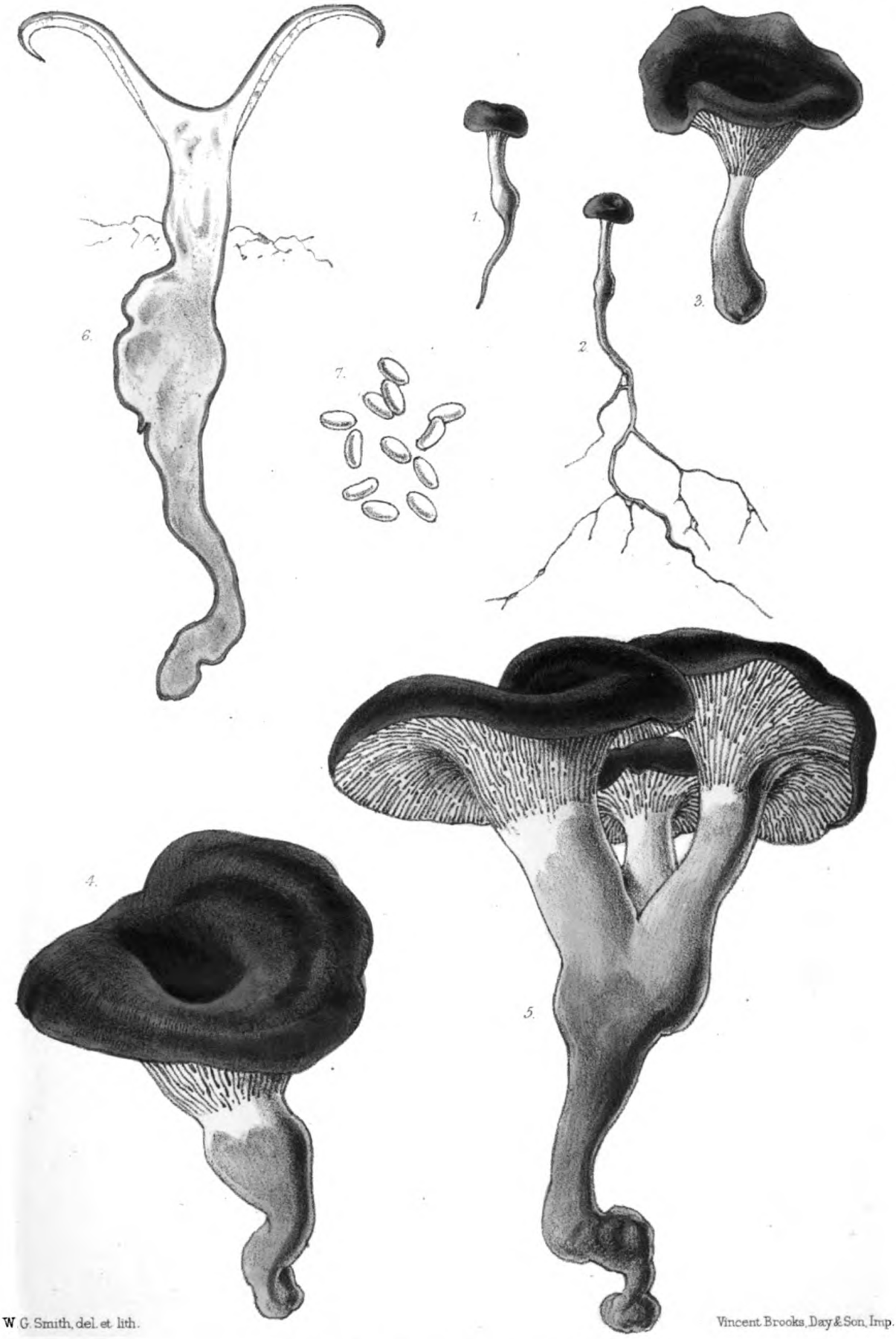
This species comes near to *C. umbonatus*, P., from which however it sufficiently differs in the folds not being dichotomous, and only simply branched; the umbo entirely absent; the plant not becoming discoloured when broken; and in its mode of growth and habitat.

Habitat everywhere on cinder-heaps ("*carbonaria.*")—*Alb. & Sch.*

The specimens figured were found on ashes and burnt ground, by various members of the Holmsdale Natural History Club, during an excursion of the Club to Gomshall, Surrey, on September 25, 1869. Soon after this date the plant appeared in great abundance on burnt places in Epping Forest, and in similar situations near Hereford, and Wellington in Shropshire. It has since been detected in many localities, often growing in company with *Agaricus atratus*, Fr., a plant which it so closely resembles that it is impossible to distinguish one from the other till they are gathered.

Some of the specimens found in Epping Forest and elsewhere were much larger than any of those figured upon the Plate.

PLATE 1.—Figs. 1, 2, 3, 4, 5, *Cantharellus radicosus*, B. & Br. Fig. 6, section of ditto. Fig. 7, spores, ·00035″ × ·0002.″—*W. G. S.*



W. G. Smith, del. et lith.

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Cantharellus radicocus, B & Br.
(= C. carbonarius, A & S non Fries)

PLATE 2.

AGARICUS (HEBELOMA) SINAPIZANS, Fr.

Fries, Hym. Mon. vol. i. p. 327; Epicr. p. 180; Paul. t. 82.
Cooke, Handbook, p. 112.

HEBELOMA stipite valido, æquali, rigido, subsolido, fibrilloso-striato; pileo compacto, repando; lamellis profunde emarginatis, latis, aridis. Odore nauseoso-raphanoideo insignis.

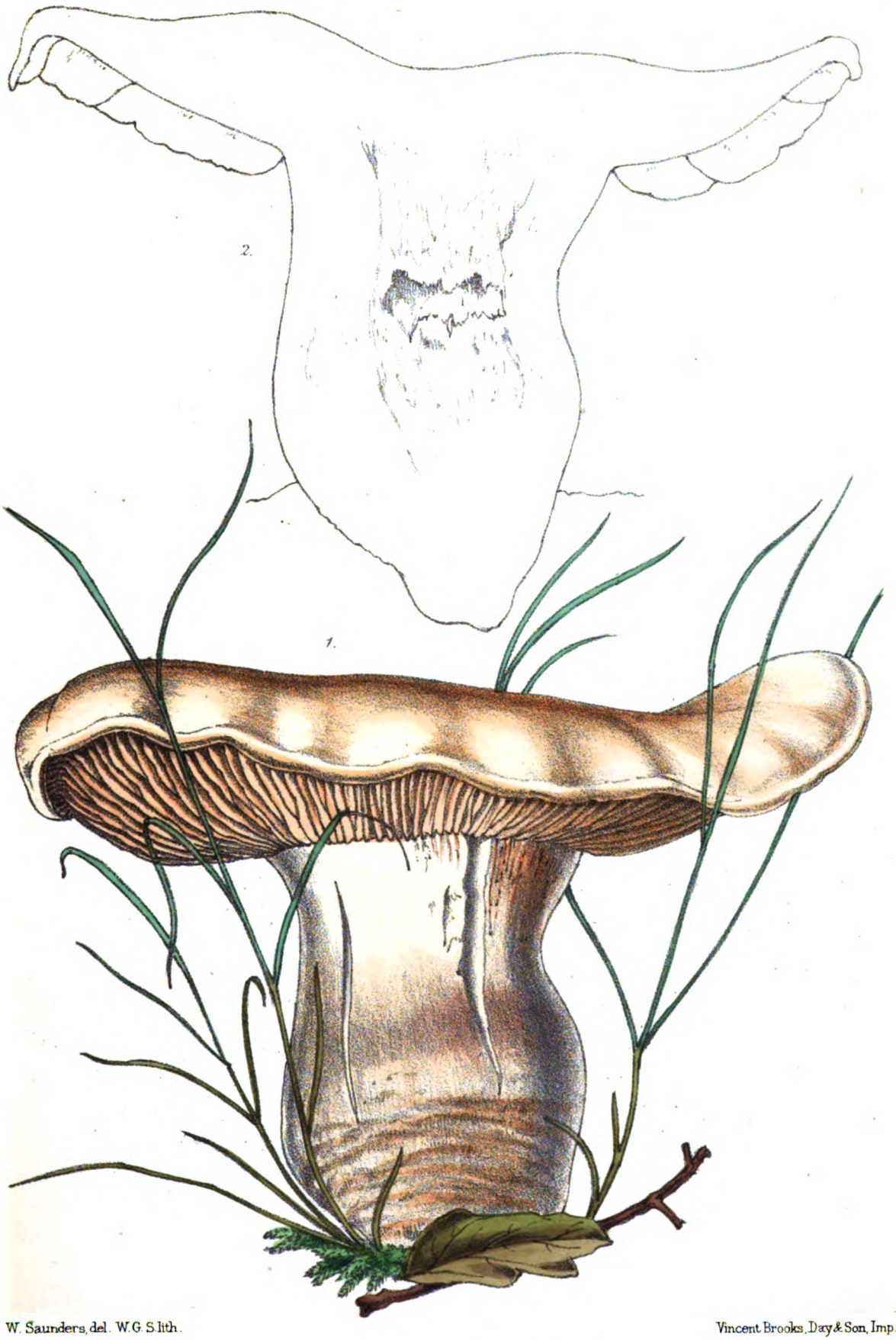
A. grandis, Pers. M. E. p. 283.
A. repandus, Schum.
A. flexuosus, With. M. E. n. 282.

Pileus fleshy, compact, convex, then plane, very obtuse, generally bent backwards and often eccentric, three to five inches or more wide, glabrous, somewhat viscid when fresh, argillaceous, uniform in colour or pale yellow on the disk; *gills* deeply emarginate, three to five lines broad, crowded, brittle, opaque, cinnamon-coloured, always dry, and not spotted; *stem* stout, rigid, subsolid, three to five inches long, one inch thick, equal or fusiform-radicate, fibro-striated, white with white scales at the apex; *flesh* white. Habitat in woods and damp places. Easily distinguished by the absence of a veil, and the strong radish-like odour.—*Fries.*

Pileus leathery, with a well-marked rim; *gills* of a pale dull yellowish brown, very erose on the margin; *spores* dull reddish brown.

Growing under trees in a field near Polegate Station, Eastbourne, Sept. 17, 1852.

PLATE 2.— Fig. 1, *Agaricus (Hebeloma) sinapizans*, Fr. Fig. 2, section of ditto. —*W. W. S.*



W. W. Saunders, del. W.G. S.lith.

Vincent Brooks, Day & Son, Imp.

Agaricus (Hebeloma) sinapizans. Fr.

PLATE 3.—Figs. 1 and 2.

CORTINARIUS (MYXACIUM) STILLATITIUS, Fr.

Fries, Hym. Mon. vol. ii. p. 42; Epicr. p. 277. Cooke, Handbook, p. 178.

MYXACIUM stipite cavo, mollissimo, glutine spisso cæruleo; pileo glabro, glutine cæruleo vestito, eoque secedente fusco-livido; lamellis emarginatis, obscure cinnamoneis.

Pileus somewhat fleshy, convex then plane, subumbonate, scarcely two inches wide, glabrous, clothed with blue gluten, falling off in fusco-livid drops; *gills* emarginate, rather distant, three lines broad, of a dark cinnamon colour; *stem* hollow, very soft, two to three inches long, three to four lines thick, the whole equally attenuated, covered with a thick blue gluten, naked at the apex, and the gluten disappearing with age; *flesh* soft, watery, hygrophanous. Habitat, mossy meadows and woods.—*Fries.*

Pileus extremely viscid, striate near the margin, subdeliquescent, rich dark brown, with the apex lighter; *stem* white, loosely stuffed, substance fibrous; *gills* dull chestnut brown, with a whitish ragged margin; *spores* rusty brown. Amongst dead leaves in the Hop-garden Wood, St. Leonards, 20th August, 1850.

PLATE 3.—Fig. 1, *Cortinarius* (*Myxacium*) *stillatitius*, Fr. Fig. 2, section of ditto.—*W. W. S.*

Figs. 3, 4, 5 and 6.

CORTINARIUS (INOLOMA) CALLISTEUS, Fr.

Fries, Hym. Mon. vol. ii. p. 53; Epicr. p. 281. Berk. Brit. Fung. p. 187. Cooke, Handbook, p. 179.

INOLOMA stipite extus intusque firmo, luteo, rhabarbarino; pileo glabriusculo versus marginem sericeo; lamellis subdistantibus, adnatis, floccosis.

Agaricus validus, Berk. Eng. Fl. vol. v. p. 84.

Pileus fleshy, but thinner when young, convexo, expanded, scarcely umbonate, two inches wide, somewhat glabrous, silky towards the margin, but generally breaking away in minute scales, not hygrophanous; *veil* marginal, fibrous, fugacious, yellow-tawny: *gills* entirely adnate, connected behind with one another, and with the stem by flocci, rather distant, four lines broad, then entire, yellow-tawny; *stem* solid, three to five inches long, clavate-bulbous, equally attenuated above, half an inch thick and more at the base, very fibrous or striated, fine yellow without and within, soft and spongy at the base; *flesh* yellowish white; *odour* none. Habitat, pine woods.—*Fries.*

The specimens figured were found by C. Edmund Broome, Esq., M.A., in Leigh Woods, Bristol, and kindly forwarded to us for this work. *Spores* ferruginous, ·0003″ × ·00022″.

PLATE 3.—Figs. 3, 4, 5, *Cortinarius* (*Inoloma*) *callisteus*, Fr. Fig. 6, section of ditto. Fig. 7, spores × 700 diam.—*W. G. S.*

W.W.S. & W.G.S. del. W.G.S. lith.

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Cortinarius (Myxacium) stillatitius. Fr.
Cortinarius (Inoloma) callisteus. Fr.

PLATE 4.

AGARICUS (PLEUROTUS) CORTICATUS, Fr.

Fries, Hym. Mon. vol. i. p. 236; Epicr. p. 129. B. & Br. Ann. & Mag. of Nat. Hist., April & May, 1865, No. 995. Cooke, Handbook, p. 45.

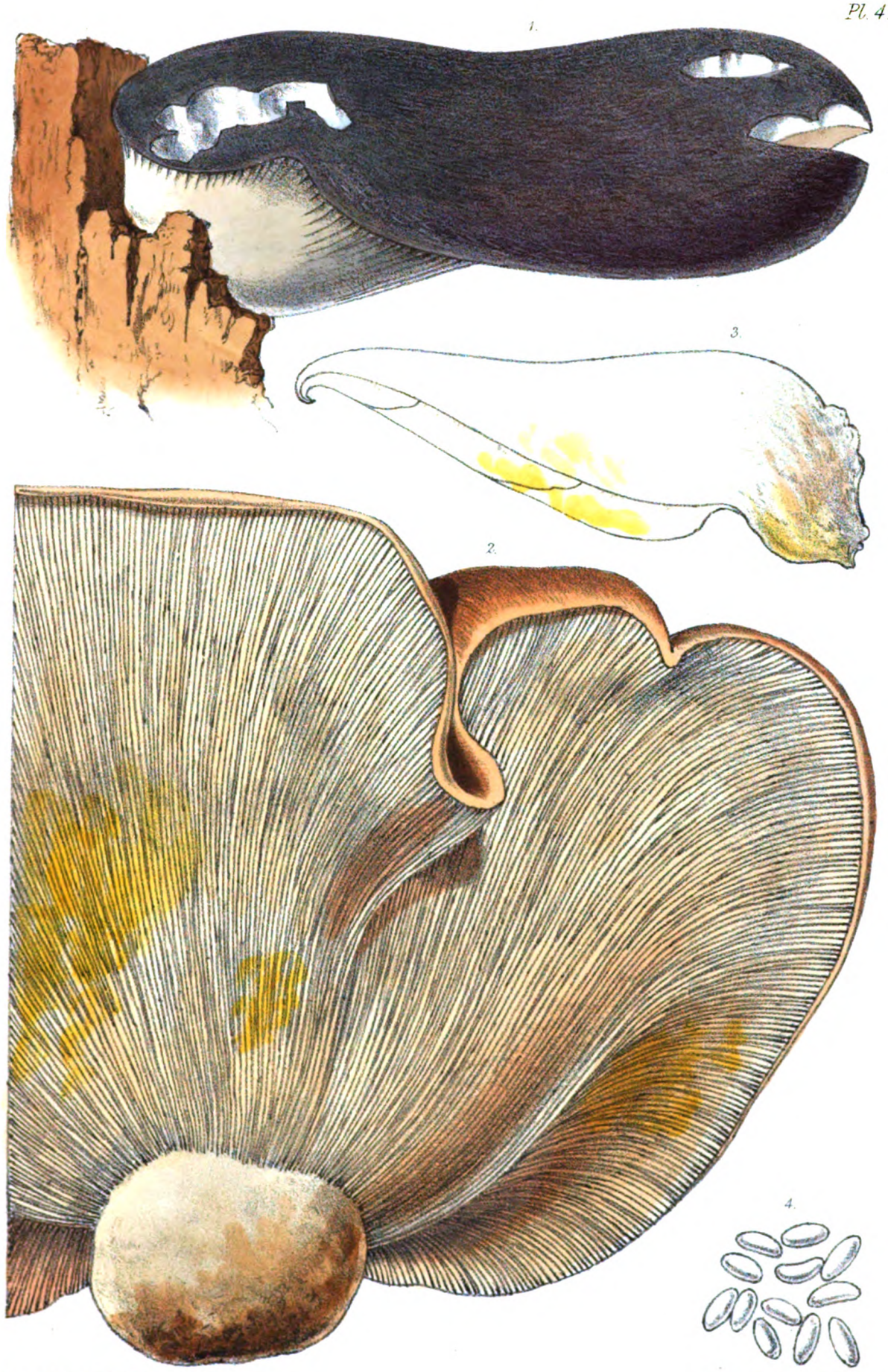
PLEUROTUS stipite plus minus eccentrico; annulo lacero; pileo compacto, semper integro; lamellis longe decurrentibus, postice anastomoscentibus.

Pileus very compact, convex, then subdisciform, horizontal, always entire, two to six inches wide, when young completely covered with a dense gray powder (corresponding to the universal veil of *Lepiota*), but when more expanded it breaks off in floccose scales; *gills* strongly decurrent, anastomosing behind, varying in width, white or yellowish; *stem* stout, solid, rooting, more or less eccentric, curvato-ascending, one to three inches long, one inch thick, scaly-fibrous, white; *annulus* thickish, white, lacerated, adhering to the stem and margin of pileus, at length evanescent; *flesh* hard and shining. Habitat, trunks of trees.—*Fries.*

Pileus, upper surface fawn-coloured or purplish gray, densely covered with adpressed tomentum; *stem* very stout and robust; *gills* pure creamy white, inclined to branch; *flesh* white, much eaten by snails and slugs. Habitat, of fig. 1, stump of a decaying ash tree, Leigh Woods, Bristol.

The lower figure represents a portion of a very large specimen, found by the late Mr. James Ward, of Ely Court, Staplehurst. It was growing in an orchard, at Staplehurst, on a branch of an apple tree, four feet six inches from the trunk, October 28th, 1868. Spores white, ·0005″ × ·0002″.

PLATE 4.—Figs. 1, 2, *Agaricus* (*Pleurotus*) *corticatus*, Fr. Fig. 3, section of ditto. Fig. 4, spores × 700 diam.—*W. W. S. & W. G. S.*



W W S & W G S del. W.G.S. lith.

Vincent Brooks, Day & Son, Imp

Agaricus (Pleurotus) corticatus. Fr.

PLATE 5.

AGARICUS (ARMILLARIA) MUCIDUS, Fr.

Fries, Hym. Mon. vol. i. p. 46; Epicr. p. 24. Berk. Brit. Fung. p. 96; Eng. Fl. v. p. 11; Gard. Chron. 1861, p. 576. Price, p. 91. Cooke, Handbook, p. 20.

ARMILLARIA stipite farcto, tenui, rigido, basi incrassato; annulo apice stipitis inserto, deorsum erecto et stipiti adglutinato, sulcato; sed limbo ejusdem iterum erecto, albo, margine tumido, integro; pileo fere diaphano, radiato-rugoso, glutine spisso tenaci oblinito; lamellis postice rotundatis, distantibus.

A. valens, Scop. Fl. Dan. 773, 1130, 1372, Tratt. Austr. t. 27.
A. sudans, Wallr. Crypt. iv. p. 736.

Pileus thin, almost diaphanous, convex, hemispherical, then expanded, obtuse, more or less radito-rugose, glutinous, commonly shining; *gills* rounded behind, obtuse, adhering to the stem and decurrent, distant, mucous, always shining; *stem* stuffed, rigid, thin, one and a half to three inches long, a line to two lines thick at the apex, four lines thick at the base, glabrous, white; *annulus* inserted at the apex of the stem, bent and glued downwards, furrowed, with its limb again erect; white, with a tumid entire margin. *Size* variable from an inch to six inches. Cæspitose, inodorous. Habitat, trunks of beeches.—*Fries.*

Pileus regular in outline, upper part sometimes wrinkled, when wet covered with thick slime; *stem* short and small, solid or hollow, furrowed above the ring and bulbous; *annulus* persistent and dark brown; *gills* distant, wavy, thin, deep and ventricose, pale creamy white with a pinkish tint; *spores* very abundant, whitish and large. ·00063″ × ·00053. Fig. 1, decaying beech trees, Reigate Hill, 7th Oct. 1870. Fig. 2, on the ground amongst moss, &c., Reigate Hill, 20th Nov. 1868.

PLATE 5. — Figs. 1 and 2, *Agaricus* (*Armillaria*) *mucidus*, Fr. Fig. 3, section of ditto. Fig. 4, spores × 700 diam.—*W. W. S.*

W.W. Saunders, del. W.G. Smith

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Agaricus (Armillaria) mucidus. Fr.

PLATE 6.—Figs. 1, 2, 3.

AGARICUS (PLEUROTUS) ATRO-CÆRULEUS, Fr.

Fries, Hym. Mon. vol. i. p. 255; Epicr. p, 137. Berk. Brit. Fung. p. 138. Schæff. t. 246, f. 3, 8, 9. Ann. N. H. no. 674. Cooke, Handbook, p. 51.

PLEUROTUS pileo primitus resupinato, villoso, atro-cæruleo; lamellis confertis, latis, albidis, demum flavescentibus.

Pileus at first resupinate, but soon reflexed, horizontal, obovate or reniform, an inch to two inches wide, villose, rarely glabrous, generally atro-cæruleous, rarely fuscous; *stem* none; *gills* at first concurrent then touching the base, broad, whitish, at length yellow; *flesh* soft, the pellicle gelatinous, two lines thick, fuscous, the proper flesh thinner, whitish. Habitat, on beech and poplar trunks in very shady places, sessile, gregarious, giving out a very agreeable odour.—*Fries.*

PLATE 6.—Fig. 1, *Agaricus* (*Pleurotus*) *atro-cæruleus*, Fr. Fig. 2, section of ditto. Fig. 3, spores ·0003″ × ·00013″.—*W. G. S.*

Figs. 4, 5, 6.

AGARICUS (PLEUROTUS) LIGNATILIS, Fr.

Fries, Hym. Mon. vol. i. p. 243; Epicr. p. 132. Berk. & Br. Ann. & Mag. of Nat. Hist. April & May, 1865, No. 996. Pers. Syn. p. 368; Fl. Dan. t. 1797. Cooke, Handbook, p. 47.

PLEUROTUS, stipite e farcto cavo, tenui; pileo plus minus eccentrico, flocculoso-pruinoso; lamellis adnatis, confertis.

A. Marklini, Tratt. Austr. t. 28.

Pileus rarely central, generally more or less eccentric, or even entirely lateral, often reniform, fleshy, thin but compact and tenacious, obtuse and often umbilicate, an inch to four inches wide, flocculoso-pruinose, cream-coloured, margin at first involute then expanded, when luxuriant undulate and lobed; *stem* stuffed, thin, hollow, from three to four lines to two to three inches long, always thin, unequal, curved, tenacious, flexible, whitish, pruinoso-villose, rooting, subtomentose at the base; *gills* adnate, very crowded and narrow, unequal, diverging, shining; *spores* unusually small for a *Pleurotus*. Habitat, trunks of trees and rotten wood. A very variable plant, with a thin substance and strong odour of meal, generally densely cæspitose, but sometimes single.—*Fries.*

Both of the species on this Plate were kindly forwarded by Mrs. Gulson, of Eastcliff, Teignmouth; the former from Bitton Wood, near Teignmouth; the latter from Bagtor, where it grew parasitically on a rotten plant of *Polyporus annosus*, Fr., on an elm.

PLATE 6.—Fig. 1, *Agaricus* (*Pleurotus*) *atro-cæruleus*, Fr. Fig. 2, section of ditto. Fig. 3, spores ·00015″ × ·00012″. Fig. 4, *Agaricus* (*Pleurotus*) *lignatilis*, Pers. Fig. 5, section of ditto. Fig. 6, spores × 700 diam.—*W. G. S.*

W.G.Smith, del et lith.

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Agaricus (Pleurotus) atro-cæruleus. Fr.
Agaricus (Pleurotus) lignatilis, Pers.

PLATE 7.

AGARICUS (PLEUROTUS) CRASPEDIUS, Fr.

Fries, Hym. Mon. vol. i. p. 241; Epicr. p. 131; Fl. Dan. t. 891; Paul, t. 44, f. 3. Cooke, Handbook, p. 47.

PLEUROTUS stipitibus cæspitosis, elasticis, intus spongiosis, pallidis; pileo plus minus eccentrico, tenui, testaceo, absque pellicula secernibili; margine eleganter crenato-lobato; lamellis totis adnatis.

Pileus more or less eccentric, sometimes sublateral, fleshy, thin, at length almost membranaceous at the margin, flaccid, plane, three to six inches wide, glabrous, with no separate pellicle; margin at first involute then evolute, elegantly crenato-lobed and fimbriate; *stem* solid, firm, elastic, spongy within, very unequal, thickened at the base or equal, an inch to three inches long, twisted or compressed, half to one inch thick, pallid, generally glabrous or slightly villose at the base; *gills* entirely adnate, not sinuate, obtuse behind, very thin, crowded, narrow, at length lacerated, shining; *flesh* thin, watery, white when dry. Habitat, the rotten trunks of trees; cæspitose; a very handsome and distinct species.—*Fries.*

Pileus pale fawn-colour, regularly and broadly furrowed, concave when fully grown, the centre covered with radiating adpressed tomentum; *stem* pale buff, very stout, thick, solid and eccentric, curving upwards and covered with velvet-like pubescence; *gills* pale pinkish white or cream-coloured; *flesh* white. Fungus much eaten by slugs.

On rotten wood and decaying timber, Ratton Farm, near Eastbourne, 29th Sept. 1852.

PLATE 7.—Figs. 1 and 2, *Agaricus* (*Pleurotus*) *craspedius*, Fr. Fig. 3, section of ditto.—*W. W. S.*

WW Saunders del. W.G.S. lith.

Vincent Brooks Day & Son Imp.

Agaricus (Pleurotus) crasspedius. Fr

PLATE 8.

GOMPHIDIUS GLUTINOSUS, Fr. (*var.* ROSEUS).

Fries, Hym. Mon. vol. ii. p. 150; Epic. p. 319; Eng. Fl. v. p. 124; Krombh. t. 63, f. 13—17. Cooke, Handbook, p. 205.

GOMPHIDIUS stipite valido, solido; pileo obtuso, glutinoso, roseo; vel fugaceo, annulato; lamellis decurrentibus, albidis, demum cinereis.

A. speciosus, Scop.

Pileus fleshy, convex, obtuse, at length plane, depressed, glabrous, very glutinous, rose-coloured, an inch to three inches wide; *stem* solid, two to three inches long, half an inch or more thick, attenuated downwards, white at the apex, reddish brown at the base, viscid from the veil; *veil* annulate, but fugacious; *gills* strongly decurrent, distant, distinct, branched, entire, mucilaginous, three to four lines wide, at first whitish, then greenish cinereous, clouded from the spores, separating easily from the hymenophorum; *trama* none; *spores* greenish gray, at length black, ·0007″ × ·00027″.—*Fries.*

The specimens figured were found by the Rev. W. Houghton, in the woods round the Wrekin, Shropshire.

PLATE 8.— Figs. 1, 2, 3, 4, *Gomphidius glutinosus*, Fr. (var. *roseus*). Fig. 5, section of ditto. Fig. 6, spores ·0007″ × 00027″.—*W. G. S.*

W.G. Smith del et lith.

Vincent Brooks Day & Son. Imp

Gomphidius glutinosus Fr. (var. roseus)

PLATE 9.

AGARICUS (PHOLIOTA) AURIVELLUS, Batsch.

Fries, Hym. Mon. vol. i. p. 311; Epicr. p. 165. Berk. Brit. Fung. p. 150. Batsch. f. 115. Fl. Boruss. t. 386. Fl. Dan. t. 2074. Eng. Fl. v. p. 91. B. & Br., Ann. N. H. n. 680*. Cooke, Handbook, 107.

PHOLIOTA stipite farcto, curvato, subæquali; annulo submembranaceo, a pileo parum distante; pileo gibbo, carnoso, squamis adpressis maculæformibus obscurioribus; lamellis sinuato-adnexis, primo albidis, demum subfuscis.

Pileus fleshy, bell-shaped then convex, compact and expanded in the disc, gibbous, three to five inches wide, damp, scarcely viscid, with darker adpressed spot-like scales; *stem* stuffed, about three inches long, half an inch or more thick, nearly equal, generally curved, clothed with adpressed floccoso-fibrous ferruginous scales, at length nearly bare, fibrous, turning yellow; *annulus* cottony from the inflexed margin of the pileus, submembranaceous, placed near the pileus; *gills* sinuato-adnate, broad, crowded, at first whitish then straw-coloured, at length chestnut, but never verging on olive; *flesh* both of the pileus and stem white then yellow; *spores* ferruginous. Habitat, trunks of green trees, especially willows; somewhat cæspitose, or solitary, almost scentless.—*Fries.*

Pileus bright yellow, gradually changing to bright sienna from the margin towards the apex, covered with bright sienna adpressed scales arranged in zones; *stem* solid; *gills* brownish horn-colour, close and tough; *spores* bright yellowish umber. Habitat, growing in dense tufts, the pilei closely packed one over the other. In patches on an ash tree, Pevensey Castle, 26th Sept. 1859.

PLATE 9.—Fig. 1, *Agaricus* (*Pholiota*) *aurivellus*, Batsch. Fig. 2, section of ditto. —*W. W. S.*

PLATE 10.

CORTINARIUS (PHLEGMACIUM) DIBAPHUS, Fr.

Fries, Hym. Mon. vol. ii. p. 21; Epicr. p. 266. Cooke, Handbook, p. 175.

Cortinarius luteopes, Secr. n. 250.

PHLEGMACIUM stipite marginato, apice purpurascente; pileo variegato, carne lutea sub pellicula violascente; lamellis adnatis, confertis, purpurascente-ferrugineis.

Pileus fleshy, convex then plane, at length depressed, three to four inches wide, viscid, glabrous, turning purple and yellow in the disk, and at length variegated with lilac; *stem* marginate, bulbous, stuffed, three inches long, half an inch thick, fibrous, yellow, shining, turning purple at the apex, yellow within; *gills* adnate or sinuate, slightly rounded, rather crowded, three lines broad, entire, at length turning an iron-purple colour; *flesh* yellow; *spores* ferruginous, ·0004″ × 0003″. A very elegant fungus, of a mild odour and taste.—*Fries.*

The specimens figured were found under oaks at Fordingbridge, Hants, by Mr. J. Aubrey Clark, of Street, Somerset.

PLATE 10.— Figs. 1, 2, *Cortinarius* (*Phlegmacium*) *dibaphus*, Fr. Fig. 3, section of ditto. Fig. 4, spores ·0004″ × 0003″.—*W. G. S.*

W. G. Smith, del et lith

Vincent Brooks Day & Son Imp.

Cortinarius (Phlegmacium) dibaphus. Fr.

PLATE 11.

AGARICUS (HEBELOMA) SINUOSUS, Fr.

Fries, Hym. Mon. vol. i. p. 323; Epicr. p. 178; Bull. t. 579, f. 1; Secr. n. 574; Batt. t. 16, f. D.

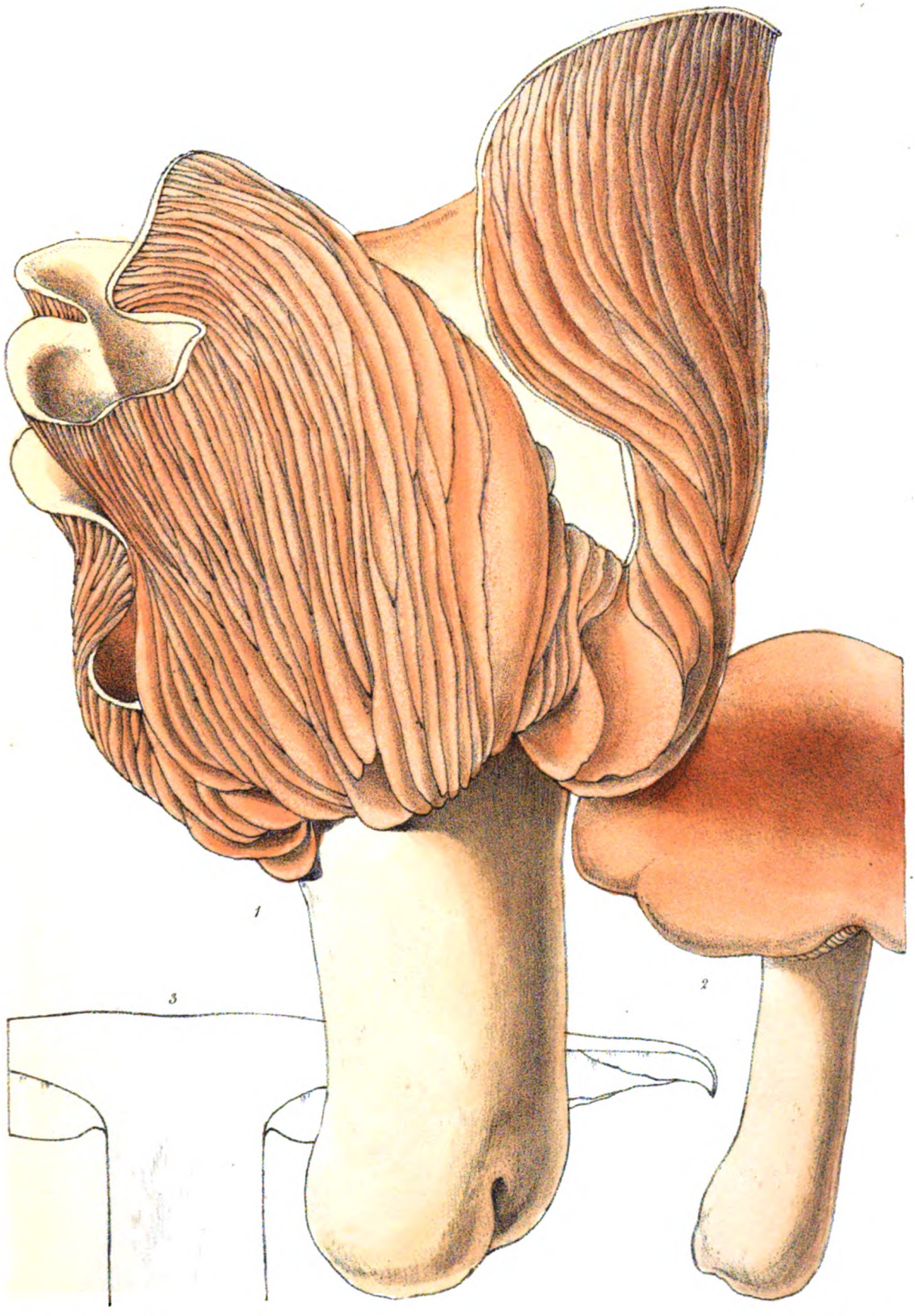
HEBELOMA stipite valido, cavo, fibroso-molli, apice squamulis floccosis obsesso, albo; pileo sinuoso-repando; lamellis emarginato-liberis, albido-sordidis. Odore grato farinæ.

Pileus fleshy, irregular-convex then flattened, obtuse, smooth, glabrous, viscid when young, soon dry, three to six inches wide (but not equalling the length of the stalk), tawny or pale, very sinuous, bent backwards, with striated membranaceous margin; *stem* strong, hollow, four to six inches long, one to one and a half inch thick, equal, fibrillose and striated, at first covered with floccose scales at the apex, white; *flesh* thick, soft, rather fleshy, white; *gills* somewhat adnate, broadly emarginate-free, appearing remote, but touching the stem by a narrow tooth, dry, crowded, often wavy, at first dirty white, then becoming ferruginous from the colour of the spores. In leafy woods. Generally a broad species, compact when young, soft when old, of a feeble but pleasant odour; sometimes considerably smaller than the above measurements.—*Fries.*

Pileus covered with short tomentum, at first flat then reversed, with the margin much waved and lobed; *stem* stuffed; *gills* at first pale nankeen-colour, then darker of the same tint. The fungus emits a strong smell like meal.

Growing on the ground, Greenings, Charlwood, 29th Aug. 1868. Some old specimens of this fungus, fully grown, measured nine to ten inches across in a horizontal direction.

PLATE 11.—Figs. 1, 2, *Agaricus* (*Hebeloma*) *sinuosus*, Fr. Fig. 3, section of ditto.—*W. W. S.*



W.W. Saunders, del, W.G.S. lith.

Vincent Brooks Day & Son, Imp.

Agaricus (Heboloma) sinuosus. Fr.

PLATE 12.

CORTINARIUS (PHLEGMACIUM) FULGENS, Fr.

Fries, Hym. Mon. vol. ii. p. 23 ; Epicr. p. 267. B. & Br., Ann. N. H. 1865, n. 1012. Cooke, Handbook, p. 176.

PHLEGMACIUM stipite valido, fibroso, lanuginoso ; pileo sericeo-fibrilloso ; lamellis emarginatis, integris ; carne demum spongiosa, alutacea.

Agaricus turbinatus, var. *fulva*, S. M. Wahl. Suec. n. 1726.
A. defossus, Weinn. Ross. p. 163.

Pileus very fleshy, convexo-plane, obtuse, two to three inches wide, viscid, at length silky-fibrous or scaly, of an orange-tawny colour; ***stem*** solid, short, depressed above the bulb, equal, yellow from the veil, densely fibrous, woolly, when full-grown lengthened to three inches; ***flesh*** very compact, light yellow, at length spongy ; ***gills*** emarginate, three lines broad, rather crowded, perfectly entire, at first bright yellow, then more distant tawny or ferruginous from the spores, which tinge even the wool of the stem. Pileus sometimes scaly, brown-yellow. In pine-woods.—***Fries.***

Our specimens were furnished by Dr. Bull, of Hereford, from Ven Wood, near Hereford. Spores ·00036″ × ·0002″.—*W. G. S.*

PLATE 12. — Figs. 1, 2, 3, *Cortinarius* (*Phlegmacium*) *fulgens*, Fr. Fig. 4, section of ditto. Fig. 5, section of ditto showing veil. Fig. 6, spores × 700 diam.—*W. G. S.*

W.G. Smith, del et lith

Vincent Brooks Day & Son Imp

Cortinarius (Phlegmacium) fulgens. Fr.

PLATE 13.

AGARICUS (CLITOCYBE) FUMOSUS, P., *var.* POLIUS.

Fries, Hym. Mon. i. p. 115; Epicr. p. 57. Berk. Brit. Fung. p. 117.
Cooke, Handbook, p. 39.

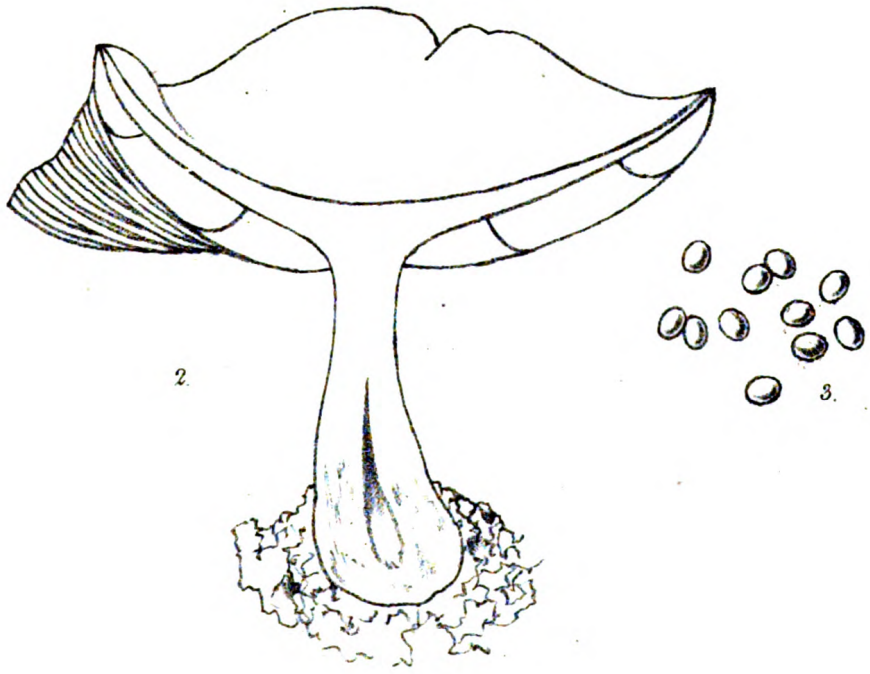
CLYTOCYBE stipitibus densissime cæspitosis, apice subpruinosis; pileo expallente, pellicula adnata; lamellis adnatis, subconfertis.

Pileus fleshy, at first convex, obtuse, even, naked, turning pallid, cuticle adnate; *stem* stuffed, unequal, somewhat pruinose above, grey or dirty white; *gills* adnate, rather crowded, uniform in colour with the stem. Rigid, subcartilaginous, solid.

Var. *polius*. Densely cæspitose.—*Fries*.

Pileus smooth, dark rich umber-brown; *stem* bulbous, hollow at the base; *gills* dull french-white; *spores* white and very abundant, length ·00024″; *flesh* very tender, dark umber-brown. Growing on ashes in a plant-pit, in masses of three to six together, Reigate, 11th Aug. 1860.

PLATE 13.— Fig. 1, *Agaricus* (*Clitocybe*) *fumosus*, P., *var. polius*. Fig. 2, section of ditto. Fig. 3, spores × 700 diam., ·00024 in. long.—*W. W. S.*



W.W Saunders, del — W.G.S. lith. Vincent Brooks, Day & Son, Imp

Agaricus (Clitocybe) fumosus P. (var. polius)

PLATE 14.

Boletus calopus, Fr.

Fries, Epicr. p. 416. Berk. Brit. Fung. p. 232. Krombh. t. 37, f. 1—7. Schæff. t. 315. Bolt. t. 84. Eng. Fl. v. p. 151. Cooke, Handbook, p. 255.

Boletus stipite firmo, undique apiceve coccineo; pileo e globoso pulvinato, olivaceo; tubulis minutis, adnatis, angularibus; carne cærulescente.

Pileus globose then pulvinate, not involute, not polished, somewhat tomentose, olive-coloured; *stem* firm, conical then nearly equal, scarlet, reticulated; *tubes* adnate, minute, angular, yellow; *flesh* pallid, becoming blue. In woods.—*Fries.*

Our specimens were gathered in Epping Forest, where this species is very common. Spores ·0003″ × 00014″.

Plate 14. — Figs. 1, 2, *Boletus calopus*, Fr. Fig. 3, section of ditto. Fig. 4, spores 700 diam.—*W. G. S.*

1.

4.

3.

2.

W G Smith, del et lith

Vincent Brooks Day & Son, Imp

Boletus calopus, Fr.

PLATE 15.

CORTINARIUS (DERMOCYBE) CANINUS, Fr.

Fries, Hym. Mon. ii. p. 60; Fr. Epicr. 285. Berk. Brit. Fung. p. 189. Bull. t. 544, f. 1. Buxb. iv. t. 22. Cooke, Handbook, p. 182.

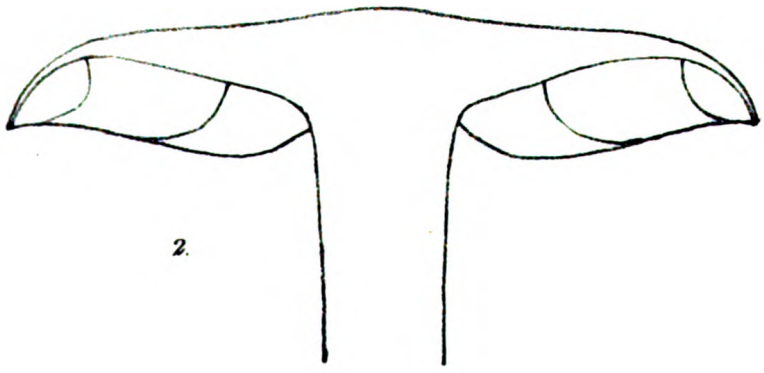
DERMOCYBE stipite peronato, velato, adpresse fibroso, superne cingulato, subannulato, ut et pileo e fusco rufescente; pileo carnoso, lateritio-rufescente, glabrato; lamellis emarginatis, subdistantibus, latis.

Pileus equally fleshy, not compact, firm, not chinky, convex then flattened, obtuse, three to four inches wide, at first shining round the margin with silky hairs, when older glabrous, varying in colour, dusky brown, afterwards commonly red, when dry even tawny; *stem* stuffed, spongy within, at length hollow, three inches and more long, one and a half inch thick, thickened at the base, somewhat bulbous, often villous-white, turning pallid, violet at the apex; *veil* double in the perfect state, inferior, fibrous or scaly, clothing the greater part of the stem, and terminating near the apex in an annular white or dusky zone, above which the stem is slightly villous and cortinate; *flesh* white, at length becoming somewhat yellow; *gills* emarginate, rather distant, thin, three to four inches wide, purplish or cinnamon. In beech-woods.—*Fries.*

In a meadow near Polegate Station, Eastbourne, 17th Sept. 1852, growing under trees; *pileus* smooth, reddish brown, darker in the centre; *stem* solid; *veil* white, arachnoid; *gills* light yellow umber-brown; *spores* bright rufous-brown.

PLATE 15.—Fig. 1, *Cortinarius* (*Dermocybe*) *caninus*, Fr. Fig. 2, section of ditto. —*W. W. S.*

1.



2.

W. W. Saunders del. W.G.S lith. Vincent Brooks Day & Son Imp.

Cortinarius (Dermocybe) caninus. Fr.

PLATE 16.

LACTARIUS PALLIDUS, Pers.

Fries, Hym. Mon. ii. p. 164; Epicr. p. 343. Berk. Brit. Fung. p. 207. Pers. Syn. p. 461. Krombh. t. 56, f. 10—14. Paul, t. 80? B. & Br. Ann. N. H. n. 705. Cooke, Handbook, p. 213.

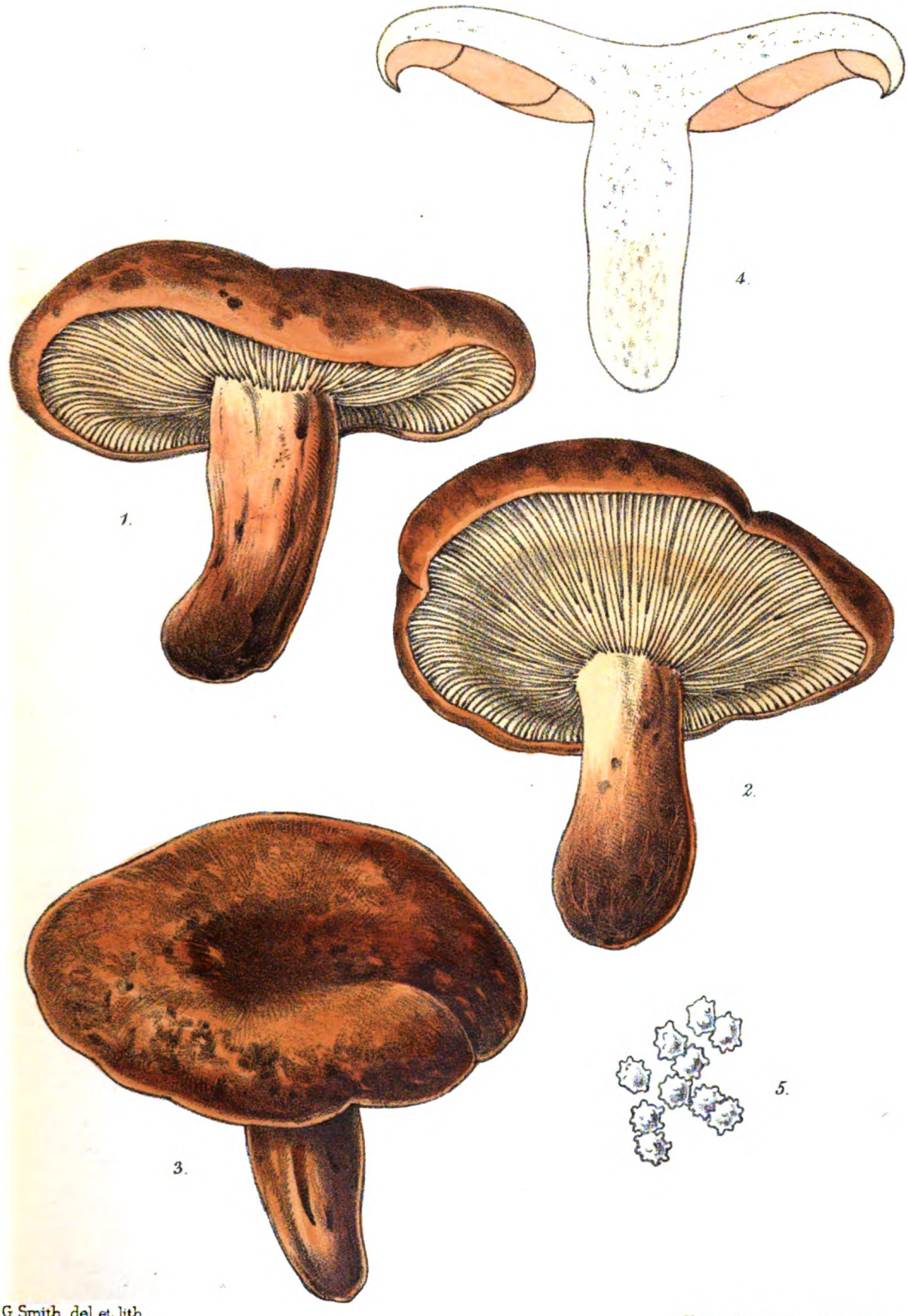
LACTARIUS contextu laxiori, statura *L. deliciosi*, sed alutaceo-pallido, sapore submiti; stipite subæquali; pileo carnoso, glabro, obtuso, pallido; lamellis confertis, subdecurrentibus, arcuatis.

A. incarnatus, Pers. disp. Paul, t. 80; Krombh. t. 56, f. 10—14.
A. lactescens, Poll. vol. iii. p. 289.

Pileus fleshy, umbilicato-convex, depressed, obtuse, the margin broadly involute, three to six inches wide, glabrous, viscid, not zoned, pallid; *stem* subequal, stuffed then hollow, two inches or more long, about three-fourths of an inch thick, glabrous; *flesh* pallid, milk mild, white, not changing; *gills* subdecurrent, curved, one and a half to two lines or more broad, crowded; slightly branched, whitish, then uniform with the pileus. In beech-woods.—*Fries.*

We are indebted to C. Edmund Broome, Esq., M.A., of Elmhurst, Batheaston, Bath, for the specimens figured: they were found by Mr. Broome in Bowood. The plant is sometimes much paler. Spores ·0003″.

PLATE 16.—Figs. 1, 2, 3, *Lactarius pallidus*, Pers. Fig. 4, section of ditto. Fig. 5, spores × 700 diam.—*W. G. S.*



W.G. Smith, del. et lith.

Vincent Brooks, Day & Son, Imp.

Lactarius pallidus. Pers.

PLATE 17.

Boletus pachypus, Fr.

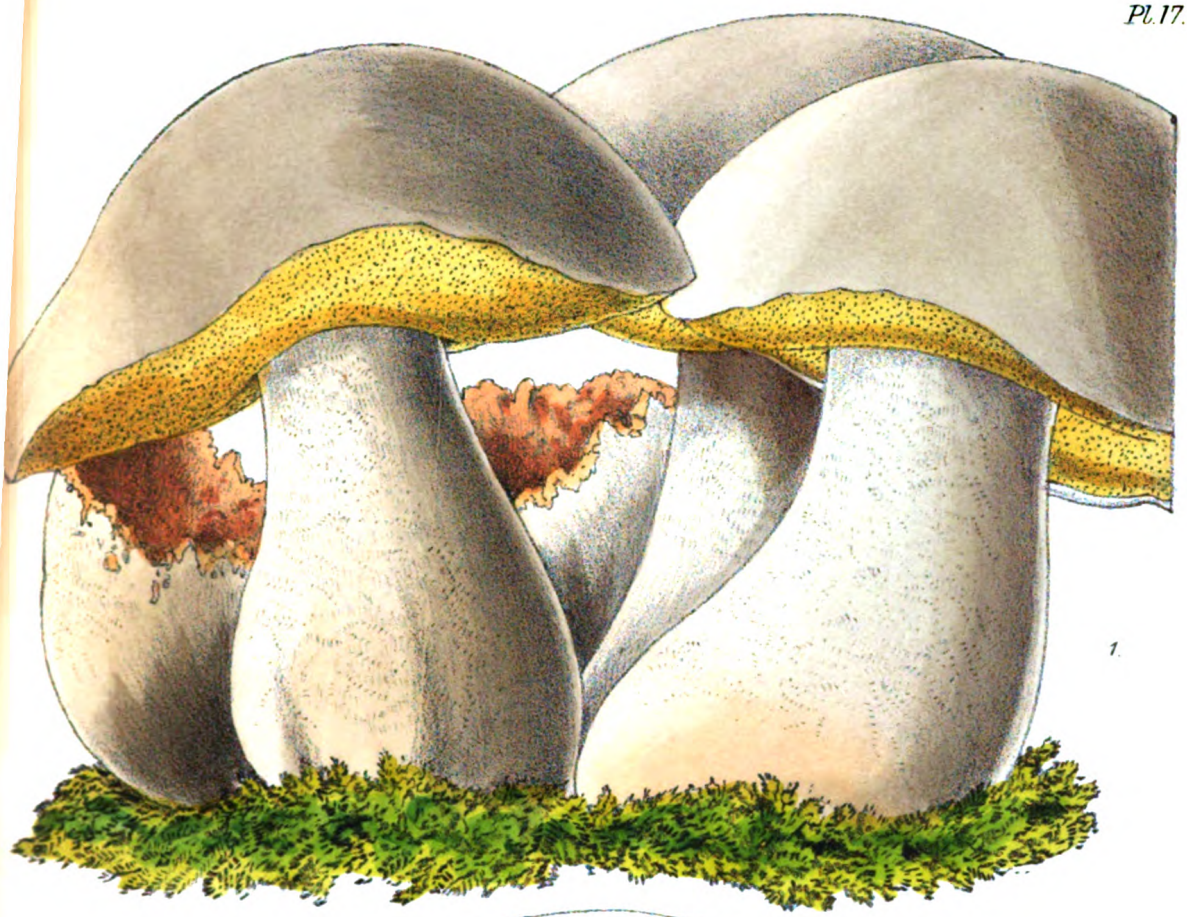
Fries, Epicr. p. 417. Berk. Brit Fung. p. 233. Krombh. t. 35, f. 13—15. Letell. Supp. t. 641. Eng. Fl. v. p. 151. Cooke, Handbook, p. 256.

Boletus stipite crasso, reticulato; pileo pulvinato, sicco, alutaceo-pallido; tubulis subliberis, flavis, ore concolori; carne albida, cærulescente.

Pileus pulvinate, dry, slightly tomentose, pallid; *tubes* somewhat elongated, shorter round the stem, nearly free, round, tawny; the *mouth* of the same colour, never red; *stem* thick, firm, at first ovato-bulbous, reticulated, varied with tawny and red; *flesh* thick, whitish, becoming slightly blue, and the pores at length greenish.—*Fries.*

Pileus leathery, smooth and polished when dry, brownish white with a faint green tinge of colour, margin irregular, somewhat crenate; *stem* lemon-white, reticulated, solid; *flesh* changing rapidly from white to indigo-blue when exposed to light; *tubes* lemon, with their orifices uneven and irregular in size; *spores* ·0005″ × ·00022″. Growing on the ground under trees, Upper Gatton, Surrey, 13th Oct. 1861.

Plate 17. — Fig. 1, *Boletus pachypus*, Fr. Fig. 2, section of ditto. Fig. 3, spores × 700 diam.—*W. W. S.*



1.

2.

3.

W. Saunders, del. W.G.S. lith. Vincent Brooks, Day & Son, Imp.

Boletus pachypus. Fr.

PLATE 18.—Figs. 1, 2.

AGARICUS (PHOLIOTA) SQUARROSUS, Müll., *var.* MÜLLERI.
Fries, Hym. Mon. i. p. 310; Epicr. p. 165. Berk. Brit. Fung. p. 150.
Müll. Fl. Dan. t. 831. Cooke, Handbook, p. 107.

PHOLIOTA stipitibus farctis, basi attenuatis, squamis confertis, innatis, revolutis, obscurioribus, tectis; pileo obtuso, carnoso; lamellis confertis, subdecurrentibus, e pallido-olivaceo ferrugineis.

Pileus fleshy, obtuse, damp, pallid, with adpressed scales, three to five inches wide; *stems* densely crowded, very numerous, usually coherent at the base, stuffed, equal as far as the annulus, covered with crowded revolute scales; *ring* very near to the apex of the pileus, rarely membranaceous, entire or more often laciniated, the same colour as the scales; *flesh* yellow, compact when young; *gills* adnate, with a decurrent tooth, crowded, narrow. On rotten beech-stems; odour fœtid.—*Fries.*

The specimens figured were kindly forwarded to us by C. Edmund Broome, Esq., from Leigh Wood, Bristol.

PLATE 18.—Fig. 1, *Agaricus squarrosus*, Müll., *var. Mülleri.* Fig. 2, section of ditto.—*W. G. S.*

Figs. 3, 4, 5, 6.

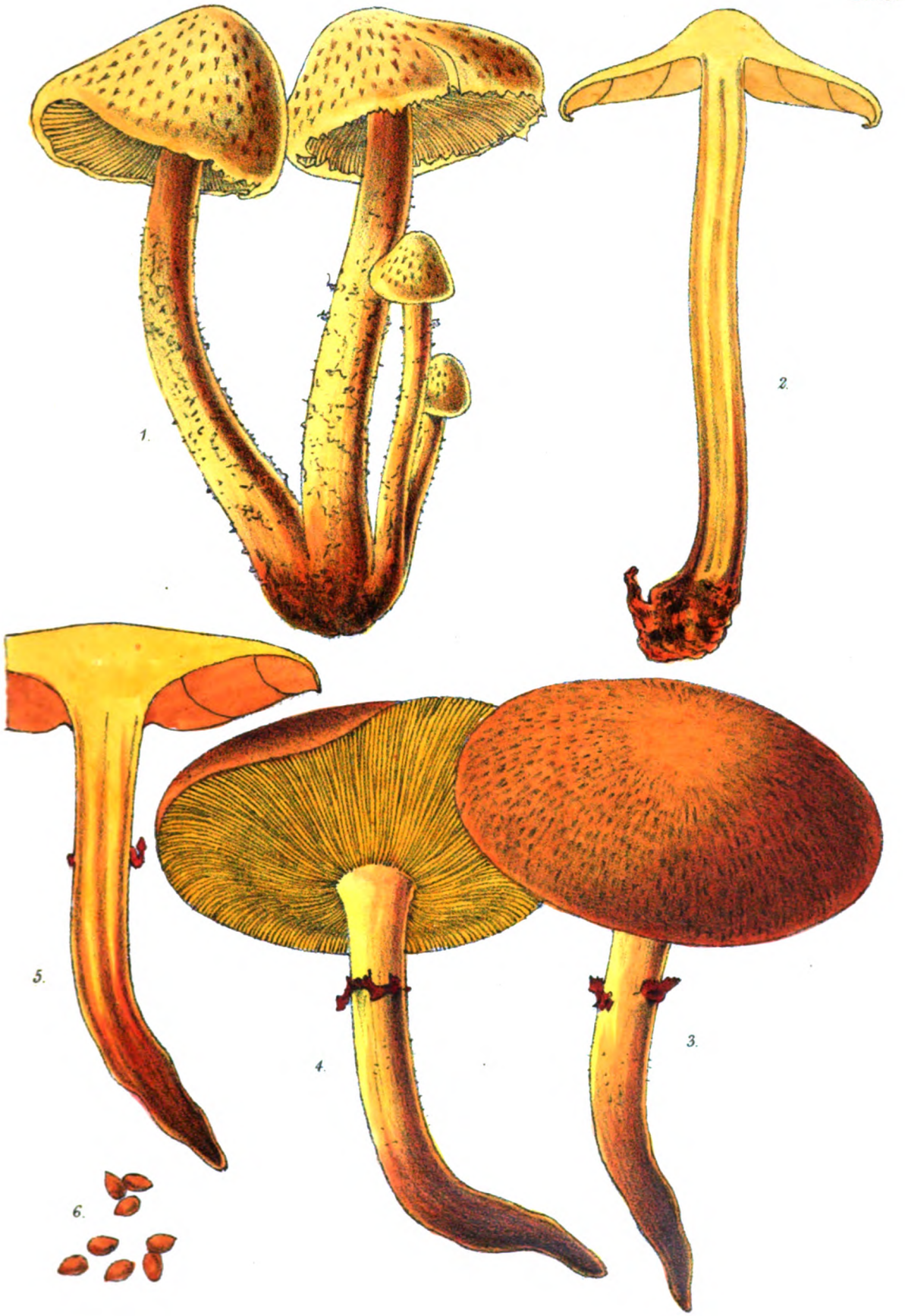
AGARICUS (PHOLIOTA) JUNONIUS, Fr.
Fries, Hym. Mon. i. p. 315; Epicr. p. 167; Sv. Bot. t. 584.
Cooke, Handbook, p. 109.

PHOLIOTA stipite solido; pileo sicco, lævi, glabro; carne compacta; annulo infero, reflexo; lamellis latis, adnatis, confertis.

Pileus fleshy, firm, convexo-plane, obtuse, two inches wide, dry, glabrous, yellow; *stem* solid, an inch and a half to two inches long, three to four lines thick, equal, firm, incurved, often eccentric, smooth, not scaly, yellow; *ring* inferior, reflexed, approaching the pileus, stem mealy above; *flesh* compact, pallid; *gills* adnate, crowded, moderately broad, plane, yellow, at length ferruginous. Trunks of living trees, solitary.—*Fries.*

We are indebted to M. C. Cooke, Esq., for the plants figured: they were found by him in Bishop's Wood, Highgate.

PLATE 18.—Figs. 3, 4. *Agaricus* (*Pholiota*) *Junonius*, Fr. Fig. 5, section of ditto. Fig. 6, spores ·00027″ × ·00017″.—*W. G. S.*



W G Smith del et lith.

Vincent Brooks Day & Son, Imp

Agaricus (Pholiota) squarrosus. Müll. var. Mulleri.
Agaricus (Pholiota) Junonius. Fr.

PLATE 19.

Coprinus lagopus, Fr.

Fries, Hym. Mon. i. p. 465; Epicr. p. 250. Berk. Brit. Fung. p. 180.
Cooke, Handbook, p. 167.

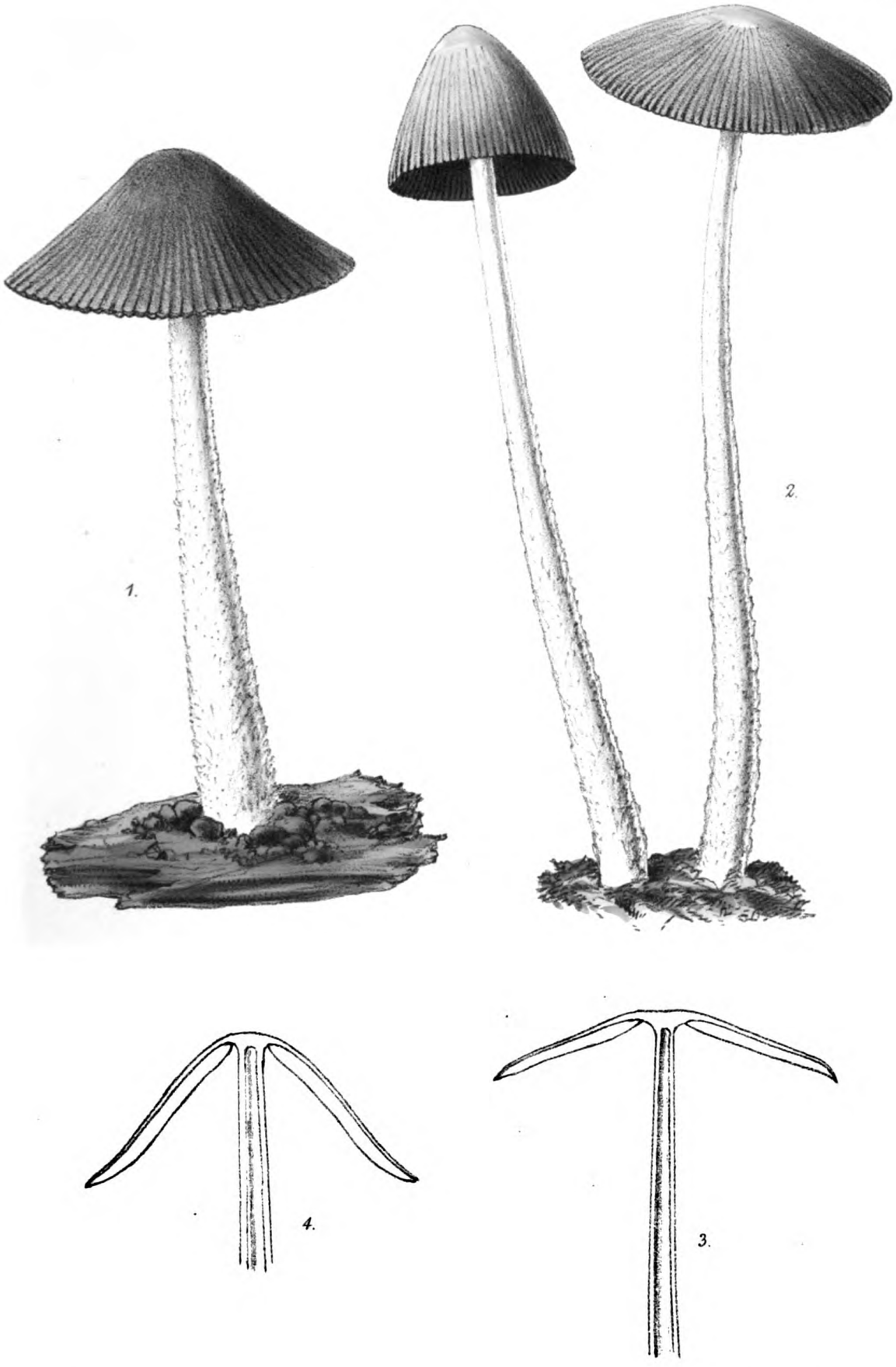
Coprinus stipite debili, fragillimo, undique albolanato; pileo conico, tenerrimo, eleganter floccoso; lamellis demum remotis, liberis, linearibus, distantibus.

Pileus very slender, cylindrical, then bell-shaped, when young elegantly floccose, then bare, flattened and fissured, radiate-furrowed, one inch wide, whitish, livid in the disk; *stem* very weak and fragile, five inches or more long, one line thick, slightly attenuated at both ends, everywhere white and woolly; *gills* at length remote, linear, black. Varying with the stem two to three inches long, and the pileus an inch to two inches wide. Shady woods and road-sides.—*Fries.*

Pileus conical, with the *flesh* very thin, finely and regularly striate; *stem* hollow, delicately silky, flocculent and white, woolly at the base; *gills* black, very close, mostly in one series, with a marginal one occasionally inserted forming a second series, sometimes in three series, the intermediate ones very irregular in length.

Fig. 1, growing on decaying wood on the ground, Keldale, Yorkshire, 21st Aug., 1854. Fig. 2, growing on horse-dung, St. Leonard's, 29th July, 1850.

Plate 19.—Figs. 1, 2, *Coprinus lagopus*, Fr. Figs. 3, 4, section of ditto.—*W. W. S.*



W W Saunders, del. W.G.S. lith.

Vincent Brooks Day & Son, Imp.

Coprinus lagopus, Fr.

PLATE 20.

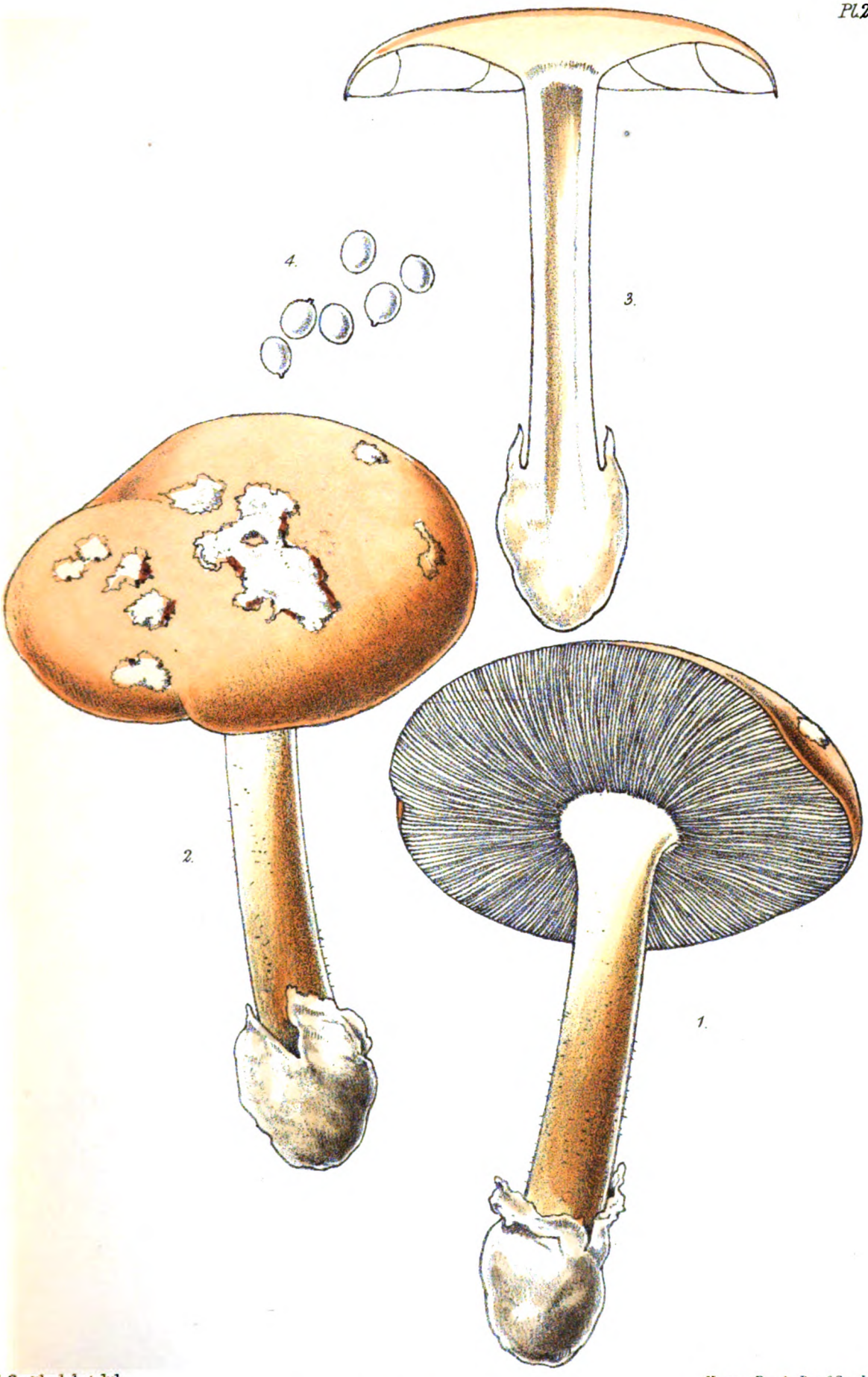
AGARICUS (AMANITA) ADNATUS, W. G. Smith.
Cooke, Handbook, p. 6.

AMANITA stipite farcto, demum cavo, fibrilloso; pileo carnoso, firmo, haud fragili, glabro, e convexo expanso; lamellis albis, confertis, adnatis; annulo nullo; volva adnata vel subobsoleta, alba, pubescente; carne alba, firma.

Pileus fleshy, very firm, not brittle, smooth, somewhat moist, convex, then expanded, pale buff-yellow, buff beneath the cuticle, two and a half to three inches across, margin extending beyond the gills; *gills* white, crowded, truly adnate; *stem* stuffed, at length hollow, pale buff, fibrillose, two to four inches high; *ring* none; *volva* lax, adnate, or almost obsolete, white, pubescent, remaining in woolly patches on the pileus; *flesh* white, firm, almost rigid as in some *Russulæ*; *spores* white, ·0004″ × ·0003″.

Woody places amongst oaks and holly, Kingston Woods and Alfoxen Combe, amongst the Quantock Hills, Somerset. We have to thank Mr. J. Aubrey Clark, of Street, Somerset, for the specimens figured.

PLATE 20. — Figs. 1, 2, *Agaricus* (*Amanita*) *adnatus*, Smith. Fig. 3, section of ditto. Fig. 4, spores × 700 diam.—*W. G. S.*



W. G. Smith, del. et lith.

Vincent Brooks Day & Son, Imp.

Agaricus (Amanita) adnatus, sp. nov.

PLATE 21.—Figs. 1, 2.

AGARICUS (HEBELOMA) LUCIFUGUS, Fr.

Fries, Hym. Mon. i. p. 345; Epicr. p. 177. Berk. Brit. Fung. p. 156. Pers. Ic. Pict. t. 15, fig. 2. Cooke, Handbook, p. 119. Tungh. t. 6, fig. 4. B. & Br., Ann. N. H. n. 792.

HEBELOMA stipite solido, rigido, pallido; pileo subcarnoso, e convexo plano, adpresse tomentoso, fibrilloso; carne alba; lamellis confertis, adnexis, luteis, dein pure olivaceis.

Pileus fleshy but thin, convex then plane, umbonate, one inch wide, with adpressed scales, or often covered with longitudinal fibres, sub-olive-coloured, somewhat pallid; *stem* solid, rigid, one and a half inch long, two lines thick, wavy, scarcely fibrillose, slightly pulverulent at the apex, pallid; *flesh* white; *gills* almost free, crowded, ventricose, plane, white then yellow and finally olive. In pine-woods.—*Fries.*

Pileus straw-coloured, with a silky lustre, conical, with the margin lobed and waved and much inclined to split, the surface covered with a dense stratum of adpressed tomentum; *stem* cylindrical, solid, stuffed with longitudinal fibres, rather paler than the pileus in the upper part, nearly white below; *flesh* very thick; *gills* dull yellowish brown, getting browner by age, ventricose. Under ash-trees in a wood near Polegate Station, 6th Sept., 1852.

PLATE 21.—Fig. 1, *Agaricus* (*Hebeloma*) *lucifugus*, Fr. Fig. 2, section of ditto. *W. W. S.*

Figs. 3, 4, 5, 6, 7.

AGARICUS (HEBELOMA) OBSCURUS, Pers.

Fries, Hym. Mon. ii. p. 300; Epicr. p. 173. Berk. Brit. Fung. p. 154. Cooke, Handbook, p. 115.

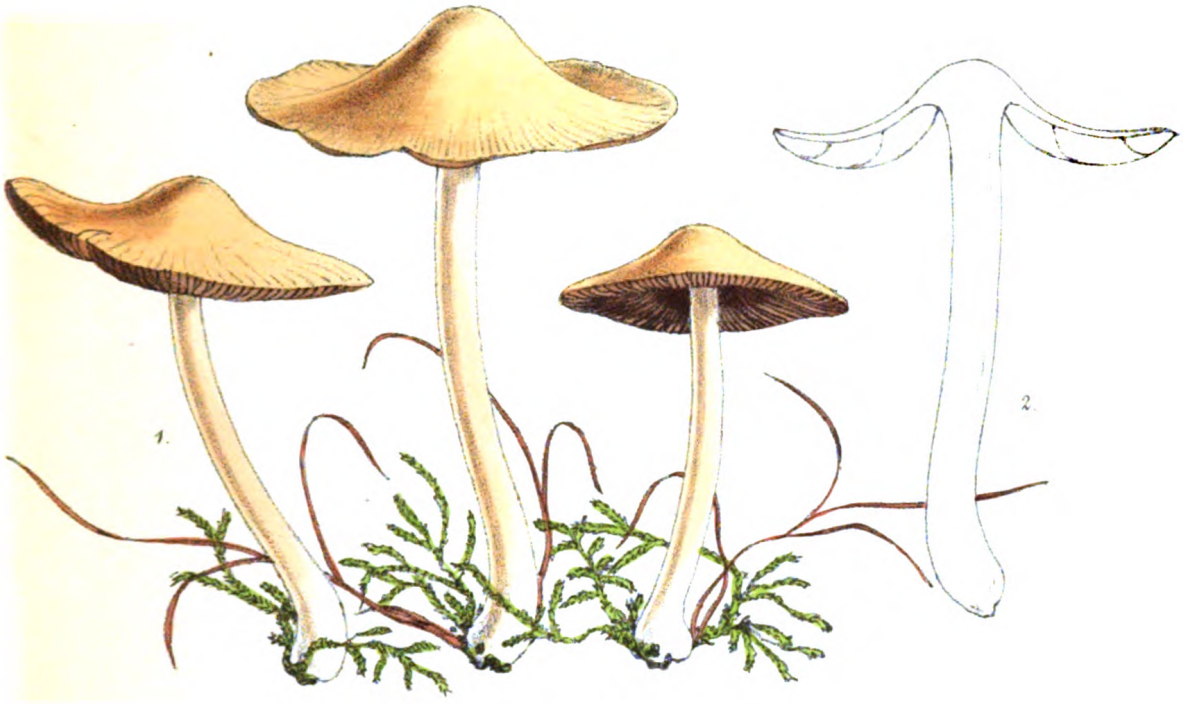
HEBELOMA stipite fibrilloso, violaceo-fuscescente; pileo subcarnoso, fibrilloso; lamellis adnexis, confertis, ventricosis, olivaceis demum fulvis; odore forte.

Pileus scarcely an inch across, somewhat fleshy, flatly campanulate, umbonate, longitudinally fibrillose; *disc* scaly; *stem* stuffed, somewhat flexuose, fibrillose, violet-brown; *gills* admixed, uncinate, crowded, ventricose, olive then brown. On the naked ground.—*Fries.*

Spores ·0003″ × ·0002″.

C. Edmund Broome, Esq., M.A., of Elmhurst, Batheaston, Bath, kindly forwarded the plants figured from Leigh Wood, Bristol.

PLATE 21.—Figs. 3, 4, 5, *Agaricus* (*Hebeloma*) *obscurus*, P. Fig. 6, section of ditto. Fig. 7, spores × 700 diam.—*W. G. S.*



Agaricus (Hebeloma) lucifugus. Fr.

W.W.S & W.G.S del.

Vincent Brooks Day & Son, Imp

Agaricus (Hebeloma) obscurus P.

PLATE 22.

CORTINARIUS (PHLEGMACIUM) CÆRULESCENS, Fr.

Fries, Hym. Mon. ii. p. 19; Epicr. p. 265. Berk. Brit. Fung. p. 185. Ic. Schæff. t. 34. Cooke, Handbook, p. 175. Letell, t. 651. B. & Br., Ann. N. H. n. 68. Vent. t. 32, f. 1—3.

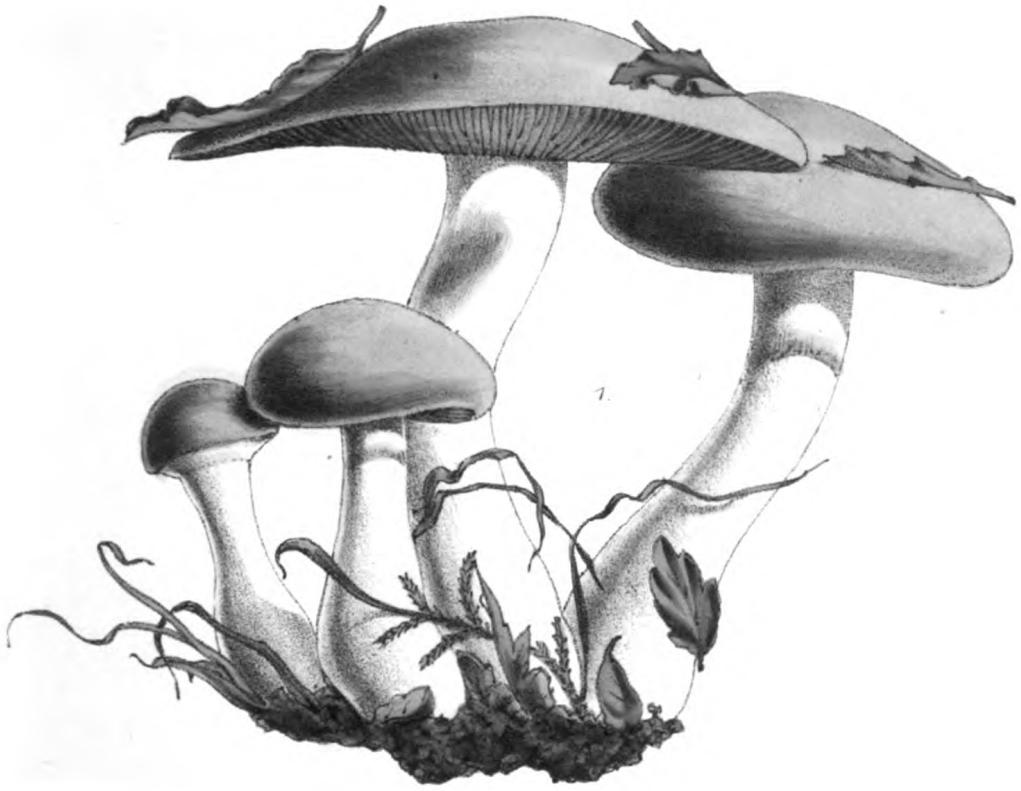
PHLEGMACIUM stipite solido, nudo, amæne violaceo; pileo equaliter carnoso, viscido; cortina fibrillosa, fugace; carne violaceo, exalbicante; lamellis subadnatis, primo pulchre cæruleis.

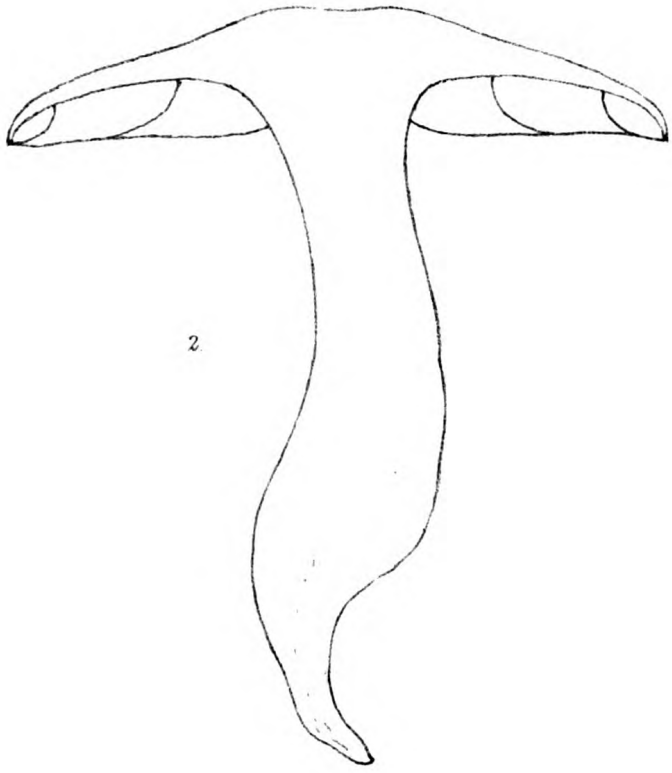
Pileus fleshy, convex then plane, obtuse, regular, two inches or more broad, smooth, often fibrillose, viscid, shining or opaque when dry, dirty yellow; *stem* solid, equally attenuated, two inches long, half an inch thick, bulbous (*bulb* more than an inch thick), firm, at first fibrillose then naked, white; *cortina* fibrillose, fugacious; *flesh* violet; *gills* subadnate, slightly rounded, thin, very crowded, two lines wide, at first beautifully and intensely blue, then purple, and finally dirty cinnamon. Neither flesh nor lamellæ ever turn purple when broken. Among moss.—*Fries.*

Pileus smooth, somewhat shining, pale dull bluish purple, with the rim even, in large and advanced specimens the rim somewhat wavy; *veil* arachnoid; *stem* creamy white with bluish tints, smooth, stuffed and slightly bulbous; *gills* brownish purple; *spores* red-brown. Large specimens with the pileus five to six inches diameter, growing singly or a few together.

On the ground under trees in Long Wood, Shubden, 16th Oct. 1858.

PLATE 22. — Fig. 1, *Agaricus* (*Phlegmacium*) *cærulescens*, Fr. Fig. 2, section of ditto.—*W. W. S.*





W.W Saunders, del W G S lith

Vincent Brooks, Day & Son, Imp

Cortinarius (Phlegmacium) cœrulescens. Fr.

PLATE 23—Figs. 1, 2, 3, 4.

AGARICUS (LEPIOTA) HOLOSERICEUS, Fr.

Fries, Hym. Mon. i. p. 26; Epicr. p. 16. Cooke, Handbook, p. 16. B. & Br., Ann. Nat. Hist. Dec. 1870.

LEPIOTA stipite solido; pileo carnoso, e convexo expanso, floccoso-sericeo, lævigato, fragili; annulo molli, membranaceo; lamellis liberis, latis, confertis, ventricosis.

Pileus fleshy, soft, convex then expanded, obtuse, three inches or more wide, floccose-silky, subfibrous, smooth, fragile, whitish; *stem* solid, two and a quarter to four inches long, half an inch or more thick, bulbous and rootless at the base, soft, fragile, silky-fibrous, whitish; *ring* superior, membranaceous, broad, soft, pendulous, ascending at the margin; *flesh* soft, white; *gills* entirely free, broad, crowded, ventricose, white then pallid. In damp woods: a very distinct species.—*Fries.*

On the soil in flower-beds, Horticultural Gardens, Chiswick.—*M. J. B.*

Staplehurst, Kent, &c.

PLATE 23.—Figs. 1, 2, *Agaricus* (*Lepiota*) *holosericeus*, Fr. Fig. 3, spores ·0003″ × 0002″. Fig. 4, section.—*W. G. S.*

Figs. 5, 6, 7, 8, 9.

AGARICUS (LEPIOTA) POLYSTICTUS, Berk.

Eng. Fl. v. p. 9. Berk. Brit. Fung. p. 95. Cooke, Handbook, p. 17.

LEPIOTA stipite squamoso, attenuato, cavo, farcto; pileo expanso, umbonato; carnis pelliculo fracto; lamellis rotundatis, liberis.

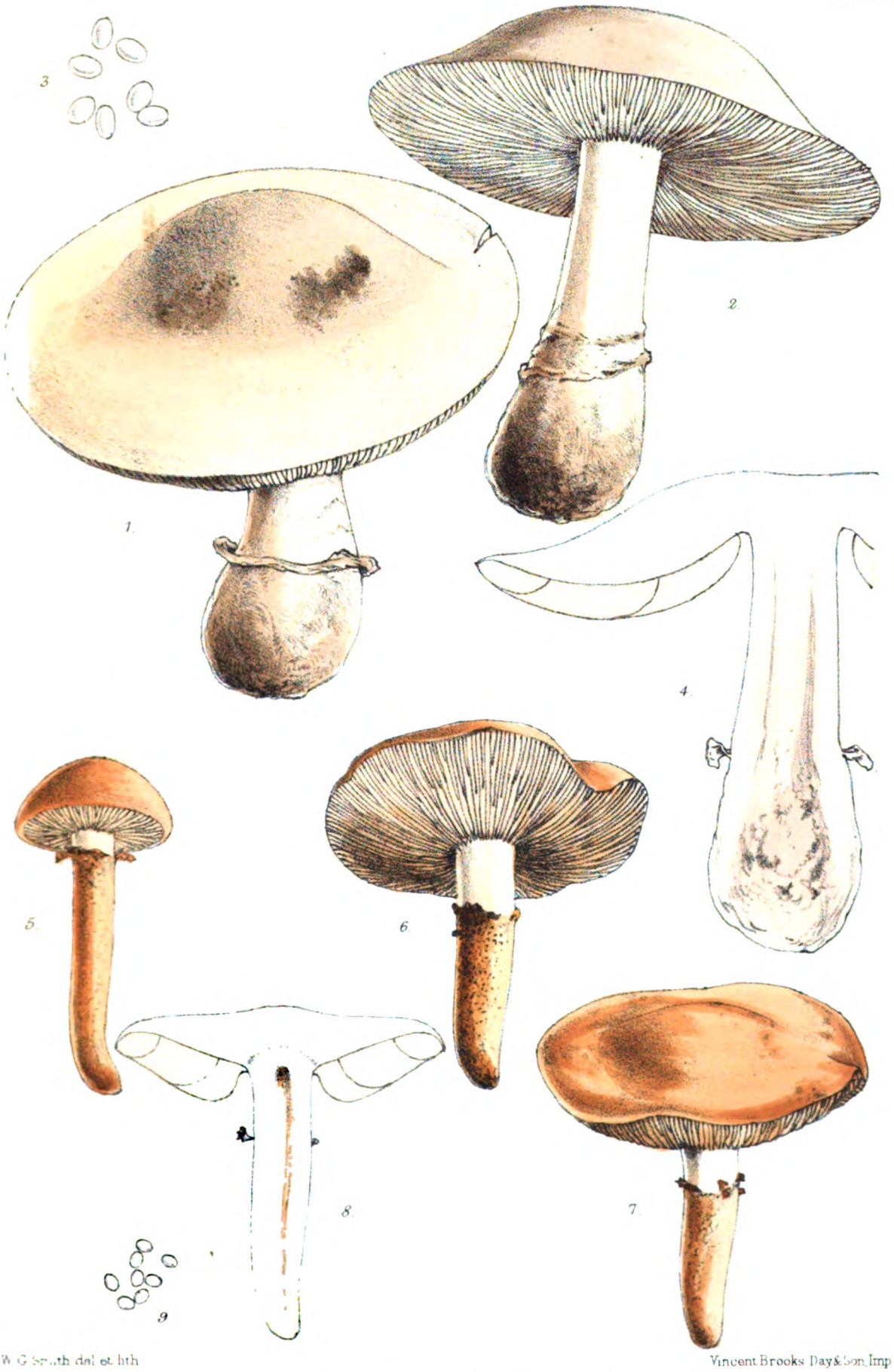
Inodorous, fleshy; *cuticle* continuous or broken into scales; *stem* attenuated downwards, stuffed with cottony threads, scaly below the fugacious ring, silky above; *gills* crowded, rounded before and behind, free, white, with a pale yellow tinge.

Among short grass by road-sides.

Pileus an inch and a half across, not at all campanulate, expanded, and broadly, obtusely umbonate; *flesh* thick in the centre, firm and tough, the cuticle broken into minute flat scales of a rich red-brown; *gills* numerous, unequal, rounded before and behind, broad, ventricose, quite free, the margin serrulate, white with a slight yellowish tinge; *stem* one inch high, three-eighths of an inch thick in the middle, divided into two distinct portions, the upper silky, of a pinkish hue, the lower scaly, like the pileus, but the scales browner, attenuated at the base, hollow, stuffed, with fine silky filaments, with many branched fibrous roots; *ring* fugacious, attached in minute portions to the edge of the pileus. Inodorous and insipid.—*M. J. B.*

We are indebted to C. Edmund Broome, Esq., M.A., of Elmhurst, Bath-easton, for the plants figured.

PLATE 23.—Figs. 5, 6, 7, *Agaricus* (*Lepiota*) *polystictus*, Berk. Fig. 8, section of ditto. Fig. 9, spores ·0001 × ·00012.—*W. G. S.*



W. G. Smith del. et lith.

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Agaricus (Lepiota) holosericeus Fr.
Agaricus (Lepiota) polystictus Berk.

PLATE 24.—Figs. 1, 2, 3.

AGARICUS (HYPHOLOMA) DISPERSUS, Fr.

Fries, Hym. Mon. i. p. 423; Epicr. p. 222. Berk. Brit. Fung. p. 169. B. & Br., Ann. N. H. n. 794. Cooke, Handbook, 144.

HYPHOLOMA stipite fistuloso, stricto, fibrilloso-sericeo; pileo obtuso, carnosulo, circa marginem superficiali-sericeo, melleo-fulvo; carne tenui; lamellis tenuibus, adnatis, confertis, primo stramineo-pallidis, demum nebulosis.

A. marginatus, Pers. (non Batsch).
A. fascicularis, var., Pers. Syn.

Pileus somewhat fleshy, bell-shaped then convex, at length expanded, one to one and a half inch wide, smooth or scaly, silky round the margin from the veil, tawny, not hygrophanous; *stem* fistulose, about two inches long, two lines thick, equal, tenacious, fibrous-silky, turning ferruginous and red at the base, pale at the apex; *flesh* thin; *gills* adnate, thin, ventricose, three to four lines broad, crowded, at first pale straw-coloured then clouded. In pine-woods or trunks, or on the ground; solitary, scarcely ever cæspitose.—*Fries.*

Our figures were taken from specimens sent by J. Aubrey Clark, Esq., of Street, Somerset: they were gathered by him in marshy places in woods, Fordingbridge, Hants.

PLATE 24.—Figs. 1, 2, *Agaricus* (*Hypholoma*) *dispersus*, Fr. Fig. 3, section of ditto.—*W. G. S.*

Figs. 4, 5.

AGARICUS (HYPHOLOMA) HYDROPHILUS, Bull.

Fries, Hym. Mon. i. p. 427; Epicr. p. 225; Bull. t. 311. Cooke, Handbook, p. 146. Paul. t. 110, f. 1. B. & Br., Ann. N. H. (1866), n. 1126.

HYPHOLOMA stipitibus fistulosis, fibrilloso-reticulatis, apice obsolete farinulentis; pileo convexo-expanso, carnoso-membranaceo, sicco, fulvo; carne tenuissima; lamellis ventricosis, lacrymantibus, spadiceo-fuscis.

A. stipatus, Eng. Fl. v. p. 113, partly.

Pileus fleshy, membranaceous, convex then expanded, about one and a half inch wide, when fresh damp, yellow when dry; *stems* fistulose, two inches long, one line to two lines wide, curved and often compressed, minutely fibrillose-reticulated, white then ferruginous; *veil* marginal, fimbriated, white, very fugitive; *flesh* very thin, easily cut; *gills* adnate, ventricose, crowded, watery, weeping, fuscous. Cæspitose; very fragile. Upon wood. —*Fries.*

Stem hollow; *gills* dark purplish umber, paler when young; *spores* dark purplish brown. Specimens gathered after much rain. Growing in a dense tufted mass at the foot of a tree in Charlton Lane, near Dover, 21st Oct. 1848.

PLATE 24.—Fig. 4, *Agaricus* (*Hypholoma*) *hydrophilus*, Bull. Fig. 5, section of ditto.—*W. W. S.*

W.W.S & W.G.S. del

Vincent Brooks, Day & Son, Imp.

Agaricus (Hypholoma) dispersus. Fr.
Agaricus (Hypholoma) hydrophilus. Bull.

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MYCOLOGICAL ILLUSTRATIONS

BEING

Figures and Descriptions

OF

NEW AND RARE

HYMENOMYCETOUS FUNGI.

Edited by

W. WILSON SAUNDERS, F.R.S., F.L.S.

AND

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LONDON:

JOHN VAN VOORST, 1, PATERNOSTER ROW.

M.DCCC.LXXII.

PLATE 25.—Figs. 1, 2.

AGARICUS (STROPHARIA) OBTURATUS. Fr.

Fries, S. M. p. 285; Hym. Mon. i. p. 412; Epicr. p. 219. Paul, t. 104, f. 6, *bis*. Cooke, Handbook, p. 141. Berk. & Br., Ann. N. H. Dec. 1870.

STROPHARIA statura obesa et carne compacta; stipite farcto, curto, demum attenuato; pileo sicco, flavo, lævi, et sæpe rimoso-squamuloso; lamellis confertis, ex albo purpurascenti-umbrinis.

Pileus fleshy, mostly thick, convex then plane, obtuse, obsoletely viscid, generally dry, yellow, smooth, and often chinky; *stem* firm, stuffed, short, an inch and a half long, three lines or more thick, attenuated downwards, smooth, not scaly, white; *ring* superior, deflexed, white; *flesh* compact, shining; *gills* adnate, without any decurrent tooth, crowded, plane, white then purple. On heaps of clay. Easily mistaken for an *Armillaria*.—*Fries*.

Pileus yellow straw-colour, darker at the apex, leathery, with smooth margin; *gills* extremely close, ashy brown, at first nearly white and finally changing to dark purplish grey; *stem* stout, slightly hollow, furnished with a ring nearly white; *flesh* white. On the downs amongst short grass near Beachy Head, Sussex.

PLATE 25.—Fig. 1, *Agaricus* (*Stropharia*) *obturatus*, Fr. Fig. 2, section of ditto. Spores ·0002″ × ·0003″.—*W. W. S.*

Figs. 1, 2, 3, 4. (Lower Figures).

AGARICUS (STROPHARIA) MERDARIUS, Fr.

Fries, Hym. Mon. i. p. 415; Epicr. p. 220. Berk. & Br., Ann. N. Hist. Dec. 1870.

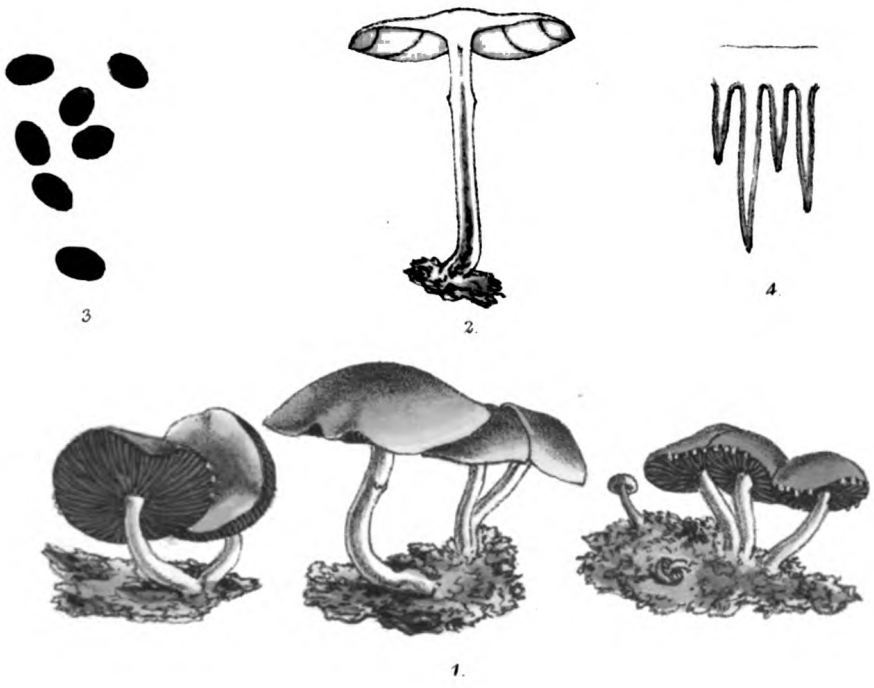
STROPHARIA stipite medullato-farcto, undique flocculoso-villoso, sericello, sicco; annulo incompleto laceroque, margini pilei vulgo adhærente; pileo carnoso, viscidulo, glabro, udo, hygrophano, e luteo stramineo; lamellis adnato-decurrentibus.

Pileus fleshy, at first obtusely campanulate, then convex and finally plane, gibbous, two inches wide, smooth, viscid, yellow, with a thin smooth margin; *stem* tenacious, stuffed, two to three inches long, two to three lines thick, equal, somewhat flexuose, everywhere floccose-villous, silky, dry, whitish, covered with a whitish villosity at the base, striated at the apex from the decurrent teeth of the laminæ; *ring* incomplete and torn, adhering to the margin of the pileus; *flesh* white; *gills* adnate-decurrent, somewhat crowded, soft, broadest behind, at first pallid then brown from the dusky almost black spores. Gregarious, subcæspitose. In dungy places.—*Fries*.

The specimens figured were kindly sent to us by the Rev. M. J. Berkeley, M.A., of Sibbertoft: they were growing upon horse-dung.

PLATE 25.—Fig. 1, *Agaricus* (*Stropharia*) *merdarius*, Fr. Fig. 2, section of ditto. Fig. 3, spores ·0003″ × ·0002″. Fig. 4, trama.—*W. G. S.*

Agaricus (Stropharia) obturatus. Fr.



Agaricus (Stropharia) merdarius, Fr.

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PLATE 26.

AGARICUS (PLEUROTUS) PORRIGENS, Pers.

Fries, Hym. Mon. i. p. 252; Epicr. p. 136. Berk. Brit. Fung. p. 132; Engl. Fl. v. p. 72. Cooke, Handbook, p. 50.

PLEUROTUS pileo primitus resupinato, ex peltis orbicularibus excentricis formato, mox lateraliter protracto, auriformi, sursum glabro; lamellis in umbonem concurrentibus, angustissimis; carne tenui, compacta.

Pileus at first resupinate, sessile, then adnate, consisting of eccentric orbicular shields, the gills running into the umbo, but soon drawn out laterally, then ascending, ear-shaped, narrowed at the base, wider above, fleshy, tenacious, flaccid, at length lobed, one inch to four inches wide, smooth, subglabrous, but more or less tomentose towards the base; *flesh* thin, compact; *gills* at first concurrent, subvenous, decurrent with the pileus, thin, crowded, linear, very narrow, sometimes divided. Inodorous, insipid. On pine-trunks.—*Fries.*

We received the specimens figured from Miss Georgina Elizabeth Johnstone, who found the plant growing upon decayed pine-wood in the grounds of the Duke of Argyll, Inverary.

PLATE 26. — Fig. 1, *Agaricus* (*Pleurotus*) *porrigens*, P., and section of ditto. Fig. 3, trama. Fig. 4, spores, ·00024″ × ·00015″.—*W. G. S.*

W.G. Smith, del.et lith.

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Agaricus (Pleurotus) porrigens. P.

PLATE 27.

CORTINARIUS (MYXACIUM) ELATIOR, Fr.

Fries, Hym. Mon. ii. p. 77; Epicr. 274. Berk. Brit. Fung. p. 186.
Cooke, Handbook, p. 177.

MYXACIUM pileo campanulato, viscido, ad latera membranaceo, longitudinaliter plicato-rugoso; vel lacero; lamellis adnatis, linearibus, semper obscuris, brunneo-cinnamoneis.

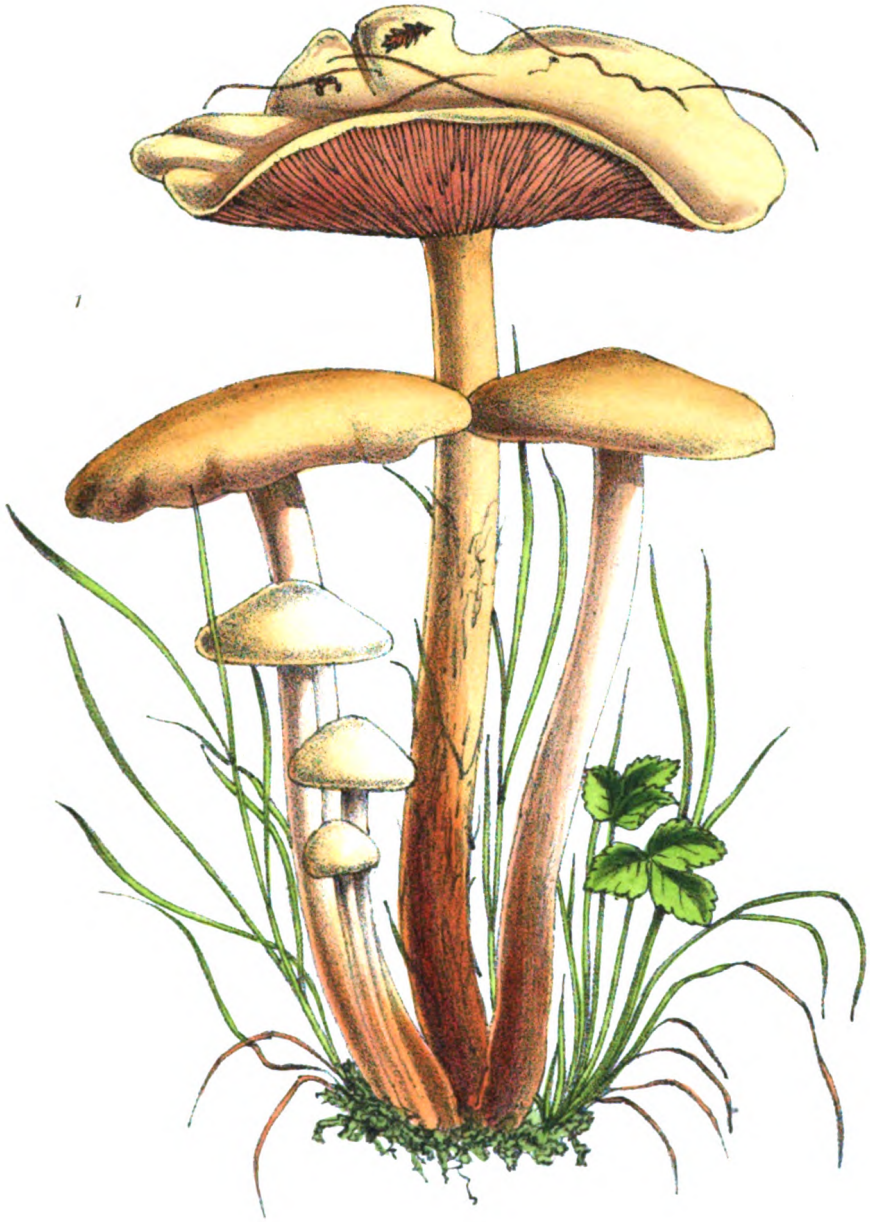
Agaricus elatus, Pers. Syn. p. 732.

Pileus cylindrical, then expanded, viscid, even at the disc, otherwise membranaceous, plicate-rugose; *stem* elongated, five to seven inches long, one and a half inch or more thick, soft, stout, attenuated at both ends, scaly from the torn veil; *gills* adnate, very broad, rugose, of an iron-brown colour.—*Fries.*

Pileus very slimy when wet; *veil* fugaceous, cobweb-like, pale, whitish brown; *spores* dull ferruginous.

Growing among long grass near trees in a lane adjoining Ashton Park, Bristol, Oct. 1849.

PLATE 27.—Fig. 1, *Cortinarius* (*Myxacium*) *elatior*, Fr. Fig. 2, section of ditto. —*W. W. S.*



W. W. Saunders del. W. G. S. lith. Vincent Brooks Day & Son. Imp.

Cortinarius (Myxacium) elatior Fr

PLATE 28.—Figs. 1, 2.

HYGROPHORUS LIMACINUS, Scop.

Fries, Hym. Mon. ii. p. 124; Epicr. p. 324. Scop. p. 422. Paull. t. 77, f. 3.

HYGROPHORUS stipite solido, viscoso, apice squamuloso-exasperato: velo manifesto; pileo carnoso, glabro, disco ex umbrino fuligineo; lamellis adnatis, albo-cinerascentibus.

Pileus fleshy, glabrous, viscid, an inch and a half to two and a half inches wide, convex then flattened, obtuse, disc sooty, paler round the margin; *flesh* rather firm, white; *gills* adnate then decurrent, rather distant, thin, white, turning ashy; *stem* solid, firm, two to three inches long, an inch and a half thick, ventricose, viscid, flocculose, fibroso-striated, scaly at the apex. In leafy woods.—*Fries.*

Pileus extremely viscid, and, when forming a cup, this, in damp weather, is full of a thick slimy matter; *gills* cream-coloured.

On the ground, amongst decaying leaves, in a damp wood near St. Leonard's, Sussex, Oct. 1847.

PLATE 28.—Fig. 1, *Hygrophorus limacinus*, Scop. Fig. 2, section of ditto.—*W. W. S.*

Lower Figures.

HYGROPHORUS RUSSO-CORIACEUS, B. & Mill.

Berk. Brit. Fung. p. 199; Ann. Nat. Hist. No. 332. Cooke, Handbook, p. 200.

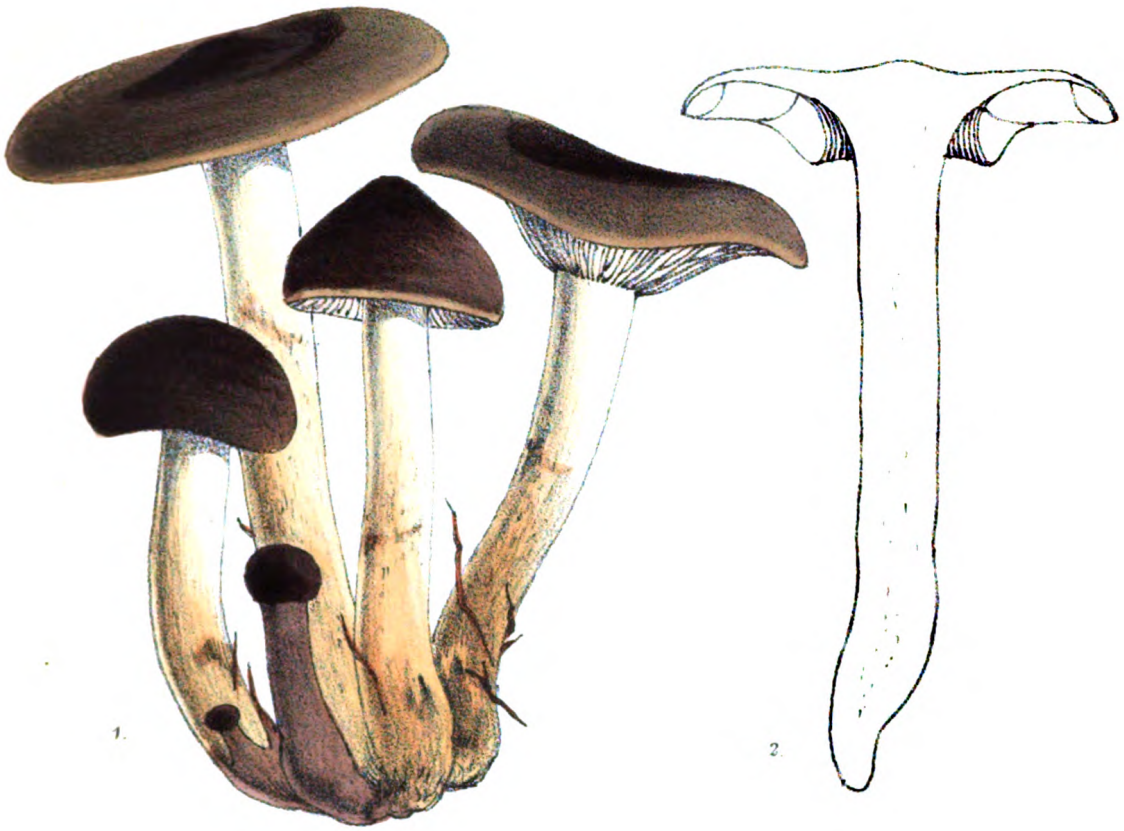
HYGROPHORUS pileo-eburneo, vix viscido, convexo, carnoso; stipite tenui, solido; lamellis latis, decurrentibus, paucis.

Pileus ivory-white, slightly viscid, convex, fleshy, scarcely half an inch in diameter; *stem* slender, smooth, solid; *gills* broad, thick, arched, decurrent, very few and distant. Of a fragrant persistent *odour*, like Russian leather.—*Berk.*

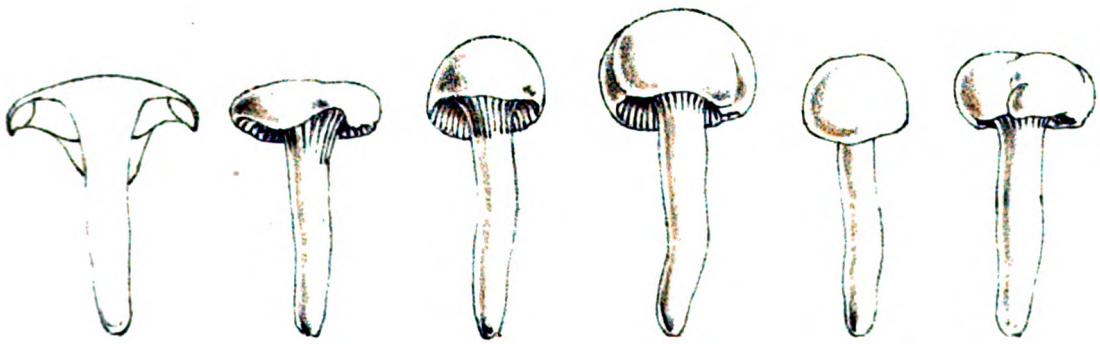
Taste strong and disagreeable; *odour* exactly like that of Russian leather. This species, confessedly near *H. virgineus*, differs in the size of the spores, being in the latter ·00033″ × ·00022″. We have also met with another closely allied species with a powerful odour, like the essence of almonds, which for the present we refrain from figuring.

The specimens figured grew on Rusthall Common, and were given to us by Frederick Currey, Esq., who received them from Dr. Deakin.

PLATE 28.—Lower Figures, *Hygrophorus russo-coriaceus*, B. & Mill., with section. Spores, ·0004″ × ·00025″.—*W. G. S.*



Hygrophorus limacinus, Scop.



Hygrophorus russo-coriaceus B & Mill

W. W. S. & W. G. S. del.

PLATE 29.—Figs. 1, 2, 3, 4, 5.

AGARICUS (STROPHARIA) ALBO-CYANEUS, Desm.

Fries, Hym. Mon. i. p. 411; Epicr. p. 219. Desm. Cat. p. 22; Dub. Syn. p. 807. Pers. M. E. t. 29, f. 2, 3. Berk. Brit. Fung. p. 168; Ann. N. H. No. 793. Cooke, Handbook, p. 160.

STROPHARIA stipite cavo, molli, haud viscido, albo; annulo angusto, albo; pileo carnoso, glabro, nudo, viscoso, glutinoso, lacteo, dein ærugineo-virente; lamellis adnatis.

Pileus fleshy, convex then plane, glabrous, always naked, never scaly, viscid, but the gluten limpid and not coloured, when young shining milky, then of a verdigris-green; *stem* hollow, soft, then fragile, about two inches long, three to four lines thick, equal, ascending, bent, nearly naked beneath, pruinose above the ring, not viscid, entirely white and dry; *ring* permanent, narrow, white then dusky from the spores; *gills* adnate, thin, scarcely crowded, broadish, at first fleshy, white then turning dusky; *flesh* soft, watery. Habitat, meadows and damp grassy places; sometimes cæspitose; the pellicle of the pileus scarcely separable.—*Fries.*

Growing with *A. æruginosus*, Curt., pasture at Walthamstow, 26th Dec. 1868. Spores ·00027″ × ·00017″.

PLATE 29. — Figs. 1, 2, 3, *Agaricus* (*Stropharia*) *albo-cyaneus*, Desm. Fig. 4, section of ditto. Fig. 5, spores enlarged 700 dia.—*W. G. S.*

Figs. 6, 7.

AGARICUS (STROPHARIA) INUNCTUS, Fr.

Fries, Hym. Mon. i. p. 412; Epicr. p. 219.

STROPHARIA stipite fistuloso, flexuoso, molli; pileo carnoso, subumbonato, glabro, glutinoso; lamellis adnatis, dente decurrente; lamellis adnatis.

Pileus fleshy, convex-plane, subumbonate, an inch to two inches wide, viscid, glabrous, pale yellow, but appearing livid purple from the dense gluten, somewhat striated at the margin; *stem* fistulose, three inches long, thin, equal, very flexuose, often decumbent, very soft, dry, shining, silky, fibrillose below the median *ring*; *gills* adnate with a decurrent tooth, three lines wide, scarcely crowded; *spores* brown-purple; *flesh* thin, soft, white. Gregarious, subcæspitose. In grassy places.—*Fries.*

The specimens of this species, which is new to our Flora, were forwarded by Mr. W. Marshall, of Ely, and were found by him in the parish churchyard of that place, growing upon buried chips, or perhaps a stump, Nov. 1870. Spores ·00034″ × ·00023″.

PLATE 29. — Figs. 6, 7, *Agaricus* (*Stropharia*) *inunctus*, Fr. Fig. 8, section of ditto. Fig. 9, trama. Fig. 10, spores enlarged 700 dia.—*W. G. S.*

W G Smith, del. et lith

Vincent Brooks Day & Son, Imp.

Agaricus (Stropharia) albo-cyaneus. Desm
Agaricus (Stropharia) inunctus Fr.

PLATE 30.

AGARICUS (COLLYBIA) CONFLUENS, Pers.

Fries, Hym. Mon. i. p. 156; Epicr. p. 88. Pers. Ic. Pict. t. 5, f. 1. Buxb. iv. t. 20. Batsch. f. 104. Engl. Fl. v. p. 46. Berk. Brit. Fung. p. 116. Cooke, Handbook, p. 56.

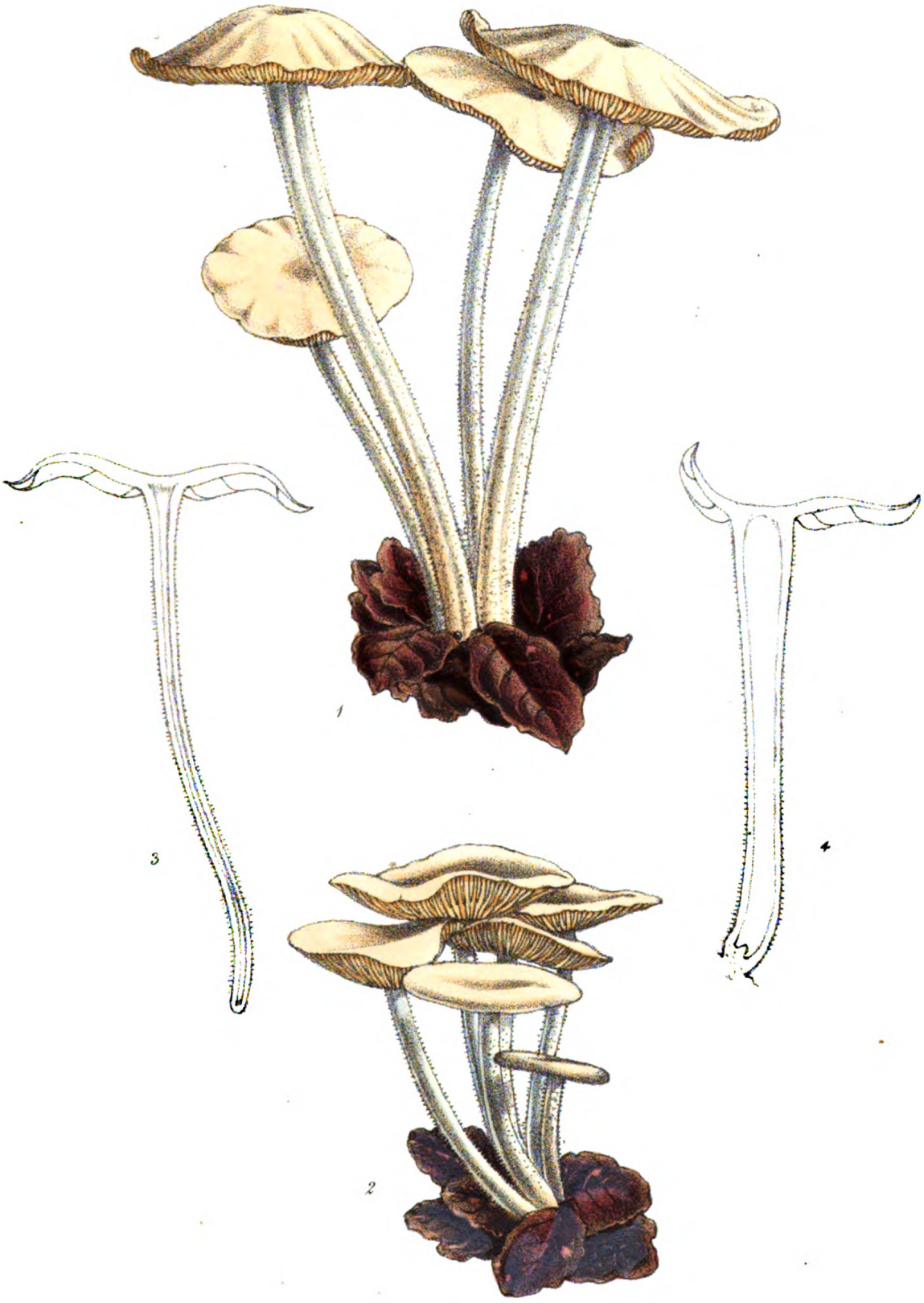
COLLYBIA stipite fistuloso, rufo, undique villo denso albo pulverulento; pileo leviter carnoso, tenace, flaccido; lamellis liberis, confertissimis, angustissimis, linearibus, ex incarnato albidis.

Pileus somewhat fleshy but tenacious, flaccid, convex then flattened, at first obtuse, but then broadly and obtusely umbonate, one inch or more across, hygrophanous, damp, slightly striated at the margin, dry, smooth, entirely white; *stem* fistulose, very cartilaginous, three to five inches long, one line or more thick, ruddy, everywhere pulverulent with a white dense down; *gills* free, at length remote from the stem, very crowded, narrow, linear, flesh-coloured then white. Habitat, dense woods of beech and fir.—*Fries.*

Pileus of a pinkish buff-colour, when wet of a deep sandy brown; *gills* crowded; *stem* compressed, hollow and covered with mealy erect velvet-like pubescence, bluish grey, paler above; *gills* pale reddish buff. Often growing in dense fasciculated masses, the stems adhering to each other at the base.

Among dead leaves, Gatton Woods, 27th Sept. 1856.

PLATE 30. — Figs. 1, 2, *Agaricus* (*Collybia*) *confluens*, Fr. Figs. 3, 4, sections of ditto.—*W. W. S.*



W W Saunders del. W. G. S. lith.

Vincent Brooks Day & Son, Imp.

Agaricus (Collybia) confluens P.

PLATE 31.

AGARICUS (CLITOCYBE) CLAVIPES, Pers.

Fries, Hym. Mon. i. p. 100; Epicr. p. 56. Bolt. t. 40 ?

CLITOCYBE substantia molli; stipite solido, conico, subfibrilloso; pileo carnoso, fere obconico; lamellis longe decurrentibus, descendentibus, subdistantibus, flaccidis, integerrimis.

Pileus fleshy, slightly convex, plane at length almost obconical, very obtuse, an inch and a half to two inches wide or more, smooth, glabrous, either uniformly dusky or ashy livid or white round the margin, very rarely entirely white; *stem* solid, spongy within, conical, two inches long, half an inch or more thick at the base, somewhat fibrous, livid; *flesh* lax, white, thin towards the margin; *gills* decurrent, descending in a straight line, rather distant, flaccid, quite entire, wide, entirely and persistently white or varying with yellow. Of a pleasant odour and soft elastic substance. Habitat, in woods, especially of pine.—*Fries.*

This species, hitherto unrecorded with certainty as British, has recently appeared in many places: the specimens figured were gathered in Epping Forest, in Nov. 1870. Spores ·0003″ × ·0002″.

PLATE 31. — Figs. 1, 2, 3, *Agaricus* (*Clitocybe*) *clavipes*, Pers. Fig. 4, section. Fig. 5, trama. Fig. 6, spores enlarged 700 dia.—*W. G. S.*

W. G. Smith del et lith.

Vincent Brooks Day & Son Imp.

Agaricus (Clitocybe) clavipes Pers

PLATE 32.

AGARICUS (TRICHOLOMA) PORTENTOSUS, Fries.

Fries, Hym. Mon. i. p. 52 : Epicr. p. 26 ; Icon. t. 24 *a*. Harz. t. 73. El. Fung. p. 5. S. M. i. p. 49. Ann. N. H. No. 666. Berk. Brit. Fung. p. 97. Cooke, Handbook, p. 21.

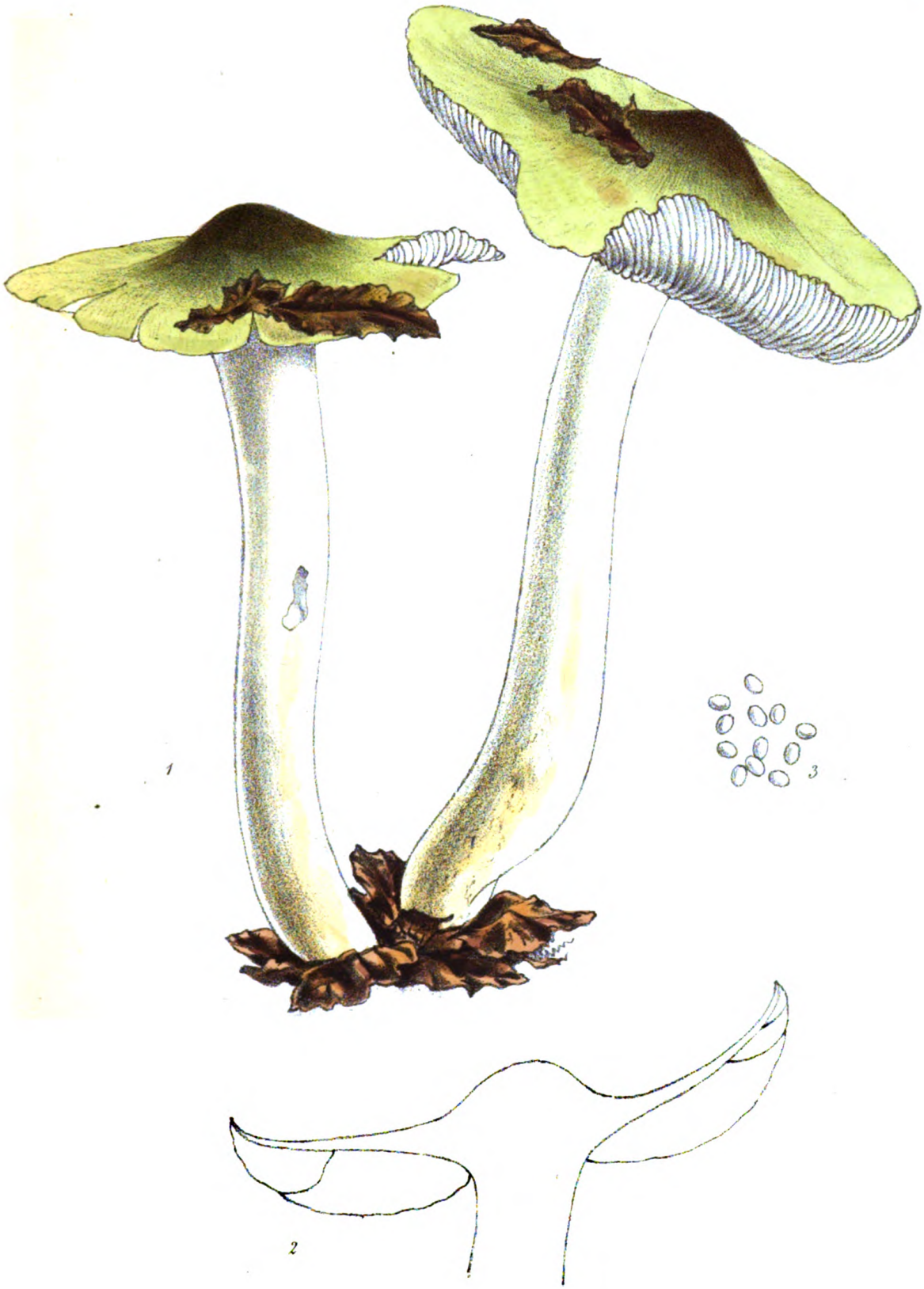
TRICHOLOMA inodorum; stipite valido, solido, fibrilloso-striato; pileo carnoso, lineolis nigris virgato, colore fuligineo; carne alba fragili; lamellis rotundatis, distantibus, albis.

Pileus fleshy but thin, convexo-plane, somewhat umbonate, unequal, three to five inches wide, viscid, with black innate fibres, but otherwise smooth and glabrous, of an ashy colour sometimes varying with violet, very thin and naked at the margin; *stem* stout, solid, entirely fibrous-fleshy, three to six inches long, an inch thick, nearly equal, naked but fibrous-striated, somewhat attenuated at the base; *flesh* not compact, white, fragile; *gills* rounded, almost free, three to four lines or even an inch wide, distant, white but sometimes becoming pallid or yellow. Habitat, in pine woods of level or mountain regions. A smaller form with sub-bulbous stem, in sandy places.—*Fries.*

Pileus yellowish green, rather darker in the centre, covered with adpressed tomentum; *gills* creamy white, without a veil; *stem* yellowish white stained with light brown, and deeply rooting among dead leaves. Spores ·00018″ × ·00013″.

Among dead leaves in a wood near Polegate Station, Eastbourne, 17th Sept. 1852.

PLATE 32. — Fig. 1, *Agaricus* (*Tricholoma*) *portentosus*, Fr. Fig. 2, section. Fig. 3, spores enlarged 700 dia.—*W. W. S.*



W.W. Saunders, del. W.G.S. lith.

Vincent Brooks Day & Son, Imp.

Agaricus (Tricholoma) portentosus. Fr.

PLATE 33.—Figs. 1, 2, 3, 4, 5.

AGARICUS (VOLVARIA) TAYLORI, Berk.

Berk. Outl. p. 140. Ann. N. H. No. 675. Cooke, Handbook, p. 85.

VOLVARIA stipite solido, subæquali; pileo tenui, conico, obtuso, livido; volva lobata, brunea, parva; lamellis antice latis, postice attenuatis, roseis.

Pileus thin, conical, obtuse, livid, an inch and three-quarters high and broad, beautifully pencilled and cracked, margin lobed and sinuated; *gills* uneven, broad in front, attenuated behind, rose-coloured; *stem* two and a half inches high, a quarter of an inch thick, slightly bulbous at the base; *volva* lobed, small, brown. On the ground.—*Berk.*

Scentless: *pileus* rimose; *gills* very irregular in form (as shown in sections behind Fig. 2), broad, attenuated, free or with a sinus, separating from the hymenophorum; *spores* ·0003″ × ·0002″.

The specimens figured came from King's Lynn, kindly forwarded by Chas. B. Plowright, Esq.

PLATE 33. — Figs. 1, 2, 3, *Agaricus (Volvaria) Taylori*, Berk. Fig. 4, section of ditto. Fig. 5, spores enlarged 700 dia.—*W. G. S.*

Figs. 6, 7, 8, 9, 10, 11.

AGARICUS (VOLVARIA) GLOIOCEPHALUS, Fr.

Fries, Epicr. p. 140. Letell, p. 645, f. H. i. Gard. Chron. 1860, p. 933, f. Cooke, Handbook, p. 86.

Agaricus speciosus, Berk. Outl. p. 141, t. 7, f. 3. Barla, t. 26 (not Fries).

VOLVARIA stipite solido, æquali, glabro; pileo carnoso, convexo-plano, umbonato, glutinoso, margine striato; volva tuberosa, subobliterata; lamellis liberis, albo-carneis.

Pileus fleshy, convex then plane, umbonate, about three inches across, viscid when moist but when dry shining, quite smooth, margin striated; *gills* broad, especially in front, narrower behind, then quite free, white tinged with grayish pink, margin slightly toothed; *stem* six inches or more high, about half an inch thick in the centre, attenuated upwards, bulbous at the base, clothed with a few slight fibres, easily splitting, solid, rather dingy, ringless; *volva* loose, villous like the base of the stem, splitting into several unequal lobes. Habitat, on dunghills, roadsides, &c. Smell strong and unpleasant, and taste disagreeable.—*Fries.*

Odour very strong and offensive, like decaying beans; *pileus* viscid, shining when dry; *gills* broadly and irregularly toothed, separating completely from the hymenophorum; *stem* clothed with a few fibrils, especially towards the base, fragile; *spores* ·0007″ × ·00038″.

These specimens also were sent from King's Lynn, by Chas. B. Plowright, Esq.

PLATE 33.—Figs. 6, 7, 8, *Agaricus (Volvaria) gloiocephalus*, Fr. Fig. 9, section. Fig. 10, spores enlarged 700 dia. Fig. 11, section showing trama, enlarged. — *W. G. S.*

W G Smith, del et lith

Vincent Brooks Day & Son, Imp

1. 2. 3. Agaricus (Volvaria) Taylori. Berk.
6. 7. 8. Agaricus (Volvaria) gloiocephalus. Fr

PLATE 34.—Figs. 1, 2, 3.

AGARICUS (HYPHOLOMA) LACRYMABUNDUS, Bull.

Fries, Hym. Mon. i. p. 423; Epicr. p. 223. S. M. 287*a*. Weimm. p. 247. Bull. t. 194. Berk. Brit. Fung. p. 170. Cooke, Handbook, p. 144.

HYPHOLOMA stipitibus cavis, basi subincrassatis, fibrilloso-squamosis; cortina distincte alba; pileo carnoso, convexo, piloso-squamoso, squamis innatis, obscurioribus; lamellis adnatis, secedentibus, confertis; sporis fusco-purpureis.

Pileus truly fleshy but not compact, convex, obtuse, two to three inches wide, piloso-scaly with minute darkish scales, white when young then dusky, turning pallid round the margin; *stem* hollow, two inches long, three to four lines thick, somewhat thickened at the base, fibrous-scaly, white becoming dusky; *cortina* distinct, somewhat fibrous, appendiculate, white; *flesh* white; *gills* adnate, seceding, crowded, three lines wide, whitish then together with the *spores* dusky purple, white and weeping at the edge. Habitat, trunks of beech and birch.—*Fries.*

Pileus at first subconical, umbonate, then spreading with the margin wavy, orange-brown with the centre darker in tint, upper surface covered with long adpressed hairs, growing shaggy towards the rim where the hairs are dark; *gills* dark chocolate; *stem* hollow, with the upper part furrowed externally; *spores* ·0003″ × ·0002″.

Corn-field near Adersham, Kent, 21st Oct. 1861.

PLATE 34.—*Agaricus* (*Hypholoma*) *lacrymabundus*, Bull. Fig. 2, section. Fig. 3, spores enlarged 700 dia.—*W. W. S.*

Figs. 4, 5.

AGARICUS (HYPHOLOMA) CANDOLLIANUS, Fr.

Fries, Hym. Mon. i. p. 426; Epicr. p. 224. Fl. Dan. t. 174. S. M. 296. Weimm. Ross. p. 249. Engl. Fl. v. p. 113. Berk. Brit. Fung. p. 170. Cooke, Handbook, p. 145.

Agaricus violaceo-lamellatus, Dec. fr. 2, 143.
A. appendiculatus, Schum.

HYPHOLOMA stipite fistuloso, subfibrilloso, basi solido; velo cortinæformi, appendiculato; pileo subcarnoso; carne tenui, alba; lamellis confertis, primo eleganter et obscure violaceis, demum fusco-cinnamoneis.

Pileus somewhat fleshy, acorn-shaped then convex and at length flattened, two to four inches wide, glabrous, smooth; *stem* fistulose, three inches long, two to four lines thick, solid at the base, somewhat thickened and striated at the apex; *veil* cortinæform, appendiculate, white at length

dusky; *flesh* thin, white; *gills* rounded, adnexed then seceding, crowded, violet then dusky cinnamon.—*Fries.*

Pileus yellowish white, very even and leather-like, splitting at the margin and finally recurved; *gills* at first pale brownish purple, changing to dark purplish brown; *stem* white and hollow.

On decayed wood, embedded in the ground near Polegate Station, 17th Sept. 1852.

PLATE 34. — Fig. 4, *Agaricus* (*Hypholoma*) *Candollianus*, Fr. Fig. 5, section of ditto.—*W. W. S.*

W.W. Saunders, del. W.G.S. lith.

Vincent Brooks Day & Son, Imp.

1. Agaricus (Hypholoma) lacrymabundus Fr.
4. Agaricus (Hypholoma) candollianus Fr.

PLATE 35.—Figs. 1, 2, 3, 4, 5.

AGARICUS (LEPIOTA) TERREII, B. & Br.

Ann. N. H., Dec. 1870.

LEPIOTA pileo subhemisphærico, rufo, pulverulento, verrucis minutis exasperato; stipite subæquali, squamis furfuraceis concoloribus ornato; annulo demum fragmentito; lamellis albis, angustis, remotis.

Pileus an inch to two inches across, bright tawny; *scales* on the stem of the same colour, often cylindrical; *gills* not branched; *spores* ·0002″ × ·00015″.

This species, which appears to be quite distinct, approaches *A. granulosus* on the one side, and *A. acutesquamosus* on the other, but is nearer to the latter than the former. The spores of *A. granulosus* are slightly larger, those of *A. acutesquamosus* are rather longer and at the same time narrower. —*B. & Br.*

Gills separating from the *stem; taste* insipid; *spores* ·00018″ × ·0001″ in our specimens, whilst the spores of our *A. granulosus* measure ·00012″ × 00015″, and *A. acutesquamosus* ·00023″ × ·0001″. We are indebted to the courtesy of the Rev. M. J. Berkeley for the opportunity of figuring this species from fresh authentic specimens.

On sandy ground, Forres; Michael Terry, Esq.

PLATE 35.—Figs. 1, 3, *Agaricus* (*Lepiota*) *Terreii*, B. & Br. Fig. 2, section. Fig. 4, spores enlarged 700 dia. Fig. 5, trama enlarged.—*W. G. S.*

Figs. 6, 7, 8, 9 10.

AGARICUS (LEPIOTA) BADHAMI, B. & Br.

Ann. N. H. No. 664. Berk. Out. p. 93. Cooke, Handbook, p. 14.

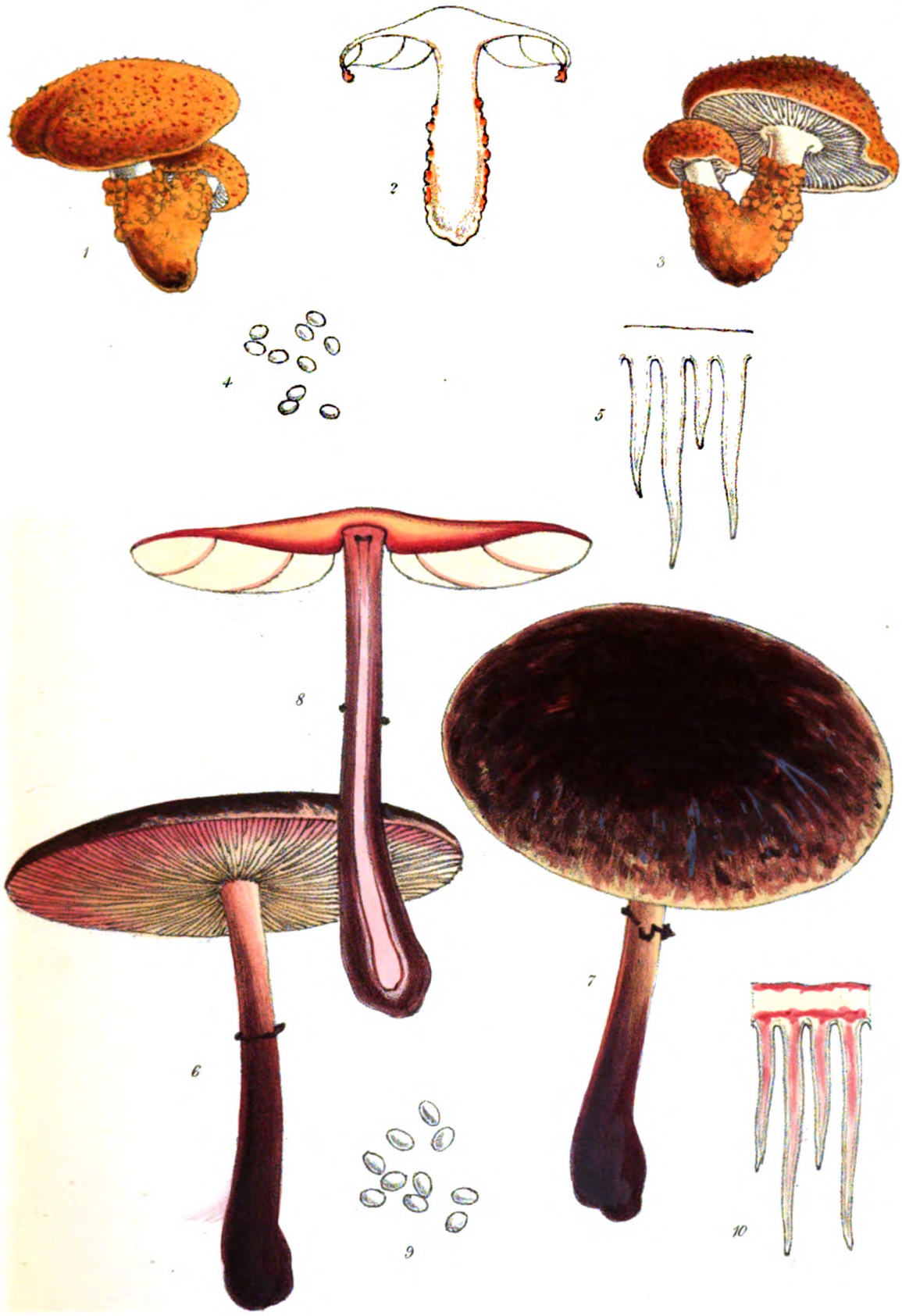
LEPIOTA pileo primum campanulato, obtuso, dein expanso l. depresso umbonatoque, squamis minutis velutinis ermineis hispido; stipite deorsum bulboso, albo, sericeo, fibrilloso-farcto; annulo firmo, submobili; lamellis remotis, ventricosis; totus vulneratus croceo-sanguineus.

Pileus two to four inches across, at first campanulate-obtuse at length expanded, often depressed and umbonate, hispid, with minute velvety fuliginous *scales*, but sometimes entirely fuliginous without any distinct scales; *stem* two to three inches high, one-fourth to half an inch or more thick, attenuated above, bulbous below, white, silky or floccoso-squamose, stuffed with cottony threads; *ring* firm, erect and deflexed, more or less moveable beneath, frequently clothed with dingy granules; *gills* truly remote, ventricose, rather broad; *spores* elliptic, ·0003″ long; *flesh* tolerably compact. The whole plant when wounded assumes a rich red tint.

A splendid Agaric, resembling some forms of *A. clypeolarius*, but more robust. In some specimens the surface is decidedly scaly, in others simply velvety. The margin often projects beyond the gills, and is decidedly silky and fimbriated. The stem, though bulbous, is by no means marginate. Smell rather disagreeable.—*B. & Br.*

Flesh changing to bright red, then dark brown; *odour* strong and peculiar, not disagreeable; tasteless or insipid; *gills* at length with a black edge; *spores* ·0002″ × ·00013″. The plants figured were kindly forwarded by Chas. B. Plowright, Esq., from North Wootton, Norfolk.

PLATE 35.— Figs. 6, 7, *Agaricus* (*Lepiota*) *Badhami*, B. & Br. Fig. 8, section of ditto. Fig. 9, spores enlarged 700 dia. Fig. 10, trama enlarged.—*W. G. S.*



W.G. Smith, del. et lith.

Vincent Brooks Day & Son, Imp.

1.2.3. Agaricus (Lepiota) Terreni B & Br.
6.7.8. Agaricus (Lepiota) Badhami B & Br.

PLATE 36.

AGARICUS (CLITOCYBE) SUBINVOLUTUS, Batsch.

Batsch. f. 204. Berk. Outl. p. 111. Cooke, Handbook, p. 41.

CLITOCYBE stipite solido, subfibrilloso, albo; pileo carnoso, gibbo glaberrimo, udo, margine sulcato; carne alba, firma; lamellis decurrentibus, simplicibus, subconfertis, albis.

Pileus fleshy, convex then depressed, not so funnel-shaped as typical *A. geotrupus*, an inch and a half to three inches wide, smooth, perfectly glabrous, damp, and generally spotted with rain; margin thin, inflexed, grooved; *flesh* firm, white; *gills* strongly decurrent, simple, two to three lines wide, somewhat crowded, white but turning pallid; *stem* solid fleshy, not elastic, two to three inches long, slightly attenuated below, somewhat fibrillose, white turning yellow. Near fir trees, very good when dressed. — *Fries & Berk.*

Pileus smooth, leathery, umbonate with the edge even and incurved; *gills* rather close; *stem* solid or stuffed; *flesh* white; *odour* sweet and pleasant. Growing in large patches, singly or two or three together, amongst grass on the road-side, Greenings, Nov. 1868. We do not agree with Fries in making this plant a variety of *A. geotrupus*, but consider it a good species: its habit is quite different, and the fruit is distinct. The spores of *A. geotrupus* are shown at Fig. 4, and those of *A. subinvolutus* at Fig. 3; sometimes, however, the former have a very slight tendency to become spinulose.

PLATE 36. — Fig. 1, *Agaricus* (*Clitocybe*) *subinvolutus*, Batsch. Fig. 2, section of ditto. Fig. 3, spores enlarged 700 dia. ·0003″ long. Fig. 4, spores of *A.* (*Clitocybe*) *geotrupus* ·00028″×·0002″.—*W. W. S.*

W Saunders.del. W.G.S. lith.

Vincent Brooks Day & Son. Imp

Agaricus (Clitocybe) subinvolutus. Batsch.

PLATE 37.—Figs. 1, 2.

AGARICUS (PSATHYRELLA) GRACILIS, Fr.

Fries, Epicr. p. 238. S. M. p. 299. Berk. Outl. p. 176.
Cooke, Handbook, p. 158.

PSATHYRELLA stipite tenui, stricto, nudo, pallido; pileo conico, striatulo; lamellis late adnatis, subdistantibus, cinereo-nigricantibus, acie obsolete roseis.

Pileus submembranaceous, conical, slightly striated when moist, hygrophanous, brownish at length often tinged with pink, half an inch to an inch broad; *gills* broadly adnate, somewhat distant, ashy black, pale rose at the edge; *stem* slender, straight, naked, pallid.—*Berk.*

Pileus mouse-brown with the rim paler and drying whity brown; *gills* dark purplish umber-brown; *stem* hollow, pale buff, yellow towards the apex; *spores* black.

Growing at the foot of a decaying stake, Wandsworth, Oct. 21, 1851.

PLATE 37.—Fig. 1, *Agaricus* (*Psathyrella*) *gracilis*, Fr. Fig. 2, section of ditto. —*W. W. S.*

Figs. 3, 4, 5, 6.

AGARICUS (PSATHYRELLA) ATOMATUS, Fr.

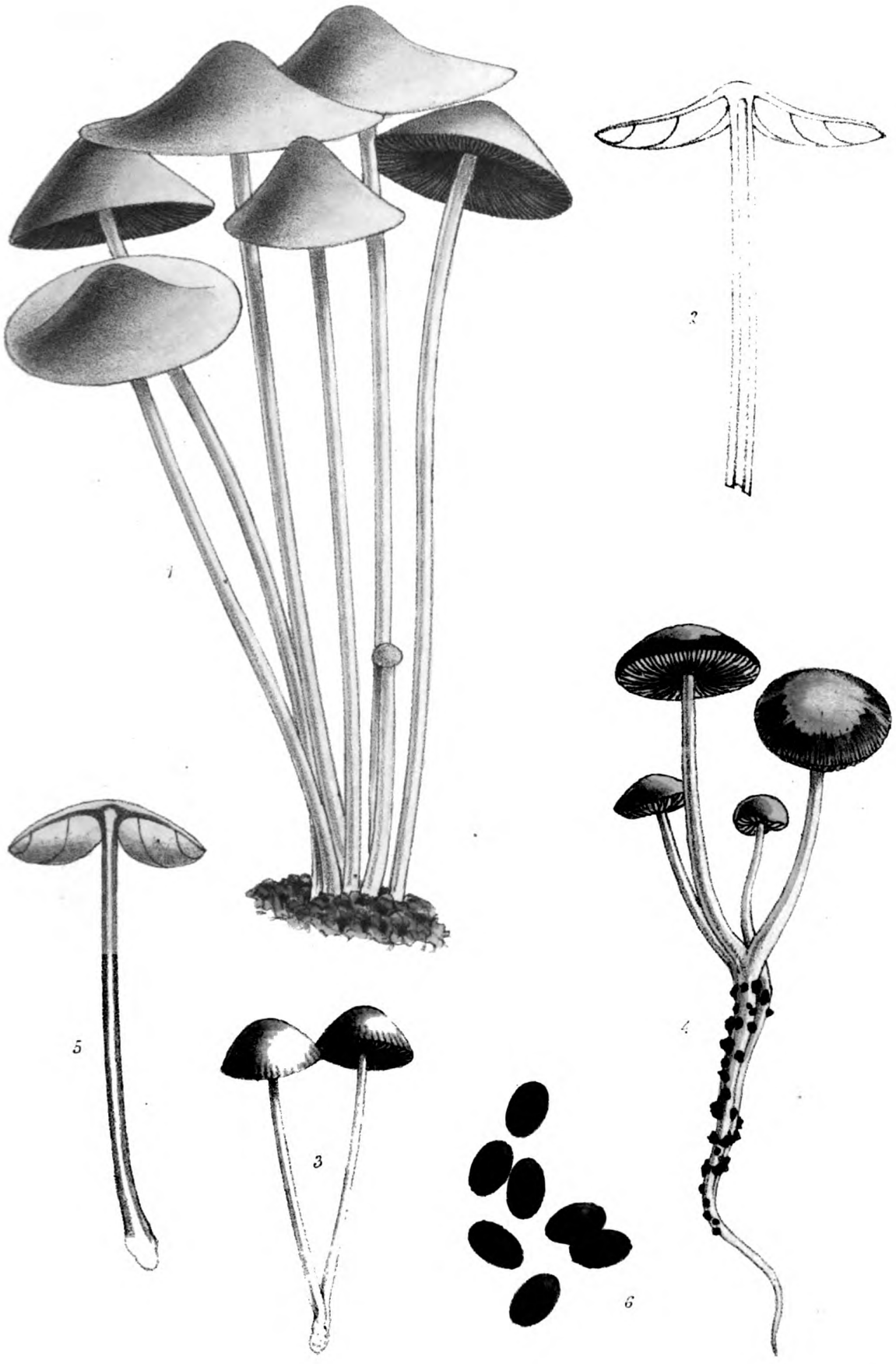
Fries, Hym. Mon. i. p. 450; Epicr. p. 239. S. M. 298. Weimm. p. 262. Secr. p. 375. Engl. Fl. v. p. 115. Berk. Outl. p. 176. Cooke, Handbook, p. 159.

PSATHYRELLA stipite fistuloso, laxo, fragili, albo, apice albo-pulverulento; pileo membranaceo, striatulo, hygrophano, sicco atomis nitentibus consperso; lamellis adnatis, latis, ventricosis, subdistantibus.

Pileus membranaceous, campanulate, obtuse, half an inch to an inch wide, finely striated, livid, when dry covered with shining spots, pallid flesh-coloured or sometimes red; *stem* fistulose, two inches long, nearly one line thick, equal, rootless, lax, slightly bent, white and pulverulent at the apex; *gills* adnate, wide, ventricose, somewhat distant, distinct, whitish but turning ashy black from the black *spores*. Habitat, grassy places by way-sides, solitary or gregarious.—*Fries.*

Pileus when young sprinkled with mica-like particles; *gills* at first nearly white then flesh-colour, but appearing black from the abundant spores; *stem* elastic and fibrous, clothed with white evanescent down, juicy inside, obscurely hollow, soon shrivelled; *spores* ·0005″ × ·00025″.

PLATE 37.—Figs. 3, 4, *Agaricus* (*Psathyrella*) *atomatus*, Fr. Fig. 5, section of ditto. Fig. 6, spores × 700 dia.—*W. G. S.*



W W S & W G S. del.

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1. Agaricus (Psathyrella) gracilis. Fr.
3.4. Agaricus (Psathyrella atomatus. Fr.

PLATE 38.

AGARICUS (PLUTEUS) EXIMIUS, W. G. S.

PLUTEUS stipite crasso, solido, fibrilloso; pileo carnoso, juniore campanulato corrugatoque, margine involuto nec membranaceo, pellicula viscidula separabili; carne cartilagina; lamellis confertis, subcrassis, ex albo roseis et demum sub-rufescentibus.

Pileus fleshy, when young campanulate and elegantly corrugated and lobed, margin involute and not membranaceous, clothed with a semi-viscid separable *cuticle*; *stem* thick, solid, fibrillose; *gills* crowded, somewhat thick, white then pale rose, becoming slightly rufous when bruised; *flesh* cartilaginous, cutting like *A. cervinus*, Schæff., tasteless or watery; *spores* yellowish salmon, spherical but somewhat irregular, averaging ·00026″ × ·0002″. On a large heap of sawdust by the side of a saw-pit, Bishop's Wood, Highgate, Nov. 9, 1870.—*W. G. S.*

This species, which we take to be new, and previously undescribed, is manifestly near *A petasatus*, Fr., but it differs materially in the pileus being fleshy throughout, and in other characters.

PLATE 38. — Figs. 1, 2, *Agaricus* (*Pluteus*) *eximius*, sp. nov. Fig. 3, section of ditto. Fig. 4, trama. Fig. 5, spores × 700 dia.—*W. G. S.*

Agaricus (Pratens.) eximius. sp nov.

PLATE 39.—Figs. 1, 2.

AGARICUS (CLITOCYBE) CANDICANS, Fr.

Fries, Hym. Mon. i. p. 111; Epicr. p. 63. Bull. t. 575, f. E. Fl. Dan. t. 2021, f. 1. Bolt. f. 17. Engl. Fl. v. p. 36. Berk. Outl. p. 109. Cooke, Handbook, p. 37.

CLITOCYBE tota alba minor; stipite cartilagineo-ceraceo, polito, fistuloso, æquali, glabro, villoso; pileo umbilicato, nitenti; lamellis primo adnatis dein decurrentibus, confertis, rectis.

Pileus somewhat fleshy, convex then plane and depressed, umbilicate, an inch wide, regular or eccentric, smooth, when moist white, when dry shining; *stem* of a waxy-cartilaginous texture, polished, fistulose, equal, an inch to two inches long, a line to two lines thick, smooth, glabrous, shining, incurved at the base, rooting, villous; *gills* at first adnate then decurrent, crowded, very thin, narrow, straight, almost linear. Entirely white, small, rather tenacious, the habit of the stem approaching *Omphalia*. Among deciduous leaves, especially of beech and alder, in damp places. A variety occurs in fir-woods with thinner *stem*, bent and glabrous at the base; *pileus* plane, naked; and *gills* scarcely decurrent.—*Fries*.

Pileus in advanced specimens much waved and lobed at the margin, inclined to split and becoming depressed; *stem* solid above, hollow below, cylindrical. Whole fungus of a delicate yellowish white colour; substance very tender. Amongst moss and dead leaves in a wood near Eastbourne, 31st Aug. 1852.

PLATE 39.—Fig. 1, *Agaricus* (*Clitocybe*) *candicans*, Fr. Fig. 2, section of ditto.—*W. W. S.*

Figs. 3, 4, 5.

AGARICUS (CLITOCYBE) INFUNDIBULIFORMIS, Schæff., *var.* MEMBRANACEUS, Fr.

Fries, Hym. Mon. i. p. 119; Epicr. p. 68. Bull. t. 286, 553. Engl. Fl. v. p. 32. Schæff. t. 212. Berk. Outl. p. 110, t. 5, f. 2. Cooke, Handbook, p. 40.

Agaricus gibbus, Pers. Syn. p. 449.
Var. MEMBRANACEUS, Fl. Dan. t. 1012. Cooke, Handbook, p. 40.
Agaricus subcyathus, Schr. et Secr. No. 996 ?

CLITOCYBE pileo carnoso, exumbonato; stipite æquali, spongioso, farcto, elastico; carne molli, alba; lamellis valde decurrentibus, subconfertis, utrinque acuminatis.

Pileus fleshy at the disc but thin, at first convexo-depressed, umbonate, involute at the margin, afterwards softer, flaccid, funnel-shaped, about

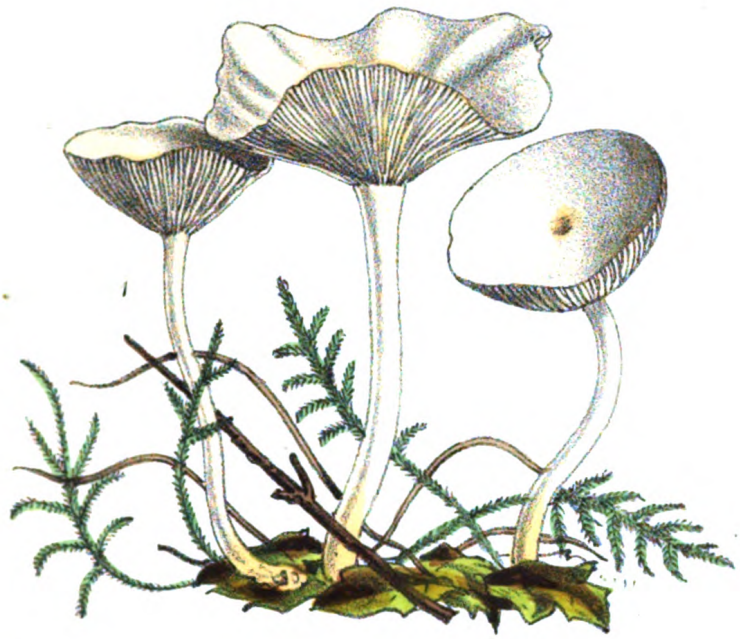
three inches wide, silky; *flesh* soft, white; *stem* stuffed, spongy, firm without, elastic, two to three inches long, three to five lines thick, conical-attenuated, pallid; *gills* strongly decurrent, somewhat crowded, acuminate, soft, shining.

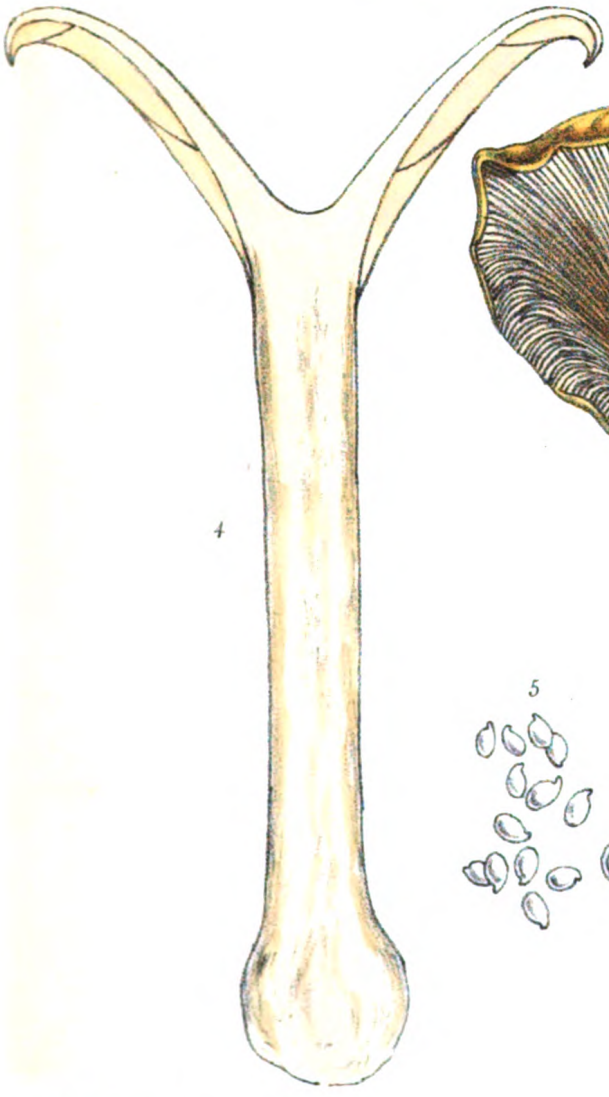
Var. MEMBRANACEUS. All the parts thinner; *stem* equal; *pileus* not umbonate, of a lighter colour. Intermediate between this species and *A. squamulosus*.

Meadows and mossy woods; *var. membranaceus* in grassy places in woods, somewhat earlier.

Spores oval, with an apiculus ·00027″ long. At present this plant has only been met with by Mr. W. W. Saunders, in a fir-wood at Torquay.

PLATE 39. — Fig. 3, *Agaricus* (*Clitocybe*) *membranaceus*, Fr. Fig. 4, section of ditto. Fig. 5, spores, × 700 dia. — *W. G. S.*





W W S & W G.S del.

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1. Agaricus (Clitocybe) candicans. Fr.
3. Agaricus (Clitocybe) infundibuliformis. Fr. var. membranaceus. Fr.

PLATE 40.

AGARICUS (AMANITA) STRANGULATUS, Fr.

Fries, Hym. Mon. i. p. 3; Vel. Act. Forh. 1852. Fr. Icon. t. 11. Price, f. 112. B. & Br. Ann. N. H. No. 663. Berk. Outl. p. 92, t. 3, f. 5. Cooke, Handbook, p. 6.

AMANITA stipite juniore farcto, seniore subcavo; annulo obsoleto; pileo carnoso, margine stricto dein sulcato; lamellis liberis, confertis.

Pileus fleshy, campanulate then flattened, obtuse, three to four inches or more wide, glabrous, viscid, of a livid chestnut colour, but usually becoming pale, generally variegated with broad crowded scales and afterwards entirely covered; margin striated then deeply furrowed, almost pectinate; *stem* entirely stuffed when young, nearly hollow when older, closely sheathed at the base by the adherent *volva*; *gills* free, crowded, ventricose, shining. In woods, very rare.—*Fries.*

Pileus at first ovate then campanulate, scattered with subpersistent warts; margin grooved; *stem* stuffed, silky above, squamulose below; *volva* soon breaking up.—*B. & Br.*

Colour mouse-grey. Distinguished by its less perfect volva and stuffed stem, which does not simply contain a few cottony fibres as that of *A. vaginatus*, Bull. *Pileus* at first semi-elliptic, densely and uniformly clothed with the thick mouse-coloured *volva*, which at length splits irregularly below from a slight prominence at the base of the stem, but by no means vaginate, then campanulate-obtuse, three to four inches across; margin sulcate, dingy yellow, either quite smooth or more or less clothed with the depressed or even actually warty remains of the volva; *stem* four inches or more high, three-fourths of an inch thick, attenuated upwards, above silky, transversely or obliquely rimose, below squamulose from fragments of the volva, spongy within, with occasional cavities, not truly bulbous; *ring* none; *gills* thick, sometimes forked or anastomosing, the shorter ones abruptly truncate behind, quite free, at length remote, interstices venous. *Smell* none. *Taste* sweet. — *M. J. B.* (*Spores* oval, ·00034″ × ·0006″.) — *W. G. S.*

This species was, we believe, originally described by Fries, from a single specimen; and the same plant was afterwards published by Berkeley and Broome under the name of *A. Ceciliæ*. Though at one time very rare about London, it is now very abundant in all directions, being equally common with *A. vaginatus* in Epping Forest. Our specimens were gathered in the neighbourhood of Reigate, Surrey, and show the variable nature of volva and pileus.

PLATE 40.—Fig. 1, *Agaricus* (*Amanita*) *strangulatus*, Fr. Fig. 2, section of ditto. Fig. 3, spores, × 700 dia.—*W. W. S.*

W. W. Saunders, del. W.G.S. lith.

Vincent Brooks Day & Son, Imp

Agaricus (Amanita) strangulatus. Fr.

PLATE 41.—Figs. 1, 2, 3, 4, 5, 6.

THELEPHORA FASTIDIOSA, Fr.

Fries, Epicr. p. 540. S. M. p. 435. Ann. N. H. No. 285. Berk. Outl. p. 268. Cooke, Handbook, p. 314.

THELEPHORA maxima, fœtidissima, effusa, mollis, amorpha, incrustando concrescens, candida, in ramos laminosos abiens; hymenio infero, rufescente, papilloso.

Effused, soft, amorphous, incrusting, white, passing into laminose branches; *hymenium* inferior, at length rufous, papillose. Excessively fœtid. Habitat, on the ground.—*Fries.*

On the ground, Darenth Wood, Nov. 15th, 1869.

PLATE 41.—Figs. 1, 2, 3, 4, 5, *Thelephora fastidiosa*, Fr. Fig. 6, section of ditto. —*W. G. S.*

Figs. 7, 8, 9 10, 11, 12.

THELEPHORA CARYOPHYLLEA, Fr.

Fries, Epicr. p. 536. S. M. p. 430. Weimm. Ross. p. 378. Corda, Icon. v. f. 72. Schmitz. Sturm. t. 6. Ann. N. H. No. 283. Berk. Outl. p. 267. Cooke, Handbook, p. 312.

THELEPHORA subcoriacea, fusco-purpurea; pileo fibroso-lacero; hymenio lævi-usculo, glabro.

Subcoriaceous, purplish brown; *pileus* depressed, fibroso-lacerate; margin sometimes incised, sometimes divided into a few linear branches; *hymenium* nearly even, smooth. Sometimes almost funnel-shaped. Habitat, on the ground in woods.—*Fries.*

The specimens figured were kindly furnished by Chas. B. Plowright, Esq., of King's Lynn, and were gathered by him in a small wood on Ringstead Downs, Hunstanton, Norfolk.

PLATE 41.—Figs. 7, 8, 9, 10, *Thelephora caryophyllea*, Fr. Fig. 11, section of ditto. Fig. 12, spores, × 700 dia., ·0002″ × ·00025″.—*W. G. S.*

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Thelephora fastidiosa. Fr.
Thelephora caryophyllea. Fr.

PLATE 42.—Figs. 1, 2.

AGARICUS (HEBELOMA) ELATUS, Fr.

Fries, Hym. Mon. i. p. 328; Epicr. p. 181. Batsch. f. 108. Secr. No. 568.

HEBELOMA velo prorsus nullo; stipite cylindrico, farcto, e fibris spiralibus contorto, adpresse fibrilloso; pileo carnoso, obtuso, lævi, glabro; lamellis rotundatis, integerrimis, immaculatis, aridis.

Pileus fleshy, convex then flattened, obtuse, smooth, glabrous, when damp somewhat viscid, when dry opaque, three inches wide, very thin at the margin; *gills* rounded, with a small decurrent tooth, crowded, three lines wide, not spotted, dry, not weeping, entire, cinnamon-coloured; *stem* stuffed, four inches long, four lines thick, equal, cylindrical, twisted from spiral threads, adpressed-fibrous, pallid, farinaceous at the apex; *veil* none. In pine-woods among the shed leaves.—*Fries.*

On the ground amongst moss and dead leaves in a wood near Buckland, Kent, 21st Oct. 1848. *Gills* crowded, dull salmon, speckled with darkish brown.

PLATE 42.—Fig. 1, *Agaricus* (*Hebeloma*) *elatus*, Fr. Fig. 2, section of ditto.—*W. W. S.*

Figs. 3, 4, 5, 6.

AGARICUS (HEBELOMA) FASTIBILIS, Fr.

Fries, Hym. Mon. i. p. 329; Epicr. p. 178. Schæff. t. 221. Paul, t. 53, f. 2. Engl. Fl. v. p. 94. Ann. N. H. No. 905. Cooke, Handbook, p. 113.

Agaricus obesus, Schum. 1785. Batt. t. 15, D.

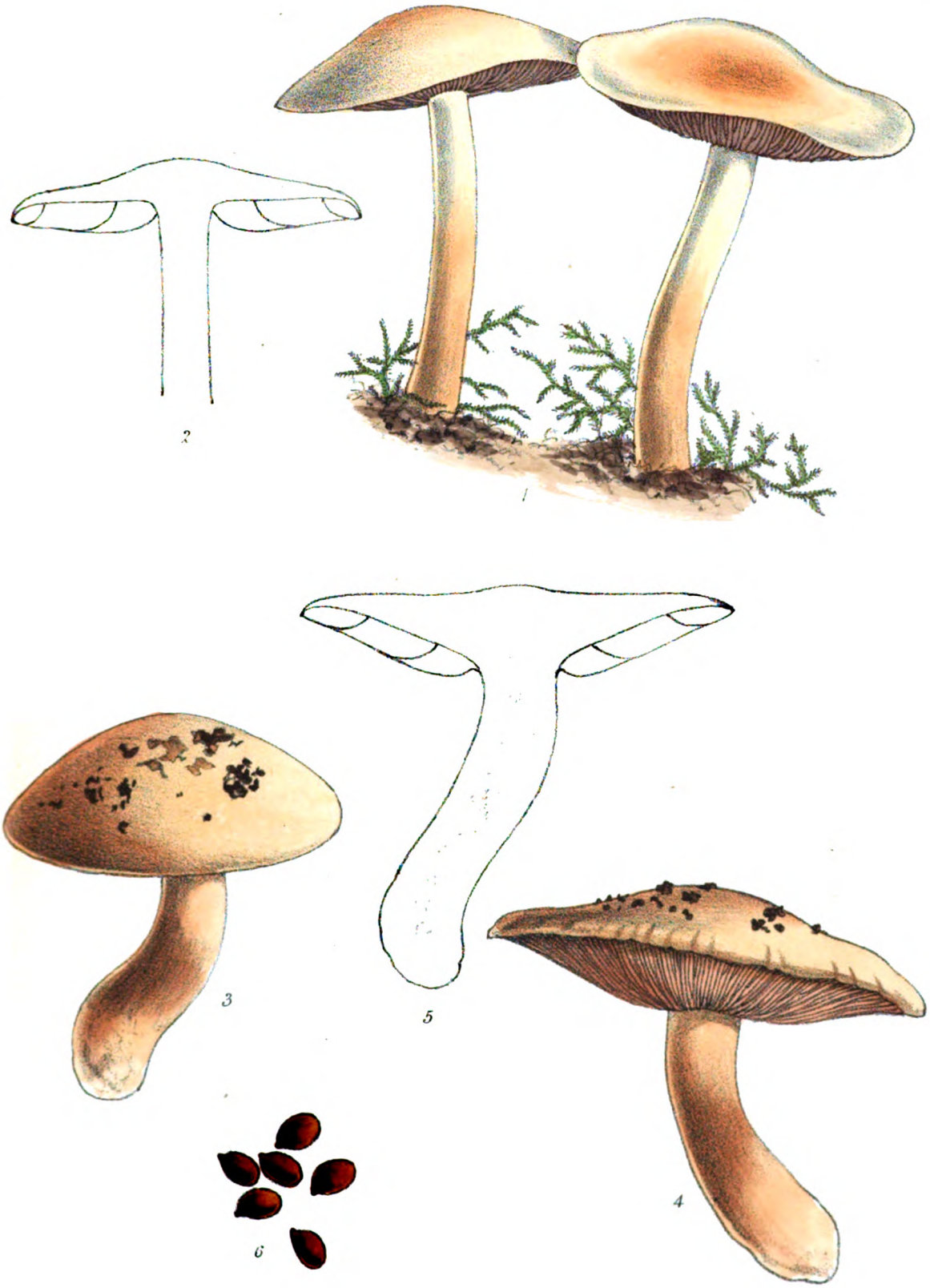
HEBELOMA stipite solido, albo-sericeo, fibrilloso; cortina eximia; pileo carnoso; lamellis emarginatis, subdistantibus, plorantibus.

Pileus compactly fleshy, convexo-plane, obtuse, somewhat spreading, two inches or more wide, even, glabrous, tawny or turning pallid, with involute pubescent margin; *gills* beautifully emarginate, somewhat distant, broadish, at first white then of a dirty clay-colour, weeping in wet weather; *stem* solid, entirely fleshy-fibrous, stout, two to three inches long, half an inch thick, sub-bulbous, often twisted, everywhere silky and fibrous, not scaly-white, but varying with pallid; *veil* handsome, white. Of a disagreeable radish-like *odour*. Habitat, in woods.—*Fries.*

Pileus pale buff, with the margin somewhat waved; *gills* yellowish umber; *flesh* solid and whitish; *spores* brownish yellow, ·0004″ × ·0003″.

Abundant in the neighbourhood of London.

PLATE 42.—Figs. 3, 4, *Agaricus* (*Hebeloma*) *fastibilis*, Fr. Fig. 5, section of ditto. Fig. 6, spores, × 700 dia.—*W. W. S.*



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1. Agaricus (Hebeloma) elatus. Fr.
3. 4. Agaricus (Hebeloma) fastibilis. Fr.

PLATE 43.—Figs. 1, 2, 3, 4.

BOLETUS PURPUREUS, Fr.

Fries, Epicr. p. 419. Tr. Bol. p. 11. Krombh. t. 37, f. 13—15. Letell. t. 678. Barla, t. 33, f. 8—10. Berk. Outl. p. 234. Cooke, Handbook, p. 258.

BOLETUS pileo subvelutino, opaco, sicco, purpurascenti-rubro; stipite valido, luteo, punctato; tubulis subliberis, minutis.

Pileus pulvinate, somewhat velvety, opaque, dry, purplish red; *tubes* almost free, minute, greenish yellow, orifice purple-orange; *stem* stout, yellow, variegated with purple veins and dots. In woods.—*Fries.*

Pileus velvety; *stem* almost smooth, with a leathery surface; *spores* green-sepia, ·00045″ × ·0002″; *flesh* more or less changing to blue when broken, always red within at the base; some specimens wholly crimson when broken. Under oaks, Staplehurst, Kent, June 17th, 1868; from specimens sent by the late Mr. James Ward.

PLATE 43. — Figs. 1, 2, *Boletus purpureus*, Fr. Fig. 3, section of ditto. Fig. 4, spores, × 700 dia.—*W. G. S.*

Figs. 5, 6, 7.

BOLETUS PARASITICUS, Bull.

Fries, Epicr. p. 412. Bull. t. 431, f. 1. S. M. 389. Ann. N. H. No. 338. Berk. Outl. p. 231, t. 15, f. 4. Cooke, Handbook, p. 253.

Boletus Betula, Schwein. Car. No. 860.

BOLETUS pileo hemisphærico, glabro, viscoso, tessulato-rimoso; stipite tenui, incurvo, rigido, diffracto-rimoso, luteo; tubulis decurrentibus, simplicibus, aureis.

Pileus hemispherical, smooth, viscid, soon cracked and tesselated; *tubes* decurrent, middle-sized, rounded, simple, golden yellow; *flesh* of a pale reddish hue; *stem* thin, incurved, rigid, diffracto-rimose, yellow without and within. Parasitic upon *Scleroderma.*—*Fries.*

The specimens figured were kindly forwarded by C. Edmund Broome, Esq., from Pont Neath, Vaughan, near Neath, South Wales, 17th Sept. 1867. Spores ·0005″ × ·00015″.

PLATE 43. — Fig. 5, *Boletus parasiticus*, Bull. Fig. 6, section of ditto. Fig. 7, spores of ditto, × 700 dia.—*W. G. S.*

W.G.Smith del. et lith.

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1.2. Boletus purpureus. Fr.
1.5. Boletus parasiticus. Bull.

PLATE 44.—Figs. 1, 2, 3, 4.

AGARICUS (TRICHOLOMA) CARNEUS, Bull.

Fries, Hym. Mon. i. p. 81 ; Epicr. p. 42. Bull. t. 533, f. 1. S. M. i. p. 130. Secr. No. 739. Krombh. t. 1, f. 30. Engl. Fl. v. p. 30. Berk. Outl. p. 103. Cooke, Handbook, p. 31.

TRICHOLOMA pileo carnosulo, obtuso, lævi, glabrello, expallente ; stipite subfarcto, brevi, rigido, sursum incrassato, pruinoso ; lamellis latissimis, confertissimis, candidis.

Pileus somewhat fleshy, hemispherical then convexo-plane or depressed, obtuse, smooth, becoming pallid, seldom exceeding one inch ; *gills* very broad behind, rounded, very crowded, white ; *stem* somewhat stuffed, short, rigid, thickened upwards, pruinose, reddish then white, an inch high, a line and a half thick, minutely scaly.—*Fries.*

Gills pale purplish buff, somewhat wavy and occasionally forked ; *spores* ·0001″ × ·00007″. Among short grass, King's Weston Down, near Clifton, Oct. 1849.

PLATE 44.— Fig. 1, *Agaricus* (*Tricholoma*) *carneus*, Bull, advanced state. Fig. 2, young state. Fig. 3, section. Fig. 4, spores × 700 dia.—*W. W. S.*

Figs. 5, 6, 7.

AGARICUS (TRICHOLOMA) TERREUS, Schæff.

Fries, Hym. Mon. i. p. 67 ; Epicr. p. 34. Schæff. t. 64. Sow. t. 16. Letell, t. 663. Vent. t. 65, f. 4, 5. Berk. Outl. p. 100. Cooke, Handbook, p. 27.

Agaricus nigromarginatus, Lasch. No. 705.
A. Friesii, Jungh. p. 394. Paul, Ch. t. 116.
A. myomyces, All. et Schw.
A. argyracei, Secr. No. 715, 716, 719, 720.
A. multiformis, Engl. Fl. v. p. 18.

TRICHOLOMA pileo carnoso, tenui, umbonato, villo innato tecto ; stipite farcto, adpresse fibrilloso ; lamellis adnexis, crenulatis.

Pileus fleshy, thin, soft, campanulate then expanded, umbonate, dry, covered with a scaly-floccose innate down, an inch to two inches and a half broad ; *gills* adnexed with a decurrent tooth, crenulate, of a greyish white colour ; *stem* stuffed, at length hollow, subequal, white with adpressed fibrillæ, an inch to three inches high, one-fourth to half an inch thick, very brittle. Habitat, in woods, especially of fir.—*Fries.*

Pileus densely tomentose ; *stem* stuffed ; *gills* greyish white ; *spores* nearly spherical, ·0002″ dia. On the ground under fir trees, Sandwich, Kent, 7th Oct. 1848. This species occasionally grows in great numbers in a small space.

PLATE 44. — Fig. 5, *Agaricus* (*Tricholoma*) *terreus*, Schæff. Fig. 6, section of ditto. Fig. 7, spores, × 700 dia.—*W. W. S.*

3 4 1 2

6 7 5

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1. 2. Agaricus (Tricholoma) carneus. Bull.
5. Agaricus (Tricholoma) terreus, Schæff.

PLATE 45.—Figs. 1, 2, 3, 4, 5, 6, 7.

POLYPORUS RUTILANS, Fr.

Fries, Epicr. p. 455. Pers. Ic. et Descr. t. 6, f. 4. Ann. N. H. No. 346. Berk. Outl. p. 242. Cooke, Handbook, p. 270.

POLYPORUS pileo carnoso, tenui, molli, primo villoso dein glabrato, azono, expallente; poris curtis, minutis, tenuibus, cinnamoneis.

Pileus fleshy but tough, thin, soft, at first villous then smooth, zoneless, tawny-cinnamon, turning pale, of the same colour within; *spores* short, minute, thin, equal, acute, cinnamon. On fallen branches.—*Fries.*

We are indebted to C. J. Muller, Esq., of Eastbourne, for the specimen figured, obtained by him from the neighbourhood of Polegate, Sussex; and for the following interesting particulars, published in the 'Journal of Botany,' No. 109.

Pileus semi-orbicular, corky, thin, dry, smooth, stemless, projecting from the wood on which it grows; *colour* ochraceous, clothed on the upper surface with a fine down; *cuticle* none; *pores* minute, angular, toothed, cinnamon-coloured; *mycelium* of the same colour as the pileus; *odour* agreeable; *size* three inches by two, thickness three-eighths of an inch in the thickest part; *spores* ovate, almost immeasurably minute. Growing on a dead log of wood, and slightly resupinate. The specimen was submitted to the Rev. M. J. Berkeley, who considered it a form of *P. rutilans*, Fr. On the application of liquor potassæ to a section of the pores, there is immediately developed a beautiful magenta colour, and in a very short space of time an abundant crop of thin rhomboidal crystals is produced, which, under polarized light, are extremely beautiful and brilliant. When a fragment containing the pores is exposed to gentle heat over a spirit-lamp, there rises, at a certain degree of temperature, a glittering cloud of extremely thin tabular crystals, nearly square, and which reflect light of all colours, like the finest gems. In the polariscope they are quite gorgeous. The addition of a solution of potash to these crystals developes at once the magenta colour obtained by the action of alkali on the pores, with the same result of the formation of rhomboidal crystals. It may be inferred from these phenomena that the hymeneal membrane of the fungus contains a volatile acid, like the acid principle in certain lichens, the decomposition of which, by means of alkalies, developes red colouring matter. The addition of a strong solution of silicate of soda to the sublimed crystals occasions the formation of hair-like crystals, of great length, straight and curved, radiating from centres, and unlike any crystalline formation I have ever seen. The behaviour of this fungus under the action of alkalies and heat has recently been made more interesting to me by the discovery that *Parmelia parietina*, submitted to gentle prolonged heat, produces on the surface, particularly about the apothecia, a crop of very beautiful crystals

of chrysopanic acid, which, on the application of a solution of potash, develope the usual bright red colouring matter. The shape and appearance of these crystals are, however, totally different to those obtained from the *Polyporus*, though they are probably analogous in their nature. The colour produced by the alkali is quite different to that obtained from the fungus. What the special acid in the fungus is remains to be determined; and, unfortunately, I have not as yet succeeded in obtaining another specimen.

A small portion of the plant was submitted to Dr. Flight, of the British Museum, for examination, and he confirmed Mr. Muller's observations. From the small quantity of the crystals obtainable it was found impossible to make an analysis; but from a measurement of their angles, made by Professor Maskelyne, it was certainly determined that they were not ammonium chloride, which had been at first supposed. In connexion with the crystals obtained from species of *Polyporus*, reference may be made to an account by Dr. Scott, in the Transactions of the Linn. Soc., viii. 268, of a deposit of crystals of oxalic acid on the surface of a dried specimen of *P. sulphureus*.

This fungus is common in the neighbourhood of London.

PLATE 45.— Fig. 1, *Polyporus rutilans*, Fr., upper surface. Fig. 2, ditto, lower surface. Fig. 3, section. Fig. 4, spores × 700 dia. ·00006″ × ·00009″. Figs. 5 & 6, crystals obtained by solution of potash (the lower figure of No. 5 by sublimation), enlarged 70 dia. Fig. 7, crystals obtained by a solution of silicate of soda, enlarged 70 dia.—*W. G. S.*

Figs. 8, 9, 10, 11, 12.

POLYPORUS STEPHENSII, B. & Br.

Ann. N. H. No. 356. Berk. Outl. p. 252. Cooke, Handbook, p. 284.

POLYPORUS pileo orbiculari, albo, demum confluente, margine tomentoso; poris latis, subæqualibus, angulosis.

Pileus orbicular, white, at length confluent; margin sometimes slightly reflexed, tomentose; *pores* broad, nearly equal, angular, dissepiments rather thick, edge villous. On privet-twigs.

Forming scattered orbicular white or at length confluent resupinate patches, about half an inch in diameter, which are sometimes slightly reflexed, with the free surface tomentose. *Pores* rather large, one-twentieth of an inch broad, nearly equal, angular sometimes subhexagonal; edge even, tomentose.

This species has the habit of a resupinate *Hexagonia*, and is very well marked. There is none with which it can be confounded. *P. Radula* appears to be the most nearly allied species.—*B. & Br.*

Spores very large, white ·00055 × ·00025″. The plants figured were kindly furnished by C. Edmund Broome, Esq., from Leigh Woods, Bristol, Feb. 27th, 1869.

PLATE 45. — Figs. 8, 9, 10, *Polyporus Stephensii*, B. & Br. Fig. 11, section of ditto. Fig. 12, spores × 700 dia.—*W. G. S.*

W G Smith del.et lith

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Polyporus rutilans. Fr.
Polyporus Stephensii. B. & Br.

PLATE 46.

AGARICUS (ENTOLOMA) MAJALIS, Fr.

Fries, Hym. Mon. i. p. 276; Epicr. p. 147. S. M. p. 205. Ann. N. H. No. 998. Cooke, Handbook, p. 94.

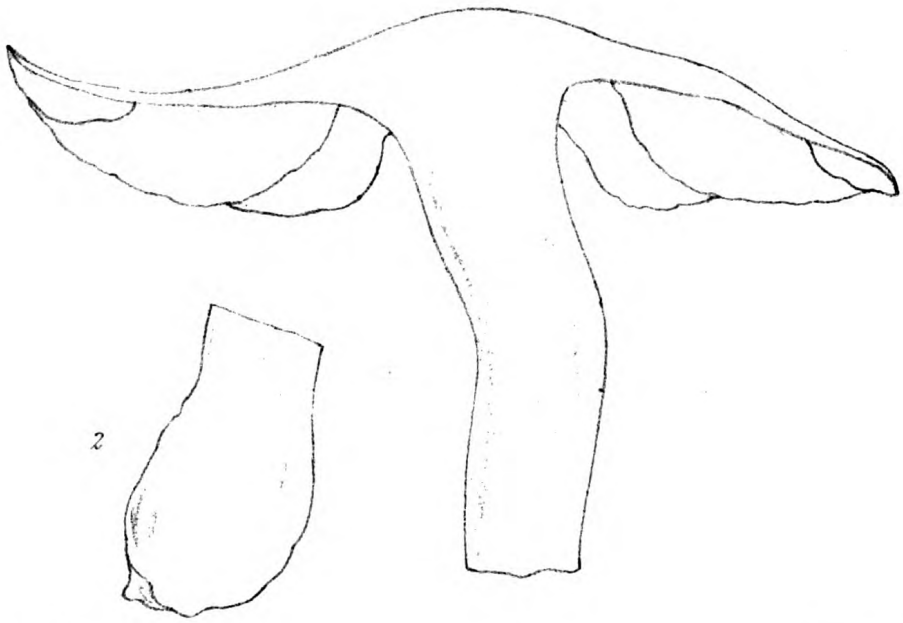
ENTOLOMA pileo carnoso-membranaceo, umbonato, lævi, glabro; stipite fistuloso, torto, striato; lamellis sub-liberis, crenatis.

Pileus fleshy-membranous, campanulate-convex, umbonate, even, smooth, hygrophanous; margin expanded, bent backwards; *stem* fistulose, twisted, striated, whitish, tomentose at the base; *gills* almost free, crenate, pallid then rosy. A large elegant species, cinnamon turning ochre when dry.—*Fries.*

Pileus white with adpressed tomentum, changing to brownish white when aged, irregularly lobed; *gills* broad, distant, fragile, pinkish buff; *stem* cylindrical, twisted, silky-fibrous within. Growing on the ground in patches and carrying up earth on the pileus.

PLATE 46.—Fig. 1, *Agaricus* (*Entoloma*) *majalis*, Fr. Fig. 2, section of ditto.—*W. W. S.*

1



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Agaricus (Entoloma) majalis. Fr.

PLATE 47.

BOLETUS CYANESCENS, Bull.

Fries, Epicr. p. 426. Bull. t. 369. Letell. t. 654. Krombh. t. 35, f. 7—9. Seem. Journ. t. 30, f. 7, 8. Roq. t. 8, f. 1. Engl. Fl. v. p. 154. Barla, t. 37, f. 1—7. Berk. Outl. p. 236. Cooke, Handbook, p. 260.

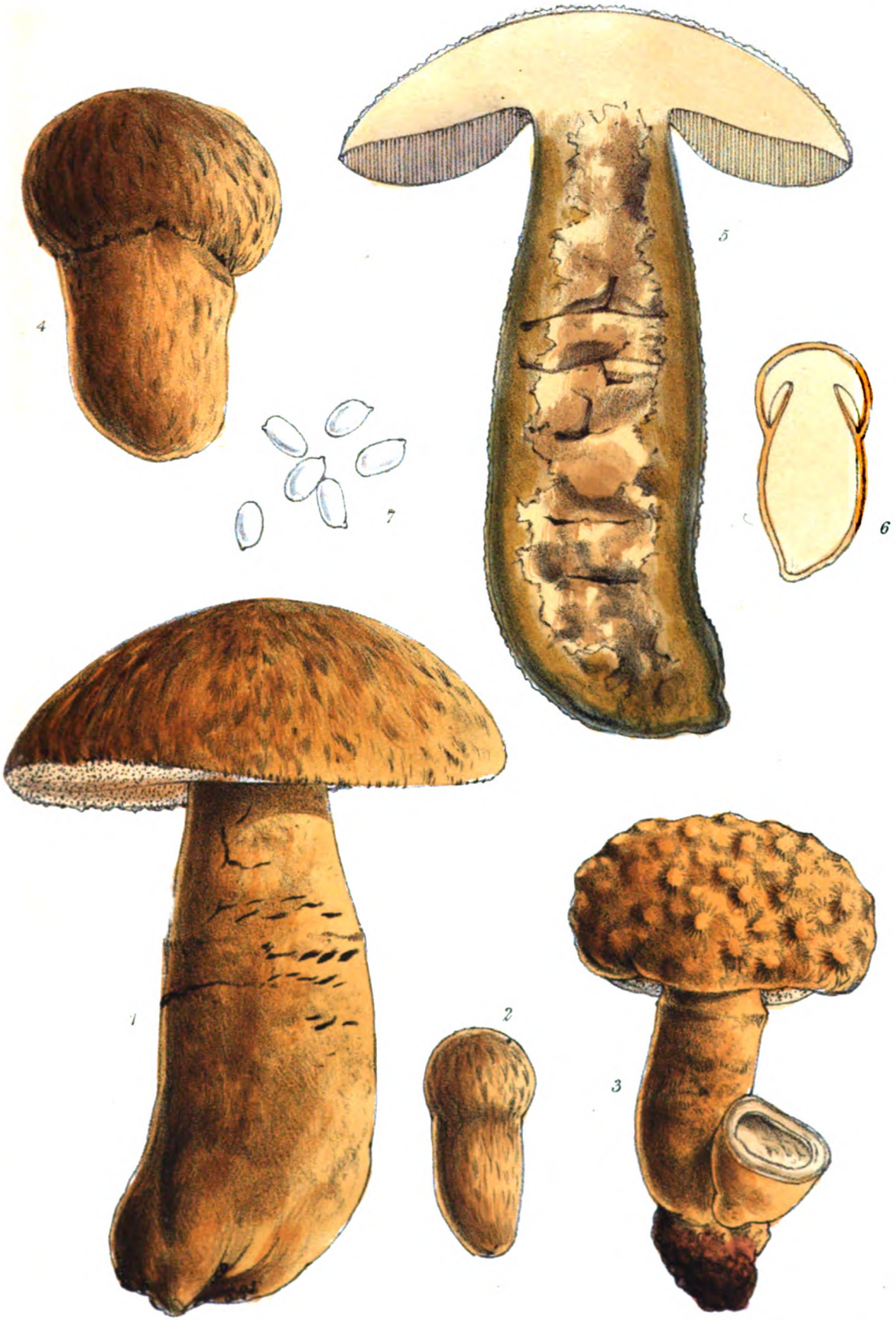
BOLETUS stipite medulla spongiosa farcto excavatoque; pileo convexo-expanso, adpresse tomentoso; carne compacta, fracta mox obscure cyanea; tubulis minutis, liberis, rotundis.

Pileus convexo-expanded, closely tomentose or floccose-scaly, opaque tan-coloured becoming brownish; *flesh* compact, white, dark blue when broken; *stem* stuffed with a spongy pith, then hollow, ventricose, villose-pruinose, of the same colour, constricted above, even, white; *tubes* free, minute, round, white then yellow. The sporidia pass, like the tubes, to a yellowish white. Meadows and barren woods.—*Fries.*

Pileus floccose; *tubes* not minute; *spores* colourless, large, furnished with an apiculus, ·00048″ × ·0003″; *stem* squamose, loosely stuffed, having a distinct bark, very brittle, fracturing transversely. Whole plant dry like *Strobilomyces*, drying up in decay and not decomposing, changing to pale indigo when cut or bruised; *colour* very slight and change very gradual; *taste* none. The specimens figured were sent to us by Cecil H. S. Perceval, Esq., from East Budleigh, Budleigh Salterton, after stormy weather, 25th July, 1871; so that the above change of colour is the normal one.

The plant described and figured by Mr. M. C. Cooke as *B. cyanescens* in 'Journal of Botany,' vol. iii. t. 30, p. 141, is certainly not that species; it had not the curious floccose pileus characteristic of *B. cyanescens*, and the spores were not oval, but fusiform. Mr. Berkeley agrees with us in considering the species here figured the true plant of Bulliard.

PLATE 47. — Figs. 1, 2, 3, 4, *Boletus cyanescens*, Bull. Fig. 5, section of ditto. Fig. 6, section of small specimen, showing universal floccose veil. Fig. 7, spores, × 700 dia.—*W. G. S.*



W G Smith, del et lith.

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Boletus cyanescens. Bull.

PLATE 48.—Figs. 1, 2.

AGARICUS (TRICHOLOMA) PATULUS, Fr.

Fries, Hym. Mon. i. p. 87; Epicr. p. 47. Buxb. Cent. iv. t. 7.

TRICHOLOMA stipite solido, firmo, elastico, glabro, æquali; pileo carnoso, convexo-plano, glabro, lævi; lamellis emarginatis, confertis, subvenosis, albidis; carne tenui.

Pileus firm, fleshy, convexo-plane, obtuse, always bent backwards, two and a half to four inches wide, even, smooth, pale ashy; *stem* fibrous-fleshy, solid, firm, two to four inches long, half to one inch thick, equal, somewhat elastic, glabrous, shining; *flesh* rather thin but not compact, white; *gills* constantly and equally emarginate, almost free, crowded, narrow (about two lines), somewhat veined at the sides, white. Solitary or cæspitose, inodorous.—*Fries.*

Pileus bright golden brownish yellow, darker in the centre; *gills* brownish yellow ochre, darker at margin; *stem* stuffed; *flesh* white. Briar's Garden, Reigate, Surrey, October 8th, 1870.

PLATE 48.—Fig. 1, *Agaricus* (*Tricholoma*) *patulus*, Fr. Fig. 2, section of ditto.—*W. W. S.*

Figs. 3, 4, 5, 6.

AGARICUS (TRICHOLOMA) ACERBUS, Bull.

Fries, Epicr. p. 49. S. M. i. p. 49. Bull. t. 571, f. 2. Secr. No. 583. Berk. Outl. p. 105. Ann. N. H. No. 668. Vent. t. 38, f. 7, 8. Cooke, Handbook, p. 33.

TRICHOLOMA stipite solido, obeso, apice squamuloso; pileo carnoso, glabro, margine tenui rugoso-sulcato; lamellis emarginatis, confertis.

Pileus fleshy, convexo-expanded, obtuse, glabrous; margin thin, strongly involute, rugose, furrowed; *stem* solid, obese, turning yellow, scaly at the apex; *gills* emarginate, crowded, pallid then rufous. Of an unpleasant *odour* and bitter *taste*. In woods, late in the autumn, growing in clusters. —*Fries.*

Pileus rich yellow-brown, darker in the centre, covered with adpressed tomentum, and the rim furrowed; *gills* pale yellowish buff; *stem* short and very stout, sometimes more swollen than in the figure; *odour* strong and meal-like; *spores* ·00017″ dia. Growing amongst short underwood on the ground, Greenings, near Charlwood, Surrey, 29th Aug. 1868.

PLATE 48.—Fig. 3, *Agaricus* (*Tricholoma*) *acerbus*, Bull. Fig. 4, section of ditto. Fig. 5, section of involute margin of pileus of a young specimen. Fig. 6, spores, × 700 dia.—*W. W. S.*

W. W. Saunders, del. W. G. S. lith.

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1. Agaricus (Tricholoma) patulus. Fr.
3. Agaricus (Tricholoma) acerbus. Bull.

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