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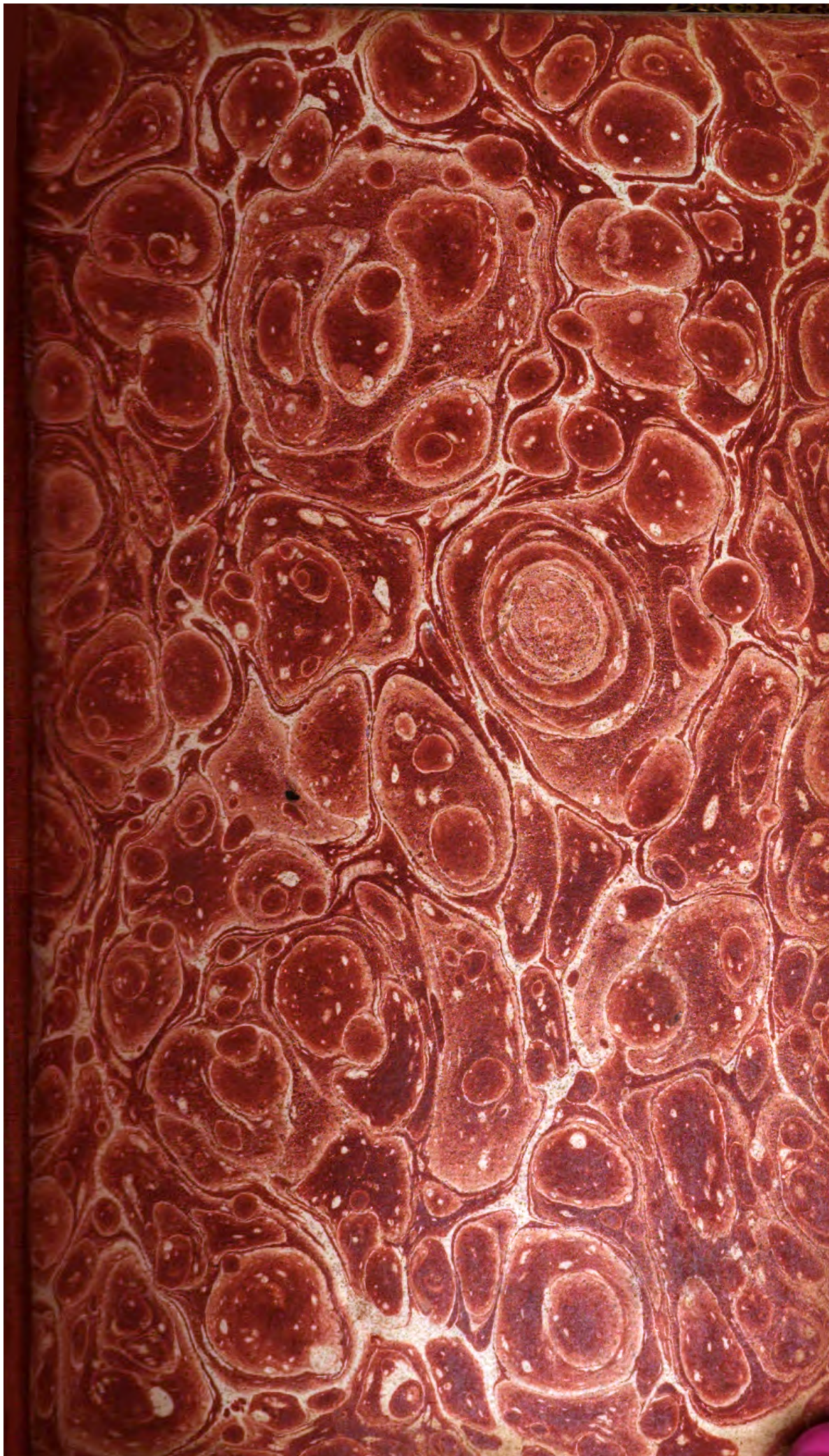


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# ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,  
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

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

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

THE FIGURES BY

JAMES SOWERBY, F.L.S.

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—“VIRESCERE ACQUIRIT EUNDO.”—*Virg.*

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VOL. XVIII.

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LONDON:

PRINTED BY R. TAYLOR, BLACK-HORSE-COURT, FLEET-STREET;

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

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MDCCCIV.







## LEPRARIA flava.

*Yellow Lepraria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust and fructification of an uniform bright yellow.

SYN. Lichen flavus. *Achar. Prod.* 6. *With. v.* 4. 3. *Relh.* 444. *Sibth.* 315. *Abbot.* 256.

*Byssus candelaris.* *Linn. Sp. Pl.* 1639. *Huds.* 608. *Hull.* 308. *Lightf.* 1005.

*B. pulverulenta flava, lignis adnascens.* *Dill. Musc.* 3. *t.* 1. *f.* 4. *Raii Syn.* 56.

*Lepra candelaris.* *Ehrh. Crypt.* 288.

*Parmelia citrina*  $\delta$ . *Achar. Meth.* 180.

THIS occurs not unfrequently on the rugged bark of old trees, and is found at all seasons. It thrives in summer, and easily parts with its powder when dry.

It is not so thick as the preceding, but like that forms a spreading indeterminate crust, covered entirely with powder of the same bright golden yellow as itself. This colour is constant in the living plant, and permanent in dried specimens.

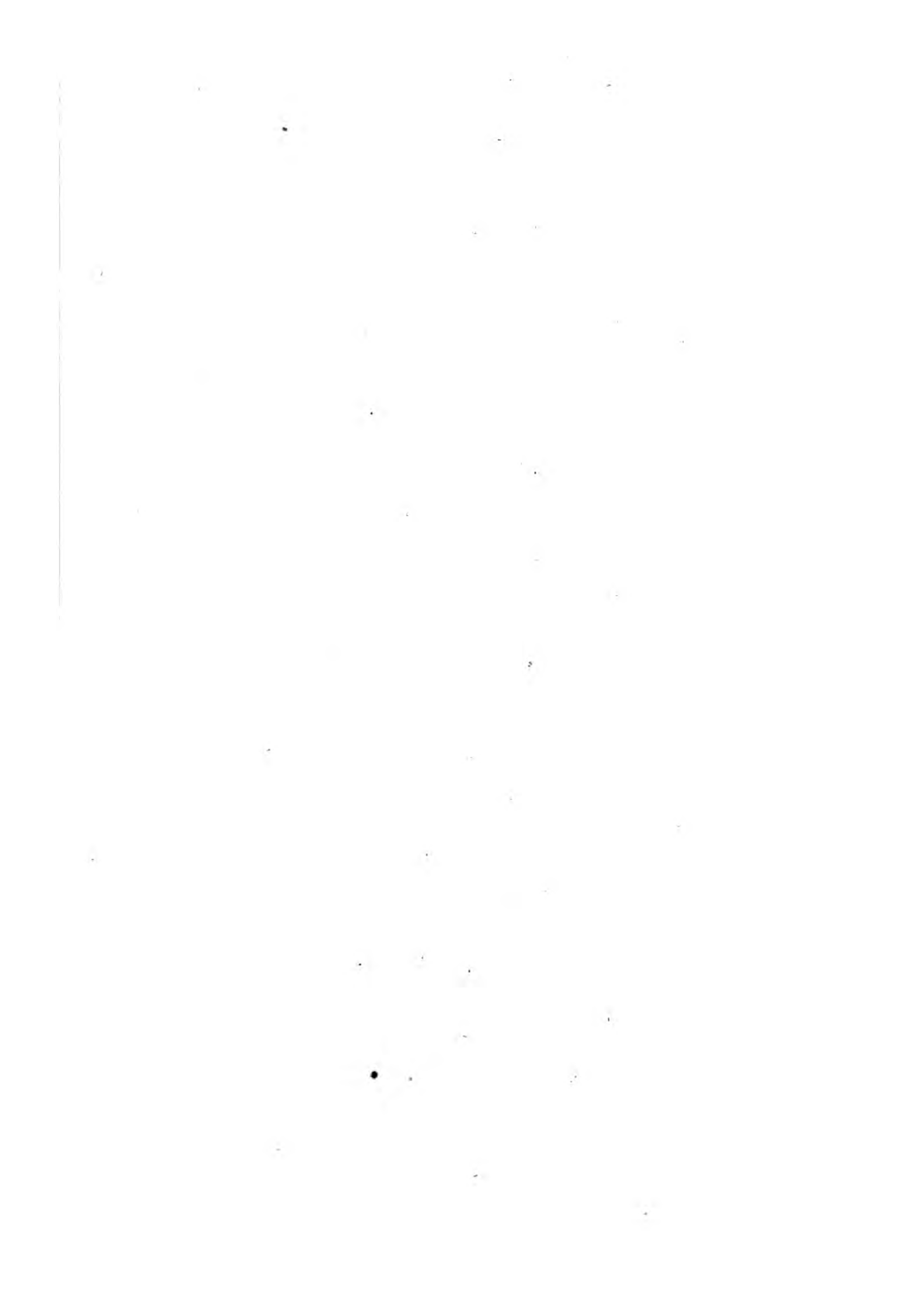
It so evidently belongs to the genus *Lepraria*, and is acknowledged so universally to produce no shields, that we cannot but wonder to find it ranged in Dr. Acharius's new work as a barren variety of his *Parmelia citrina*, which he thinks is not itself distinct from *P. candelaria*, the *Lichen candelarius* of Linnæus. We are of nothing more confident than that our *Lepraria flava* is distinct from *Lichen candelarius*.

1349



*1807. 1. 280. 1. Published by J. G. Sowerby, London.*

✓



## LEPRARIA chlorina.

*Bright-sulphur Lepraria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Bright sulphur-coloured. Crust fibrous. Fructification in small round clusters.

SYN. *Lepraria chlorina. Ach. Lichenogr. ined.*

*Lichen chlorinus. Ach. Prod. 6.*

*Pulveraria chlorina. Ach. Meth. 1. t. 1. f. 1. Westring Lich. 1. t. 1.*

THIS production, one of the most elegant and striking of its tribe, was discovered by Mr. Dickson, as he informs us, long ago in Scotland. Mr. Turner observed it in 1807, on rocks behind the inn at Avemore in Strathspey, and from that neighbourhood Mr. Borrer and Mr. Hooker sent our present specimens.

The vivid greenish-lemon hue is remarkable, and even more striking than *L. flava*, t. 1350, nor is it at all impaired by keeping. The crust or basis of the plant consists of minute entangled fibres, making a thick soft cushion-like mass, and bearing innumerable little crowded roundish powdery clusters.

The true nature of the fructification is so little known, that we rejoice to hear the learned Professor Acharius, whose specimens accord with ours, has reduced his genus *Pulveraria* to *Lepraria*, the latter being at best but obscure in its mode of propagation.

Dr. Westring, author of a most curious work on the dyeing properties of Swedish Lichens, with figures by the hand of Professor Acharius himself, has obtained a variety of very vivid tints from this *Lepraria*.

2036.



*Fig. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.*



✓



## LEPRARIA æruginosa.

*Verdigrise Lepraria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Light verdigrise green. Crust fibrous, obscurely jointed, forming soft spreading tufts. Fructification in small round clusters.

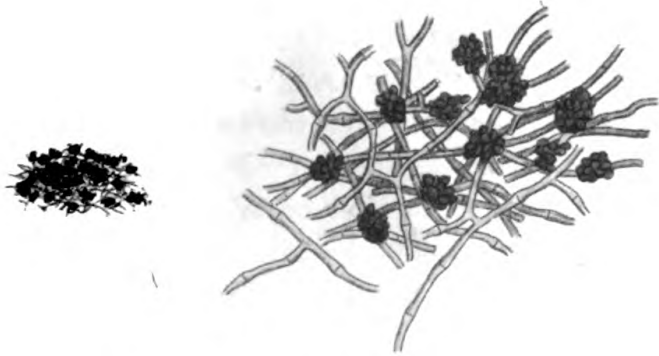
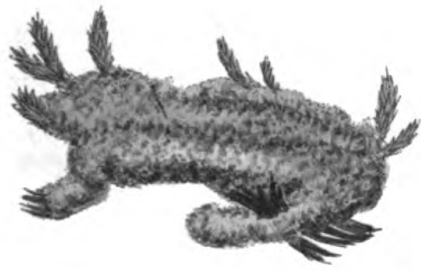
SYN. *Byssus æruginosa.* *Huds.* 605. *With.* v. 4. 143. *Hull.* 307.

*B. lanuginosa æruginosa.* *Dill. Musc.* 4. t. 1. f. 7.

*Conferva pulveria.* *Dillw. Syn.* n. 78. t. D.

I FIRST met with this plant on the pillars of the beautiful chapel at Roslin 7 miles from Edinburgh, in 1782. Mr. Dickson, who had never before seen it, determined the synonyms of Hudson and Dillenius. My young friend Mr. Leach has since gathered it there also. This spring I collected very fine specimens, one of which appears in the annexed plate, on the north wall of Wormleybury church, Herts, close to the tomb of Lady Amelia Hume. Mr. Young found the same in Glamorganshire, according to Mr. Dillwyn, who refers it to *Conferva*.

This species is most akin to *L. latebrarum*, t. 2147, with which it agrees in general structure, but differs in being of a much softer looser texture, by no means firm, rounded, or cushion-like; neither is it grey or stone-coloured, as our t. 2147 ought to have been represented after Mr. Sowerby's original drawing seen by me, but of a delicate verdigrise green. The fibres of the basis are by great attention found to be slightly jointed, but we conceive it ought not for that reason to be removed from the fibrous *Leprariæ*, with which it agrees in more peculiar characters.

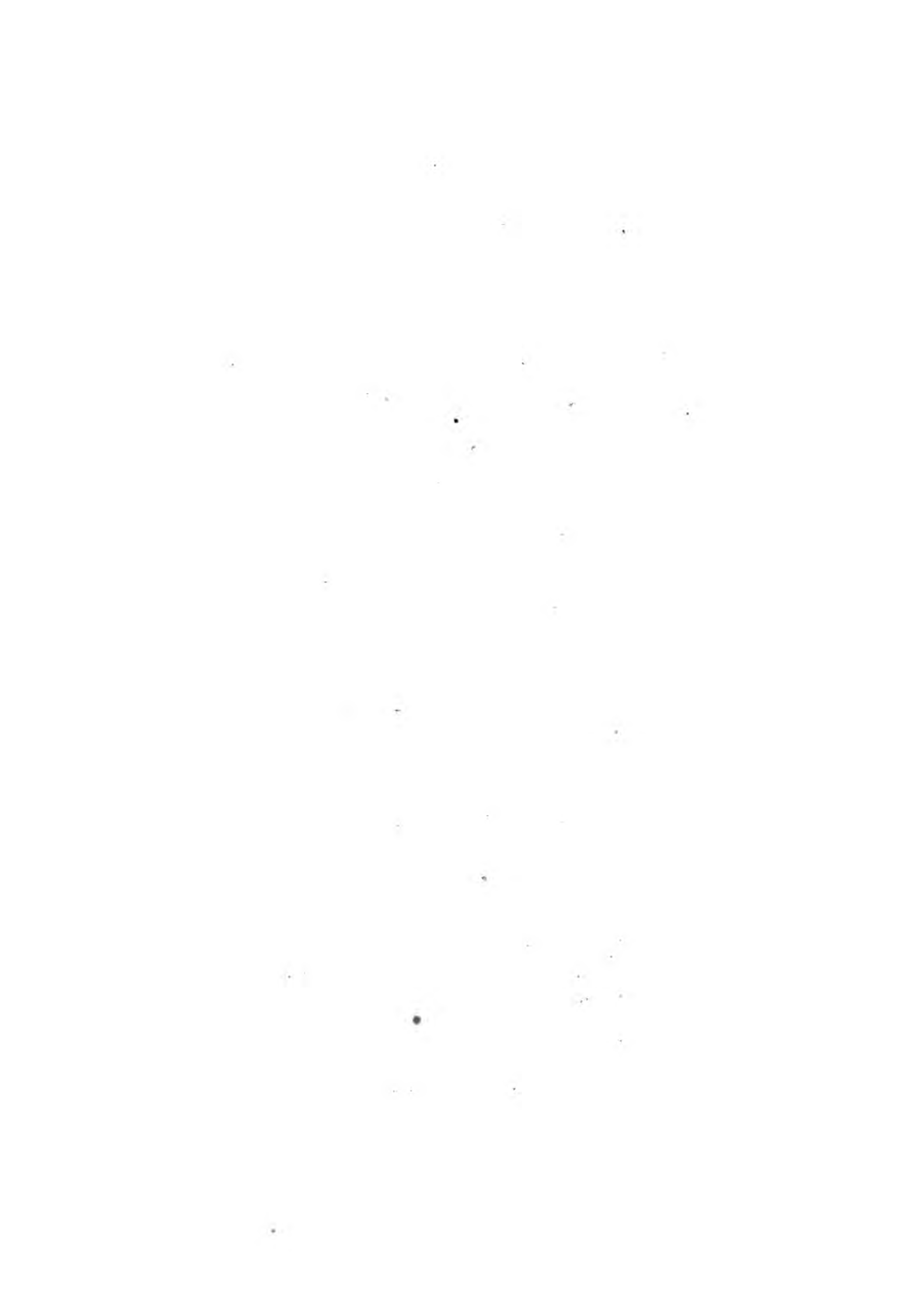


Aug 1 1860 published by J. Sowerby London.

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1



## LEPRARIA latebrarum.

*Grey Cavern Lepraria.*


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 CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Grey. Crust fibrous, forming dense cushions. Fructification in small round clusters.

SYN. *Lepraria latebrarum.* *Achar. Prod.* 7.

*Pulveraria latebrarum.* *Achar. Meth.* 2. *Winch. v.* 2. 29.

*Byssus cryptarum.* *Huds.* 607. *With. v.* 4. 146. *Hull.* 308.

*B. albida brevis setacea.* *Dill. Musc.* 10. t. 1. f. 20; exclusive of the Linnæan synonym.

---

THIS I found, when a young botanist at Edinburgh in 1781, growing on a rock at the Hermitage at Blackford, as well as on several rocks in Rivelston wood. It always grows in such places as the rain cannot reach, and exactly accords with Acharius's name, description and specimens. The colour is a glaucous pale grey, and has remained entirely unchanged. The plant forms light convex soft cushions, easily separable from the rock, their central part being elevated by age, and in a manner vaulted underneath. The whole is a mass of fine fibres, much entangled, intermixed with powdery granulations, the powder rubbing off when touched by the finger, exactly as in the beautiful *L. chlorina*, t. 2038. The inner part is white.

*Byssus cryptarum* of Linnæus is widely different from this, though Dillenius confounded them.

2147



*MS. 1220 published by J. Bow, London.*



✓



[ 1349 ]

## LEPRARIA alba.

*White Lepraria.*

---

*CRYPTOGAMIA Algæ.*

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust and fructification of an uniform pure white.

SYN. *Lepraria alba.* *Achar. Meth.* 3.

*Lichen albus.* *Achar. Prod.* 7. *With. v. 4. 2. Relh.* 444. *Abbot.* 256.

*L. lacteus.* *Sibth.* 316.

*Byssus lactea.* *Linn. Sp. Pl.* 1639. *Huds.* 609. *Hull.* 308. *Lightf.* 1007.

*B. candidissima,* *calcis instar muscos vestiens.* *Dill. Musc.* 2. t. 1. f. 2.

**F**OUND on the bark of old trees, or on Mosses, decayed Lichens, and other cryptogamous plants, in shady moist situations, more particularly in mountainous countries.

On small plants it forms irregular broken fragments, looking as if a brush of white-wash had been shaken over them; on bark it grows in a continued, but indeterminate and shapeless, crust, cracked when dry, clothed all over with a granulated or powdery substance. In general the colour of the whole is a pure opaque white; but at certain seasons, principally in summer, the powdery part becomes brownish or yellowish. We conceive this to be a state of temporary decay, after the seeds are dispersed, rather than the ripening of the seeds; for the plant is most vigorous, and most easily parts with its granulated particles, in the damps of winter.

The establishment of this genus seems indispensable. Botanists have sought in vain for shields in this and other species, to make them Lichens; and indeed they are evidently propagated by their powdery part. Whether that part consists of buds or seeds, is too nice a question for us to determine. Of the certainty and constancy of the species there is no doubt. The true *Byssi*, if that genus be to remain at all, are of a fibrous nature.

1350



*Aug 11 '04. Collected by J. Sowerby, London.*

2



## LEPRARIA lutescens.

*Buff Lepraria,*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance loosely clothing a thin crust.

SPEC. CHAR. Crust leprous, rugged, cracked, buff-coloured. Fructifications globose, of the same colour.

SYN. *Lepraria lutescens.* *Achar. Meth.* 5.

*Lepra lutescens.* *Hoffm. Pl. Lich. v. 1. 100. t. 23.*

*f. 1, 2.*

*Lichen lutescens.* *Achar. Prod.* 9.

**FOUND** on the stems of old trees, especially oaks, in unfrequented woods. Mr. Turner has observed it in Acle wood, Norfolk, and Mr. W. Borrer sent our specimens from Hurst Pierrepoint, Sussex. It occurs at all seasons, but is best seen in winter, or wet weather,

The whole plant is externally of an uniform buff or pale ochraceous yellow. Crust thick, white and chalky within, very unequal and rugged; its surface clothed with buff-coloured powder or minute grains.

It is now generally agreed that various appearances like the shields of a Lichen, which some eminent German botanists have noticed on this plant, have either been parasitical bodies, or some other deception. There can be no question of its agreeing in genus with *Lepraria alba*, *v. 19. t. 1349* (numbered by mistake 1350).

1520



*Nov. 2. 1808 Published by Jas. Sowerby London.*



✓



7.

[ 2408 ]

LEPRARIA ochracea.

*Ochrey Lepraria.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crust not discernible. Fructification of an ochrey yellow, collected into thin scattered patches.

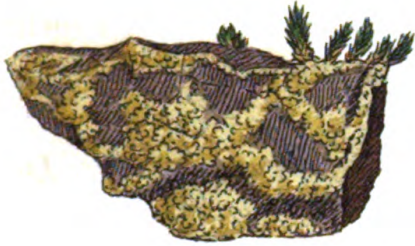
SYN. *Lepraria ochracea.* *Turn. & Borr. Lich. Brit.* v. 1. 8.

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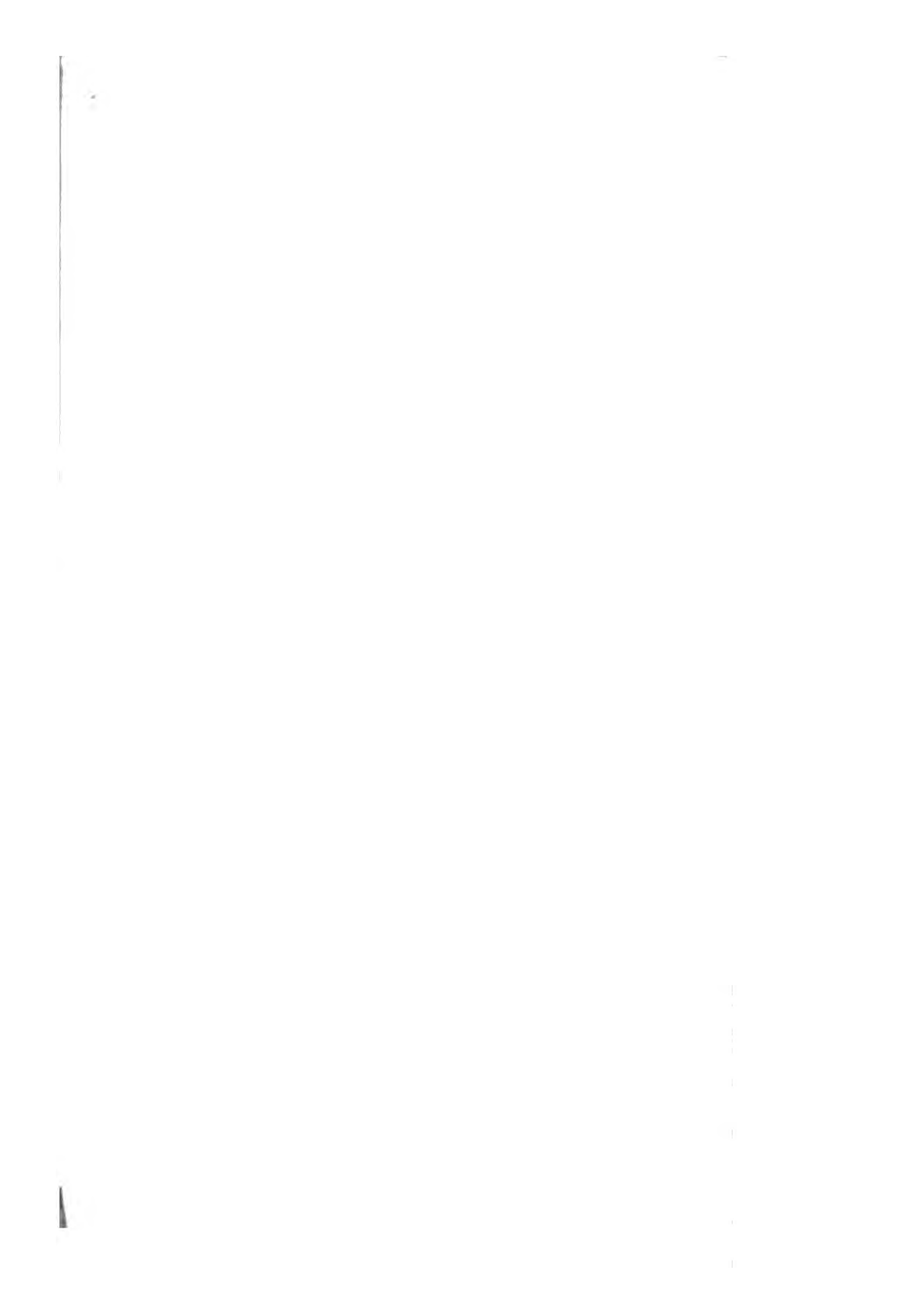
THE trunks of old trees at Hurst-Pierpoint and Poynings, Sussex, produced the specimens, for which we are indebted to Mr. W. Borrer. The same is said to be found about Yarmouth and Halesworth, generally on *Hypnum sericeum*; see *t.* 1445.

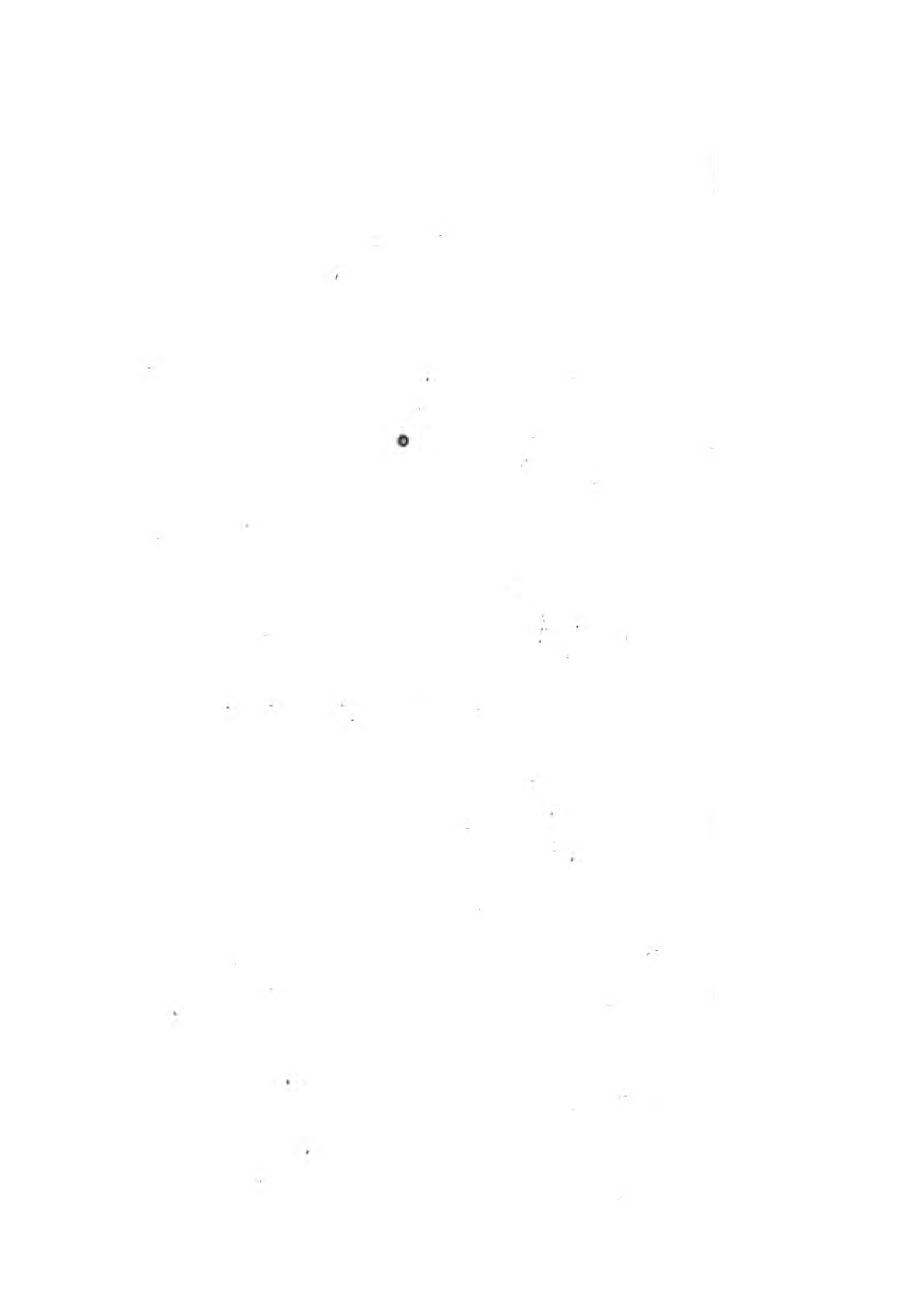
We have certainly often seen this production, and have thought it the early state of *Lichen candelarius*, *t.* 1794. That our work may not, however, be incomplete, as to any species described by authentic writers, we thankfully profit of the permission here allowed us, of quoting Messrs. Turner and Borrer's unpublished sheets. They describe this species as destitute of a frond or crust, which confirms our suspicion, that what they term *propagula*, and we above have called fructification, may be the incipient frond of some *Lichen*. These are scattered or clustered, in a most irregular manner, in the form of finely granulated masses of a pale, dull, ochraceous yellow, often greenish, and rather brighter when wet than dry. If, however, their shape is observed to be, for any time, permanent, the reality of the species, as a *Lepraria*, cannot be denied.

2408.



May 1812 published by J. G. Sowerby London.





## LEPRARIA botryoides.

*Common Green Lepraria.*

---

*CRYPTOGAMIA Algæ.*

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crustaceous, clustered, green, somewhat gelatinous, indeterminate, the granulations bead-like.

SYN. *Lepraria botryoides.* *Achar. Meth.* 6.

*Lichen botryoides.* *Achar. Prod.* 10. *Hoffm. Enum.* 6.  
*t.* 1. *f.* 2. *With. v.* 4. 3. *Relh.* 445. *Sibth.* 316.

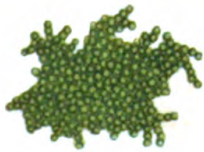
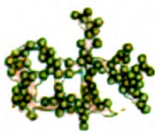
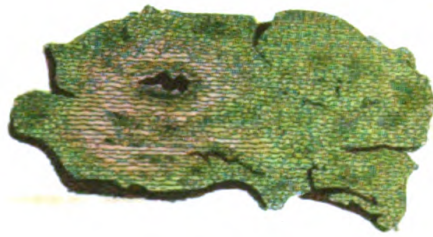
*Byssus botryoides.* *Linn. Sp. Pl.* 1639. *Huds.* 609.  
*Hull.* 308. *Lightf.* 1006. *Fl. Dan. t.* 899. *f.* 3.

*B. botryoides saturatè virens.* *Dill. in Raii Syn.* 56.  
*Musc.* 3. *t.* 1. *f.* 5.

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THE barks of trees, old posts and rails, garden-pots, &c., are green all the year round with this vegetable, which stains the fingers on the slightest touch, and is in its greatest perfection during the damp months of winter.

The colour is a beautiful bright unchangeable green, only turning yellowish or brownish in decay. The substance an indeterminate, powdery, somewhat gelatinous, crust, on a very slight membranous base. When the green globular particles are for the most part rubbed or scraped away, the remainder, cohering irregularly, in a bead-like manner, are found attached to this membrane. This is all we can discern of its structure, and accords with Hoffmann's representations. That author, copying Lightfoot's typographical error, calls our plant *Green Cluster Byssus*, but this is one of the most innocent mistakes that could happen to an implicit transcriber. We wish the science were encumbered with no others.



*W. 342101. 1. 1/2 inch '4 1/2' Pinnerby London*







## LEPRARIA virescens.

*Dull-green Lepraria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crustaceous, granulated, continued, somewhat gelatinous; greyish dull green when dry; bright green when wet.

**F**OUND on the trunks of trees, especially elms, in Sussex, by Mr. W. Borrer, who esteems it a nondescript *Lepraria*. Certainly as no shields have been discovered, we are not warranted to place it elsewhere; nor do we know any thing of the *Lichen* kind, except perhaps some of the *Collemata*, whose crust imbibes moisture so copiously and instantaneously, or becomes so gelatinous, as this.

The crust is perfectly uninterrupted, though not distinctly bordered, at first thin, then considerably thickened, of a dull greenish grey or dark lead-colour when dry, but, when moistened, changing to a deep rich green, in which state the granulations that cover the surface become more tumid and conspicuous. They adhere to a thick uniform base, and are not concatenated like the granules of *L. botryoides*, t. 2148, neither do we discern any thing like powdery seeds. We cannot help suspecting that some future discovery of shields may prove this a gelatinous *Lichen*, or *Collema*; for we know no other *Lepraria* whose colour varies, in the least degree, with moisture.



v



## LEPRARIA Iolithus.

*Violet-scented Lepraria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crust filmy, greyish. Fructification red, extremely minute, in a thin, even, powdery layer.

SYN. *Lepraria Iolithus.* *Ach. Meth.* 8. *Turn. & Borr. Lich. Brit. v. 1.* 19.

*L. rubens.* *Ach. Meth.* 6.

*Byssus Iolithus.* *Linn. Sp. Pl.* 1638. *Lapland Tour, v. 1.* 26. *Huds.* 608. *Hull.* 308.

*Lichen Iolithus.* *With. v. 4.* 3. *Ach. Prod.* 11.

FOR this specimen, produced on the bark of a tree, we are obliged to Mr. Turner. We have received several from Holywell in Flintshire, as well as from Tunbridge, growing on stones in damp places, of what is presumed to be the same, though of a less powdery and more crustaceous appearance. Both are of the same dull crimson hue, and when moist diffuse a fragrant smell, like violets, or more resembling orris root. This scent is equally strong after the specimens have been long preserved, whenever they are wetted. We have picked up on the shore at Leith quartz pebbles encrusted with the same red substance, but exhaling rather more of a sea-weed odour, still partaking of the orris. How far these are distinct, botanists have not well determined. The present plant has been confounded, as Mr. Turner observes, with our *Conserva lichenicola*, t. 1609, which is abundantly distinguishable by its fibrous jointed texture.

It is no wonder that stones apparently stained with blood, as the above seem to be, should have been made subservient to many a legend in superstitious times. Those at Holywell are supposed to have been sprinkled with the blood of St. Winifred.

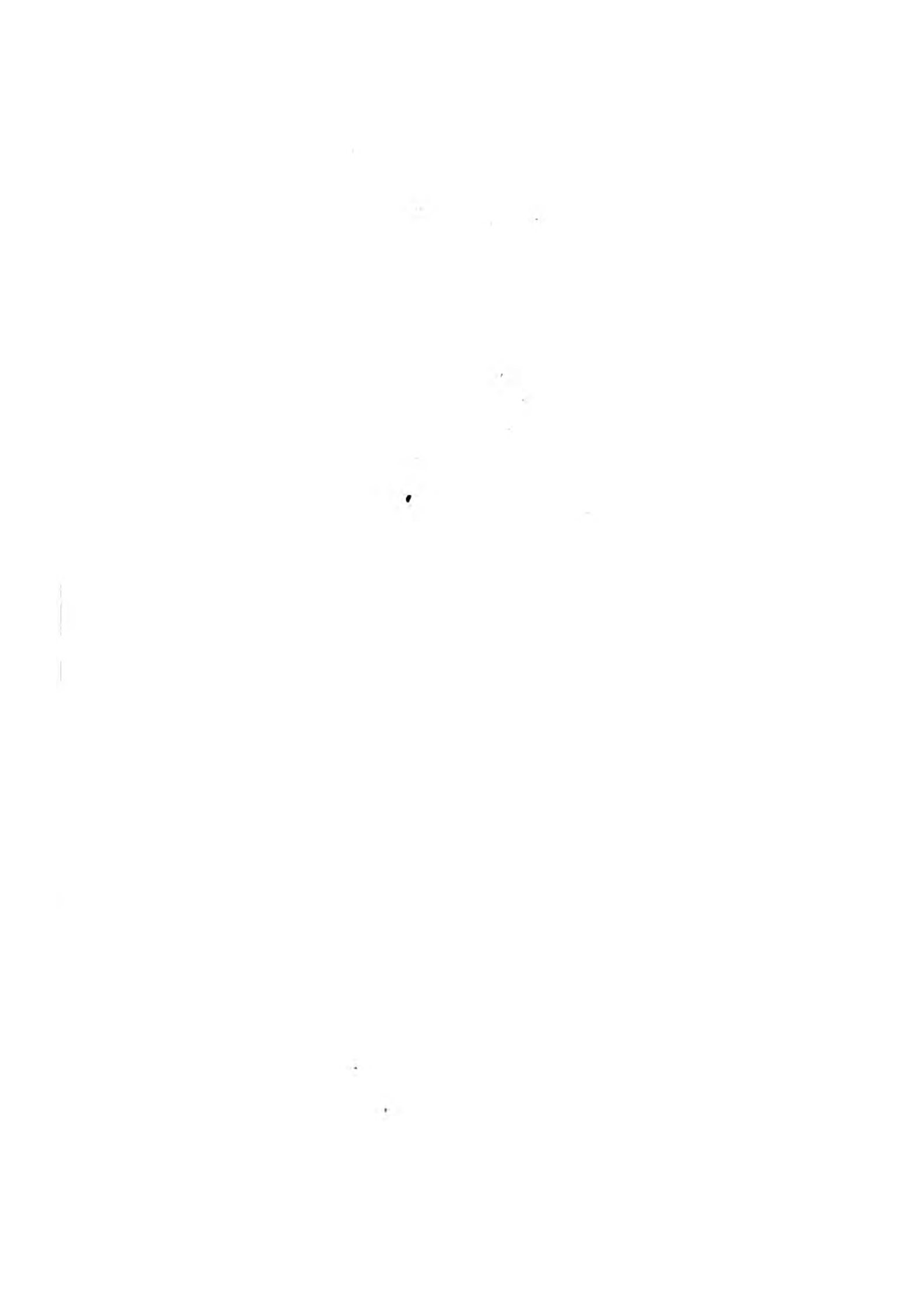
2471



*Described by J. S. Hensley, London*



✓



[ 2409 ]

## LEPRARIA nigra

*Black Lepraria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in a powdery substance, loosely clothing a membranous or fibrous crust.

SPEC. CHAR. Crust filmy, greyish. Fructification black, extremely minute, in a thin, even, powdery layer.

SYN. *Lepraria nigra.* *Turn. & Borr. Lich. Brit. v.1.21.*

ABOUT this there can be no uncertainty. It is only remarkable that so common a production should not before have had its nature investigated or defined. The squared tops of oaken gate-posts, in particular, are generally black, as if sooty or inky, with this *Lepraria*. Mr. Borrer has observed it to have a grey filmy basis or crust, which is to be detected in its earliest stage only, but serves to prove its nature. Fructification in extremely minute round black grains, which stain the finger, though less readily than some of the *Spilomata*, and cover the whole surface of the crust in a thin continuous layer. We readily assent to the supposition of the writers of the *Lichenographia Britannica*, that many botanists may have taken this for *Byssus antiquitatis*, because we have, for our part, without much consideration, supposed it such; really not knowing, any more than our fellow labourers in this mine of obscurity, what that *Byssus* properly is. In several such cases the ideas of the first writers on these plants have been too vague to allow us to determine what they meant, without the assistance of a specimen.

2409



*Fig. 1. 2. 3. published by J. G. Keeney, London.*

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[ 2358 ]

## SPILOMA melanopum.

*Broad Black Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, greyish. *Receptacles* flat, dilated, irregular, somewhat confluent, black.

SYN. *Spiloma melanopum.* *Sm. Fl. Brit. v. 4. ined.*

*S. melanopa.* *Ach. Meth. 10. t. 1. f. 3.*

*Lichen rugosus.* *Hoffm. Enum. 10. t. 2. f. 5?*

ON the smooth barks of trees; not uncommon on the apple-tree, according to Mr. W. Borrer, where it assumes the appearance of sooty spots. The crust is scarcely discernible, except in a young state, when it is greyish or ash-coloured and very thin, besprinkled with innumerable, little, round, powdery, black specks, or masses of seeds. These soon run together into broader irregular patches, as drawn by Acharius. We find a mixture of minute green granulations, which may either be adventitious portions of a *Lepraria*, or possibly the infant fructification of this *Spiloma*. There are also to be seen, in our specimen, a number of simple, curved, jointed threads, intermixed with the fructification; perhaps some nondescript *Conferva*. We do not wish to conceal our doubts nor our ignorance, but merely exhibit and describe what we have seen, for others to decide upon.—Hoffmann's *Lichen rugosus* agrees so nearly with this plant, that we see scarcely any room to doubt their being one and the same.

2358



*Doc. 1858 published by J. L. Smith, London.*



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## SPILOMA microclonium.

*Fine-branched Spiloma.*


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 CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, leprous, hoary, with a brown edge. *Receptacles* minute, indeterminate, finely branched, somewhat confluent, brownish-black.

SYN. *Spiloma microclonium.* *Sm. Fl. Brit. v. 4. ined.*

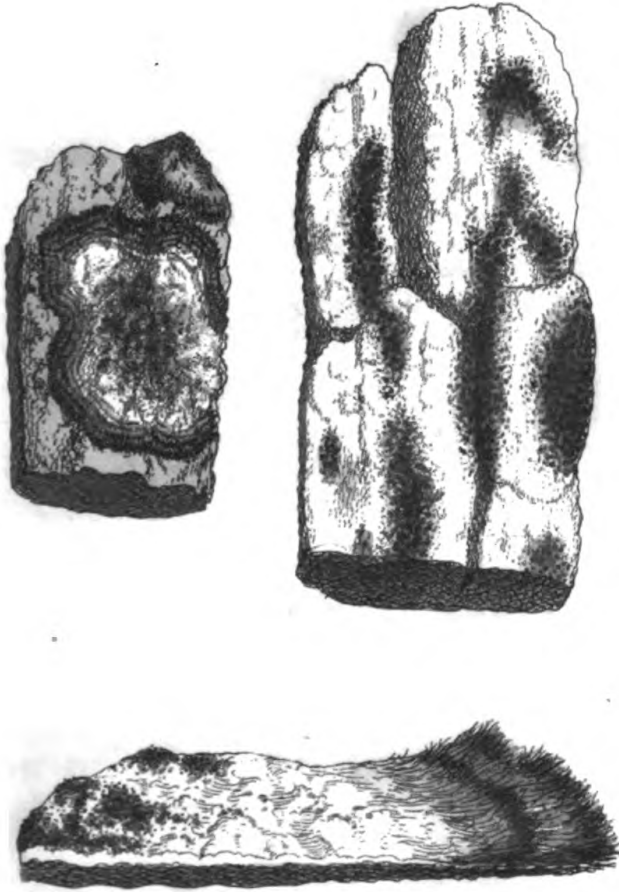
*S. microclona.* *Ach. Meth. Suppl. 5.*

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**DISCOVERED** by Mr. Sowerby, many years ago, on the rugged trunks of aged oaks in Windsor forest. Mr. W. Borrer finds it in Sussex.

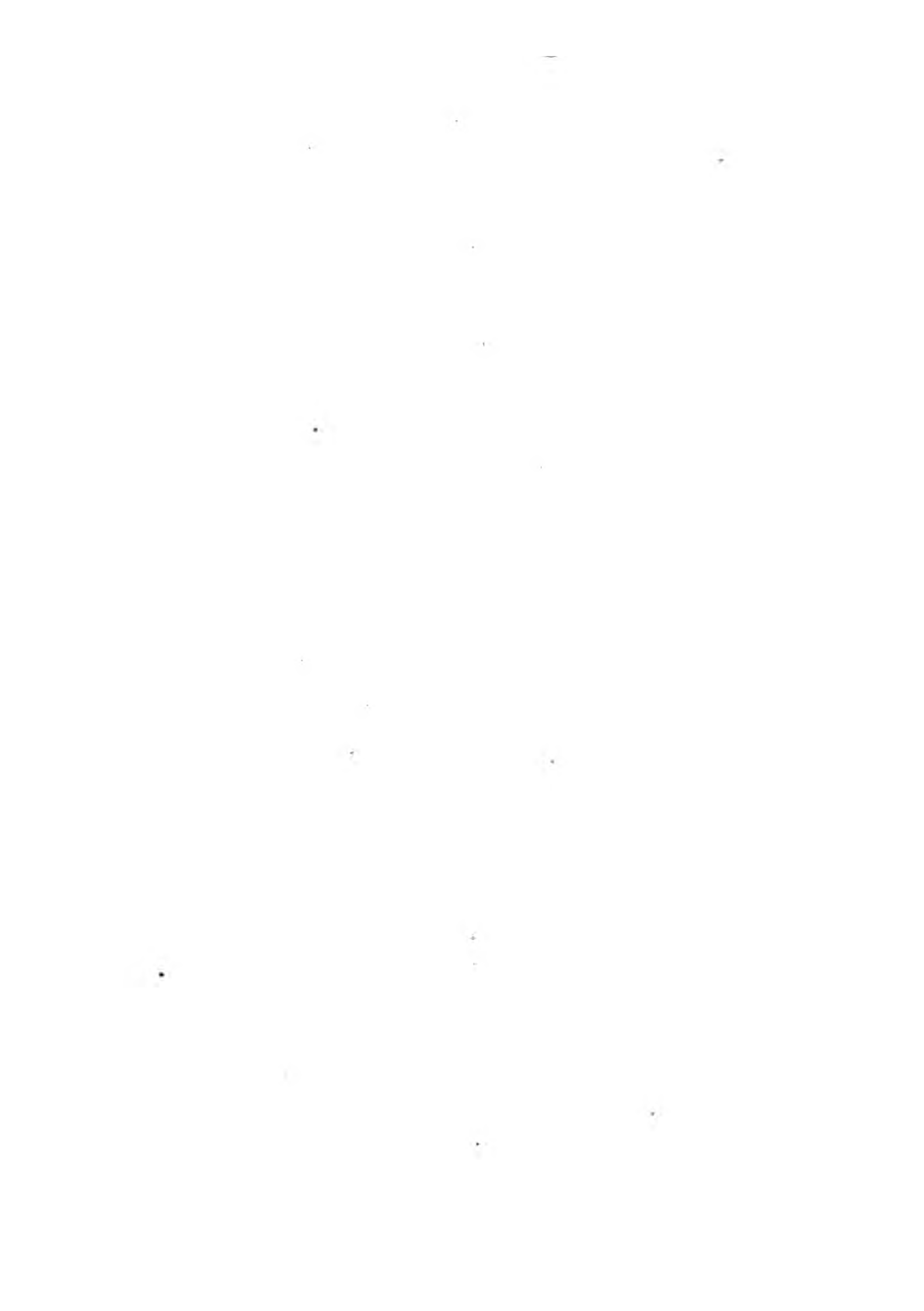
The white or hoary thin leprous crust overruns the inequalities of the bark, and is terminated by a remarkable brown undulated border. The fructification looks as if snuff, or wood soot, had been sprinkled over the crust, or swept into the clefts of the bark, but when highly magnified, it seems composed of innumerable minute ramifications, that discharge a dark powder when arrived at maturity.

2150. \



*Museum published by J. P. Kersey, London.*





SPILOMA microscopicum.

*Microscopic Spiloma.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust spreading widely, very thin, membranous, greyish. *Receptacles* dot-like, very minute, black, lead-coloured when dry.

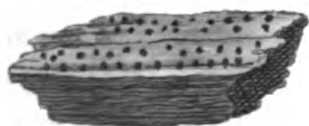
SYN. *Spiloma microscopicum.* *Turner and Borrer Lich. Brit. v. 1. 30.*

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FOR this new *Spiloma* we are indebted to Mr. W. Borrer, who, as well as Mr. Turner, has most liberally allowed us to quote their unpublished *Lichenographia Britannica* as above.

This plant, "the most inconspicuous perhaps," as they observe, "of all the vegetables hitherto discovered," is very common on boarded buildings, and all timber exposed to the weather, to which it seems to give the blueish tinge after a while so universally observable. The crust is so extremely thin, that it seems merely to bleach the fibres of the wood, over which it spreads widely, exactly as the crust of *Lichen tartareus*, and others like it, over-run twigs of heath and shoots of mosses, on an infinitely larger scale. The dots of fructification are so excessively minute, as not to be discernible without a powerful microscope, yet they stain the fingers with their fine black powder. When dry they turn blueish, or grey. There are none of the jointed fibres, found in *S. melanopum*, t. 2358.

2396



*Not published by J. G. Smeeth & Co.*

*Not published by J. G. Smeeth & Co.*







## SPILOMA murale.

*Wall Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

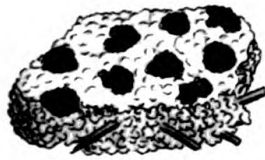
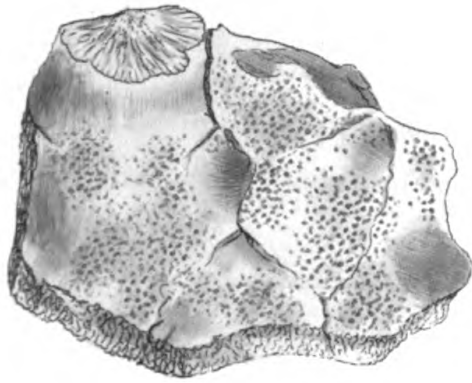
SPEC. CHAR. Crust obsolete, or white. *Receptacles* very minute, black, confluent, without bristles.

SYN. *Spiloma murale.* *Turn. and Borr. Lich. Brit.* v. 1. 31.

**O**BERVED by Mr. W. Borrer, who sent it to us, upon the plastered walls of cottages in Sussex, and by Mr. Turner on Burgh church, Suffolk. No doubt it may be found almost any where, by those who, with microscopic eyes, will take the pains to scrutinize any dirty mortar. But though as common perhaps, as it is to common observers indistinct and trifling, it holds a place in the chain of vegetable being, and the link it forms is accurately determined, since the genus to which this little species belongs is now clearly understood.

The crust is so thin, and so like the mortar in whiteness, that if it exists, as we presume must be the case at some period or other, it is not discernible at an advanced stage of the fructification. The *receptacles* form very minute black irregular dots, with a greyish tinge, like a stain upon the mortar, and consist of globular grains, without any hairs or bristles intermixed. We therefore, taught by our learned friends above cited, exclude the latter circumstance from our generic character.

2397



*Ap. excavatella by J. S. Purdy, London.*





## SPILOMA dispersum.

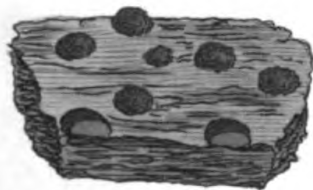
*Scattered Greenish Spiloma.**CRYPTOGAMIA Algæ.*

**GEN. CHAR.** *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

**SPEC. CHAR.** Crust filmy, very thin, greenish grey. *Receptacles* mostly dispersed, hemispherical, sooty; internally yellowish green.

**SYN.** *Spiloma dispersum.* *Turn. and Borr. Lich. Brit. v. 1. 32.*

**NOT** unfrequent on old rails. It is a very distinct and unequivocal species. The crust looks only like a greenish or olive stain. The *receptacles* are more or less widely scattered, rarely confluent, smaller than poppy-seed, hemispherical, rough, of a sooty or brownish black; internally their substance appears solid, and of a light yellowish, or olive, green. The latter part commonly becomes readily obvious, as the outside is easily rubbed off; in which state each *receptacle* looks like a little black ring round a greenish spot, and might hastily be mistaken for the shield of a Lichen.



*Sp. 1812 published by J. L. Swartz, London.*



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## S P I L O M A decolorans.

*Staining Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

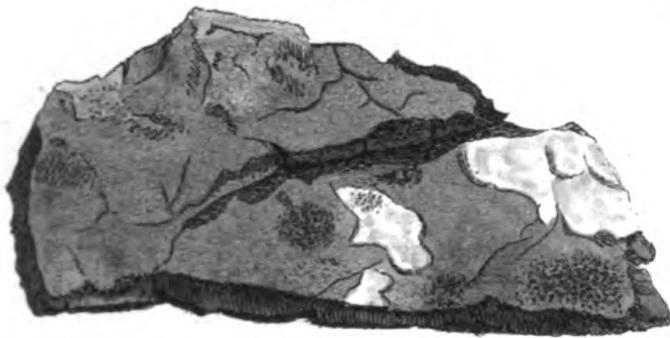
SPEC. CHAR. Crust spreading widely, very thin, for the most part membranous, greyish white ; yellowish green when rubbed. *Receptacles* minute, flat, confluent, purplish grey.

SYN. *Spiloma decolorans.* *Turn. and Borr. Lich. Brit. v. 1. 39.*

COMMUNICATED upon the rugged bark of an old oak, by Mr. W. Borrer. It is said to be common in that situation, as well as on boarded buildings, and on pales.

The crust is very thin, widely extended without interruption, even, rarely rugged or cracked, membranous, scarcely at all tartareous ; externally of a dirty white, or grey ; green within ; which latter hue, with a tinge of yellow, it permanently assumes on being rubbed with any hard body. The fructification when young appears in the form of irregular, minute, whitish, flat, powdery warts, which soon become confluent, covering the whole plant, and giving it a faint purplish hue as they advance in age.

2399



*As published by J. S. Edwards London*

✓



## SPILOMA punctatum.

*Dotted Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust thin, somewhat powdery, white. Receptacles scattered, minute, dot-like, solid, black, with superficial dark brown powder.

SYN. *Spiloma punctatum*. *Turn. & Borr. Lich. Brit. v. 1. 40.*

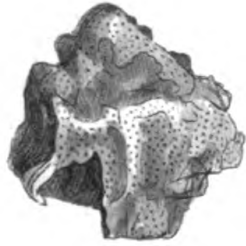
GATHERED on old oaks at Coltishall, Norfolk, by Mr. D. Turner, who favoured us with this specimen.

The crust forms small irregular patches, minutely edged with black, and scarcely an inch wide, thin, but of more substance than in some others of the genus, white and slightly powdery on the surface. When rubbed it becomes greenish, like that of many Lichens. Receptacles very numerous sprinkled all over the crust, into which they are sunk, looking like minute black dots. Their substance is solid, as in *S. tumidulum*, t. 2151\*, but greyish internally, with a black external coat, covered with a very minute brownish-black powder.

The solidity of the internal part of the fructification makes the authors above cited doubtful whether this plant should not be referred to Acharius's genus *Arthonia*.

\* *S. gregarium*. *Turn. & Borr. Lich. Brit. v. 1. 42.*

2472

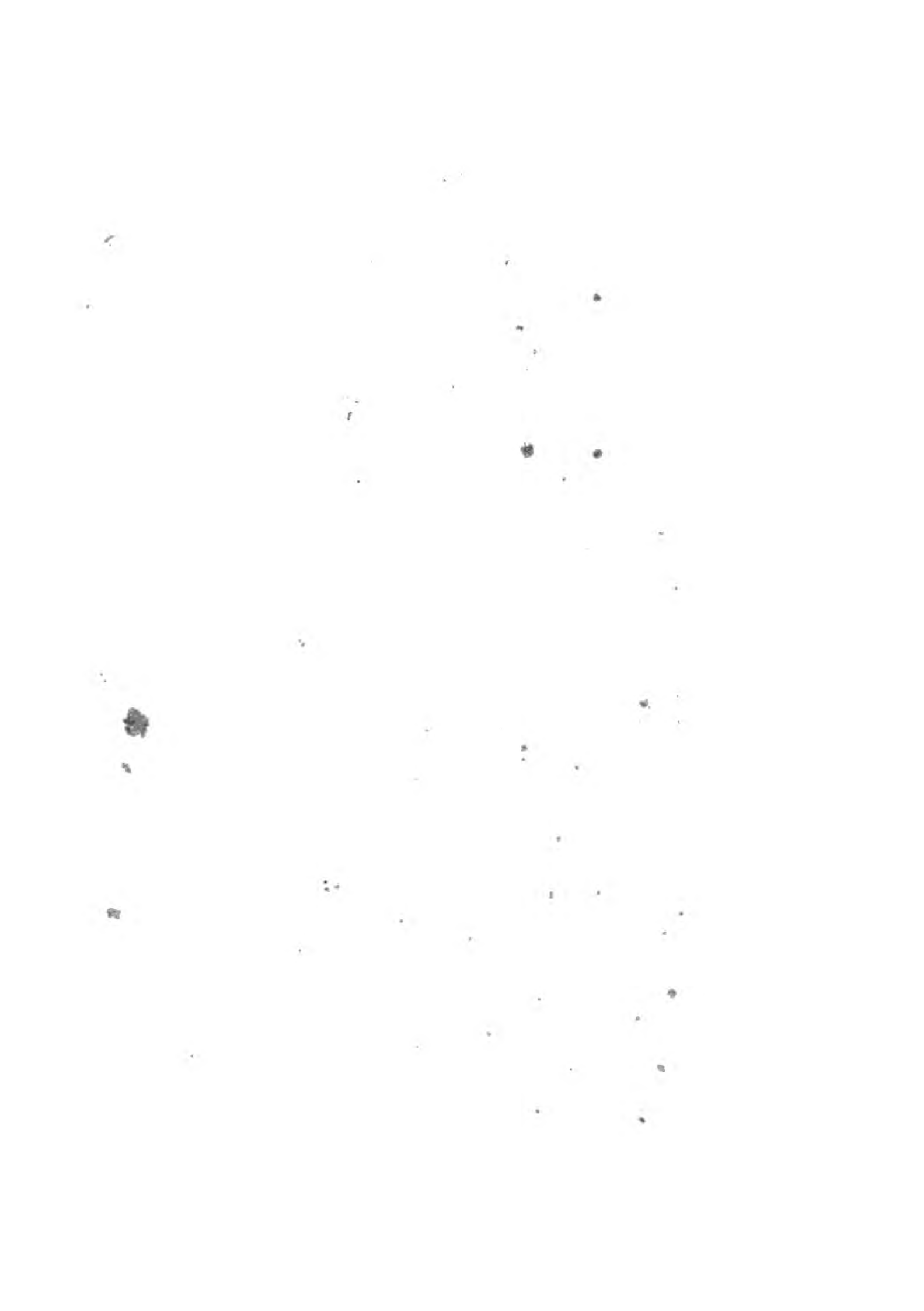


*Not published by J. S. Huxley, London.*

1871  
1872



✓



## S P I L O M A Vitiligo.

*Leprous Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, membranous, whitish, swelling under the receptacles, which are convex, roundish, variegated with grey and black.

SYN. *Spiloma Vitiligo.* *Ach. Meth.* 10. t. 1. f. 4.

FOUND upon old posts and other dead wood long stripped of its bark, which it covers with an apparent hoary mouldiness, that slightly stains the finger if touched. The acute Professor Acharius first established this genus, which we now gladly adopt, more especially as some late discoveries seem to us to confirm it. The essential character of *Spiloma* consists in the indeterminate form of its receptacles and in their hairy as well as powdery disk, destitute of any proper edge or border, circumstances abundantly sufficient to separate it from *Lichen*, *Opegrapha*, *Lepraria*, and all others.

In this species when magnified the crust proves to be thin, membranous, of a silvery greyish white, smooth and even, except where the numerous fructifications occur, under each of which it is considerably elevated into roundish irregular warts, of various sizes. The surface of each wart becomes a black, powdery, minutely hairy disk, variegated with grey, without any real border, though the tumid edges of the elevated crust resemble one. The powdery part we presume to be the seeds. Mr. W. Borrer favoured us with this minute plant, which seems to be not uncommon, though easily overlooked or neglected by trivial observers.

2075



1851, published by J. Sowerby London.

✓



## S P I L O M A versicolor.

*Variegated Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

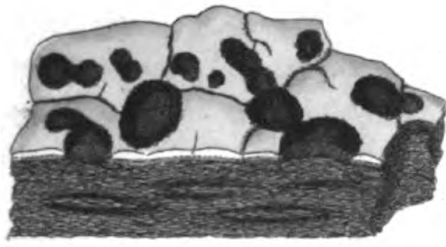
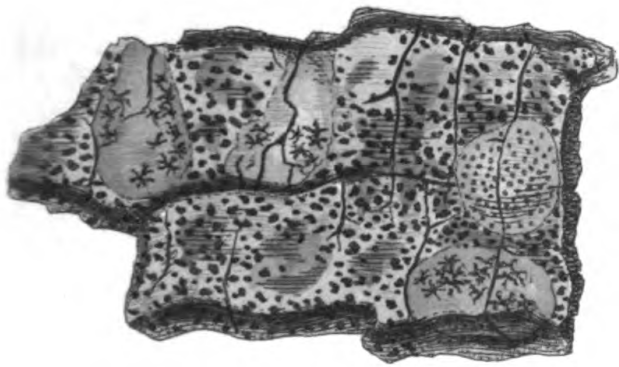
SPEC. CHAR. Crust thin, leprous, cracked, greyish, variegated with white or yellow. *Receptacles* depressed, flattish, rounded, sometimes confluent, very black.

SYN. *Arthonia versicolor*. *Ach. in Schrad. New Journ.* vol. 1. fasc. 3. 9. t. 4. f. 9.

GATHERED on the rugged bark of old trees in Norfolk and Suffolk by Mr. D. Turner, who sent it to Sweden for the determination of Professor Acharius. That learned botanist, being just then intent on establishing his new genus *Arthonia*, referred this and some nearly allied species to it, which we cannot but think more properly belong to *Spiloma*, on account of their rough, hairy and powdery receptacles; whereas those of *Arthonia* are firm, smooth and even, like the shields of a *Lichen*, with which also they agree in their cellular internal structure.

The crust of the present species is uniform, not very distinctly limited, of a thin, even, finely leprous substance, variously cracked; white within; externally smooth, variegated with white and a pale smoky grey; occasionally with a yellow or greenish tinge. The numerous receptacles, intensely black both within and without, are scattered over the crust, of various sizes, and of a rounded figure, but often running together into oblong spots. They are sunk in the crust, and nearly flat.

2070



*1819, published by J. Keenby London*



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## S P I L O M A variolosum.

*Pustulous Spiloma.*

## CRYPTOGAMIA Algæ.

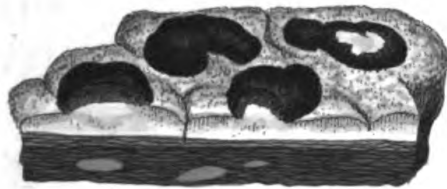
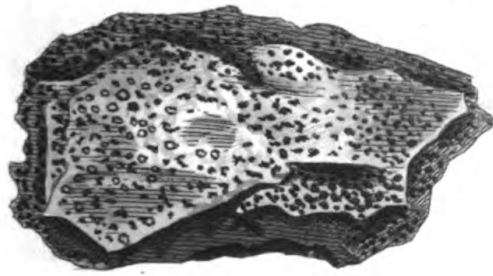
GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust tartareous, rugged, greyish white, cracked. Receptacles convex, rounded, very black; their centres often deciduous.

FOR this nondescript species we are obliged to Mr. Turner, who finds it on old trees in many places, more especially at Coltishall, Norfolk.

The crust is white, more or less clouded with grey, and differs from the last in being of a much thicker and tartareous texture, rugged and rough in the surface; like that somewhat cracked or tessellated, and of an indeterminate figure. Receptacles numerous, convex, intensely black, of a rounded but irregular shape, their middle part often breaking off unequally, and exposing to view the white crust beneath, which is elevated, forming a sort of core to the receptacle, as in *Lichen sanguinarius*, t. 155, and many others.

2077



1809 published by J. Sowerby London.

✓

SPERMATOPHYTES

Golden Spermophyte

CHARACTERISTICS

GEN. CHAR. Rootstock short, without a swollen base, and covered with a thin, scaly bark. The stem is erect, branched, and covered with a thin, scaly bark. The leaves are alternate, linear-lanceolate, and covered with a thin, scaly bark. The flowers are small, and the fruit is a globose, orange-colored berry.

This plant is a small, bushy tree, growing in the mountains of the West Indies. It is a member of the Spermophyte family, and is characterized by its short, thick, tuberous rootstock, which is covered with a thin, scaly bark. The stem is erect, branched, and covered with a thin, scaly bark. The leaves are alternate, linear-lanceolate, and covered with a thin, scaly bark. The flowers are small, and the fruit is a globose, orange-colored berry. The plant is a member of the Spermophyte family, and is characterized by its short, thick, tuberous rootstock, which is covered with a thin, scaly bark. The stem is erect, branched, and covered with a thin, scaly bark. The leaves are alternate, linear-lanceolate, and covered with a thin, scaly bark. The flowers are small, and the fruit is a globose, orange-colored berry.

## S P I L O M A auratum.

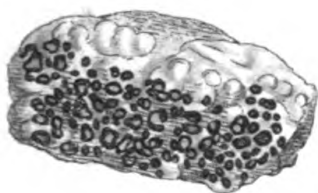
*Golden Spiloma.**CRYPTOGAMIA Algæ.*

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust tartareous, rugged, greenish or greyish white. Receptacles convex, rounded, black; orange-coloured within.

**T**HIS, perhaps the most curious of its genus at present known, was first discovered by Mr. Turner and Mr. W. Borrer on Wrentham church, Suffolk. It grows also upon the bark of fir and other trees. In the latter case the crust is thinner and greener; on stone walls it assumes the thick tartareous rugged appearance of many leprous Lichens, being internally very white and chalky, externally greyish, extremely tumid and rugged. The receptacles are numerous, rounded, convex, outwardly of a brownish, not very intense, black. The black coat is thinner than in the last-described species, and covers another, of about equal thickness, of a fine orange hue, which comes in sight, either spontaneously, by the ripening and scaling off of the black surface, or by any injury offered to the latter, so that the whole plant is often rendered very conspicuous by the copious display of this orange-coloured part.

2078.



1811209 published by J<sup>s</sup> Sewerby London.



✓



## SPILOMA tuberculosa.

*Warty Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, powdery, in an uninterrupted crust.

SPEC. CHAR. Crust calcareous, greyish-white. *Receptacles* scattered, somewhat confluent, unequal, elevated, granulated, black.

**DISCOVERED** by Mr. William Robertson of Newcastle, on sandstone rocks in that neighbourhood, as well as in various parts of Northumberland and Durham, where it is far from rare. "Mr. Turner has determined it to be certainly a *Spiloma*, and quite new." We without hesitation accede to this determination.

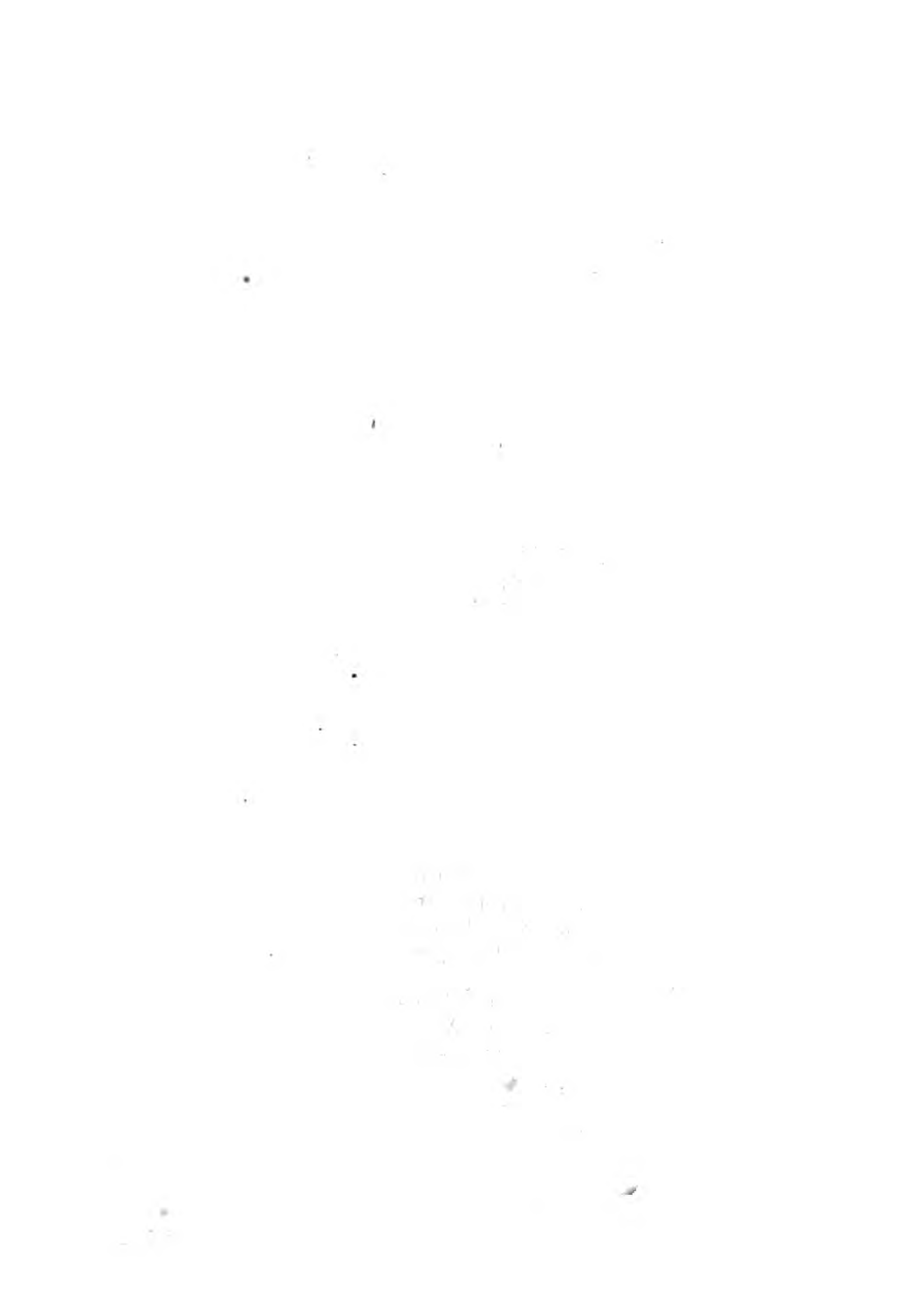
The crust is uninterrupted, running closely over the stone, but of a calcareous nature, greyish-white externally, but internally green when cut or rubbed, as in many Lichens. *Receptacles* sessile, not immersed, copiously scattered over the surface, various in size, often approximated or confluent, consisting of black tumid granulations, intermixed with some appearance of a grey powder. When cut vertically they are internally green like the crust.

2550



*Engraved by W. Hancock, London.*

V



## SPILOMA tumidulum.

*Scarlet Spiloma.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* shapeless, without a border, hairy and powdery, in an uninterrupted crust.

SPEC. CHAR. Crust thin, continued, whitish, smooth, rather polished. *Receptacles* minute, convex, red.

SYN. *Spiloma?* *tumidula*. *Ach. Meth.* 11. t. 1. f. 5.

*Sphæria gregaria*. *Wieg. Obs.* 43. t. 2. f. 10.

*Dicks. Crypt. fasc.* 1. 22. *With. v.* 4. 391.

*Hull.* 424. *Relh.* 541. *Sibth.* 404. *Abbot.* 933.

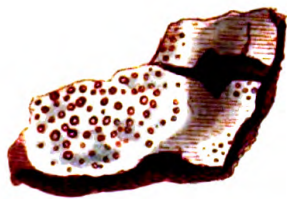
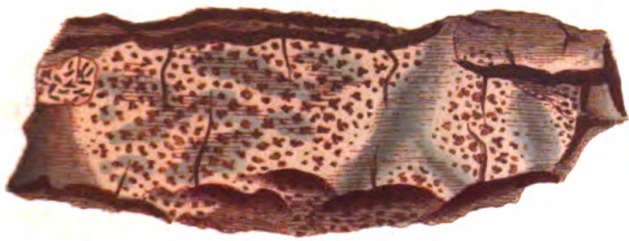
*Sowerb. Fung. t.* 375. f. 5.

*Arthonia tumidula*. *Ach. in Schrad. N. Journ.*

*v.* 1. *fasc.* 3. 11.

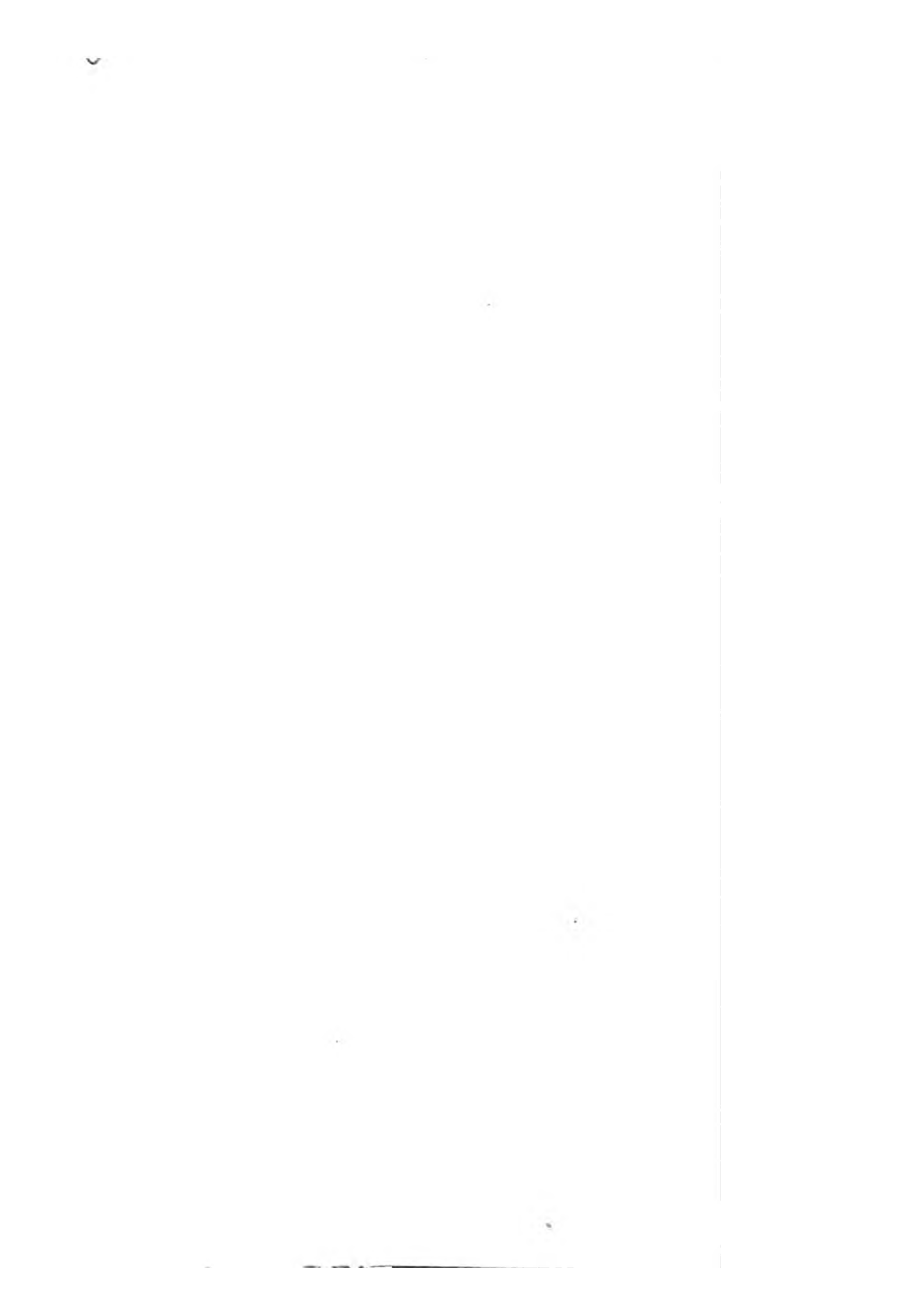
BY no means uncommon on the smooth barks of trees. The crust is extremely thin, continued, not very distinctly rounded or bordered, even, smooth, whitish, somewhat silvery and polished, scarcely cracked or scaly. *Receptacles* numerous in the form of scattered irregular warts, a little prominent, their external layer brown, producing innumerable scarlet seeds, which are seemingly entangled in minute fibres of their own colour.

Botanists have differed concerning the natural order of this plant, and even Acharius seems not to be very decided about it, neither was he aware of its synonyms, nor of its being so common a production. We trust we are right in the above references and characters, and that there is no doubt of its generic affinity to our *t.* 2077 and 2078.



*At the ... ..*







ARTHONIA Swartziana.

Swartzian Arthonia.

CRYPTOGAMIA Algæ.

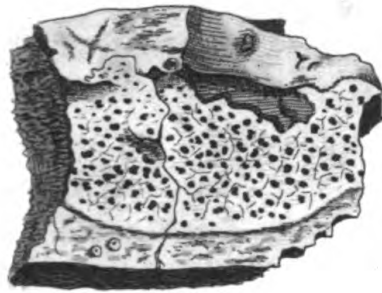
GEN. CHAR. Receptacles in an uninterrupted crust, shapeless, without a border, smooth, in which the spores are imbedded.

SPEC. CHAR. Crust thin, membranous, scaly, cracked, cream-coloured. Receptacles black, depressed, roundish, wavy, rather uneven.

SP. Arthonia Swartziana. Ach. in Schrad. New Journ. v. 1. tab. 5. 15. a. f. 1.

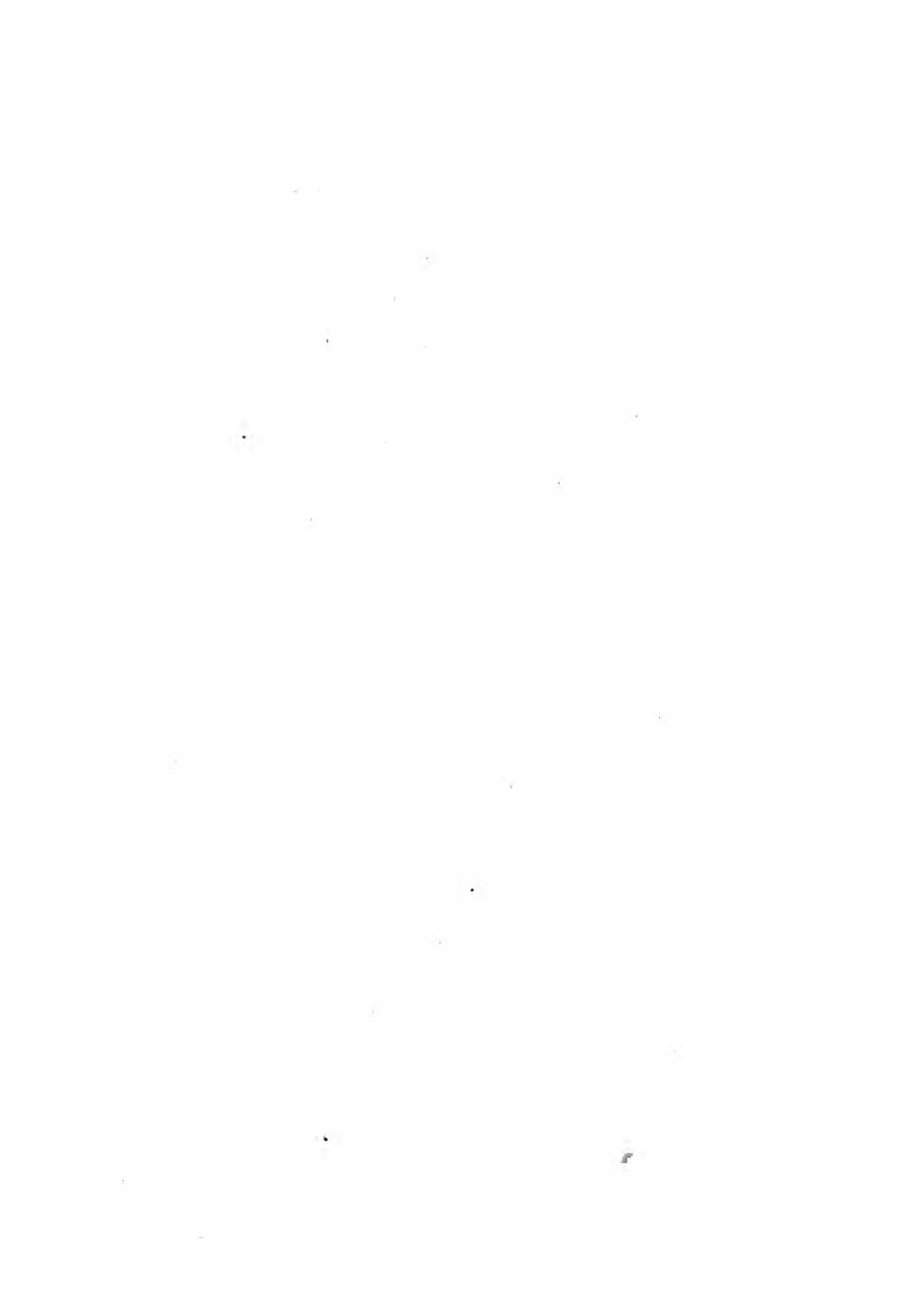
FOUND by Mr. W. Borrer upon the smooth barks of trees in Sussex; and on being sent to Dr. Acharius, it was returned to him with the above synonym. It is one of those plants, of the Lichen family, which have given this learned investigator the most trouble, and in which he has at last founded the above new genus. We deem it therefore important to publish the name at any rate, whether the genus should remain or not; but we must confess that if we could with satisfaction have referred it to any established one, we would have done so. It might indeed have been forced into Lichen, but not in that whole tribe were reduced to order.

The crust is thin, membranous, uninterrupted and circumscissile, of a dirty or yellowish white, cracked, and wavy, of consistence here and there. Receptacles black, both numerous, small, depressed, rounded, but irregularly so, being of an indeterminate figure, without any border. Internally they are palish.—We have alluded to the name, genus at p. 254.



*Novus published by J. Sowerby London*

V



[ 1752 ]

## L I C H E N obscurus.

*Dull-olive Dotted Lichen.*CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

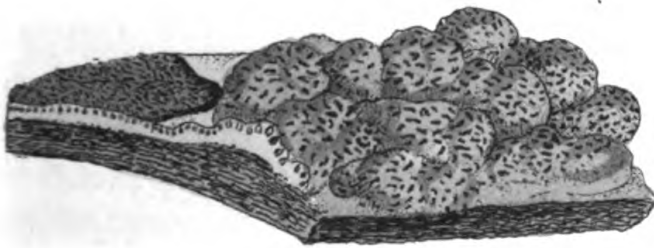
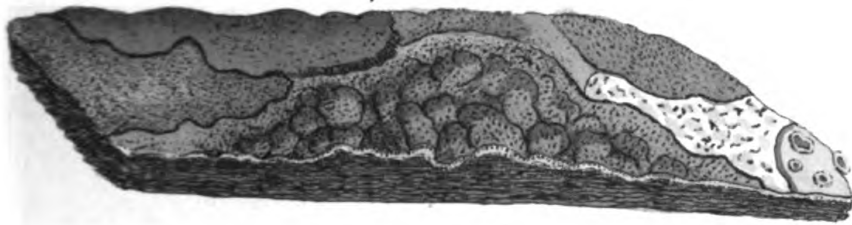
SPEC. CHAR. Crust uninterrupted, undulated, olive-brown, smooth, black-edged. Tubercles deeply immersed, minute, clustered, dark-brown, oblong, curved.

SYN. Lichen obscurus. *Ach. Prod.* 20.*Cytophtha obscura. Ach. Meth.* 22. *Persoon in Lic. Am. fasc.* 7. *S2. t. S. f.* 5, B, b.

SENT us from the New Forest, Hants, by Mr. Lyell. We have also received it from Edward Rudge, Esq., F. L. S., the celebrated author of the *Plantae Gaimenses*, and from our often-mentioned friends Messieurs Turner and W. Borrer.

It grows on the bark of old trees, forming dull-olive, continued, irregular spots, turning greyish with age, undulating with the inequalities of the bark, but otherwise even in thickness, smooth, not mealy, internally green. The minute fructifications, of a dark brown, are in little oblong specks, not prominent, crowded together, divaricated so as to seem branched. A perpendicular section of the crust shows the real fruit to be deeply imbedded, and much larger within than appears outwardly.—This species does not properly belong to *Cytophtha*, but to a new Acharian genus named *Arthonia*, along with *L. implexus*, t. 981.

1752



*Plate 1. Fig. 1.*



*Plate 1. Fig. 1. Published by J. Sowerby London.*







LICHEN *impolitus*.*Unpolished Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

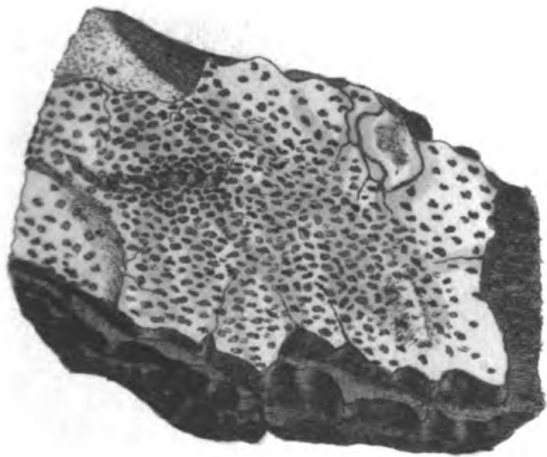
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust white, powdery and cracked. Tubercles numerous, depressed, oblong, irregular, obtuse, yellowish-brown, clothed with deciduous mealiness, without any border.

SYN. *Lichen impolitus*. *Achar. Prod.* 56.*Verrucaria impolita*. *Hoffm. Fl. Germ.* v. 2. 172.

**GATHERED**, for the first time in Britain, by Mr. D. Turner, on the trunks of trees at Bowton near Barton, Norfolk. A specimen sent by Dr. Schrader proves this to be the *L. impolitus* of the German botanists, and therefore it ought to be what Dr. Acharis has so denominated; but his description of the fungus is "truncated and at length black," which I suspect of his having confounded with this our *L. impolitus*, *Soc.* a very different species.

*L. impolitus* has a very white and inseparable crust, mealy and cracked beneath. Innumerable tubercles are regularly distributed over it, which when young are sunk rather below the surface, and are only bordered by the crust, but have no real border when they are old. Their form is oblong, obtuse, curved, and when young they are white; but in advanced age they produce a thin layer of a yellowish or dull orange hue; but this colour is sometimes obscured by a white mealiness which covers them, and is distinguishable from the crust, because it may be rubbed off, and then the tubercles are very



*Fig. 1. Cross-section of the stem of the plant.*

✓





[ 1713 ]

## LICHEN fagineus.

*Bitter Powdery-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

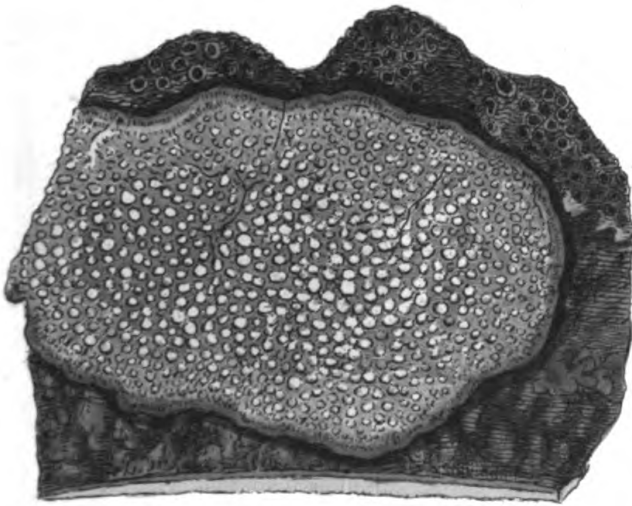
SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles prominent, hemispherical, mealy, very white.

SYN. Lichen fagineus. *Linn. Sp. Pl.* 1608. *Ach. Prod.* 27. *Huds.* 526. *With. v. 4.* 4. *Hull.* 284. *Relh.* 446. *Sibth.* 318. *Abbot.* 257. *Lightf.* 807. *Hoffm. Enum.* 18. t. 2. f. 4.*Variolaria faginea.* *Ach. Meth.* 12.

A VERY common Lichen on the trunks of Beech, Sycamore, Oak, &c., about which no doubt nor difficulty has been supposed to exist; yet we cannot with certainty fix upon any synonym of Dillenius, and Professor Acharius has lately distinguished many species nearly allied to it, and all together constituting his *Variolaria*, a genus characterized by its mealy tubercles, (contrary indeed to our definition of *Lichen*), which probably will hereafter be firmly established.

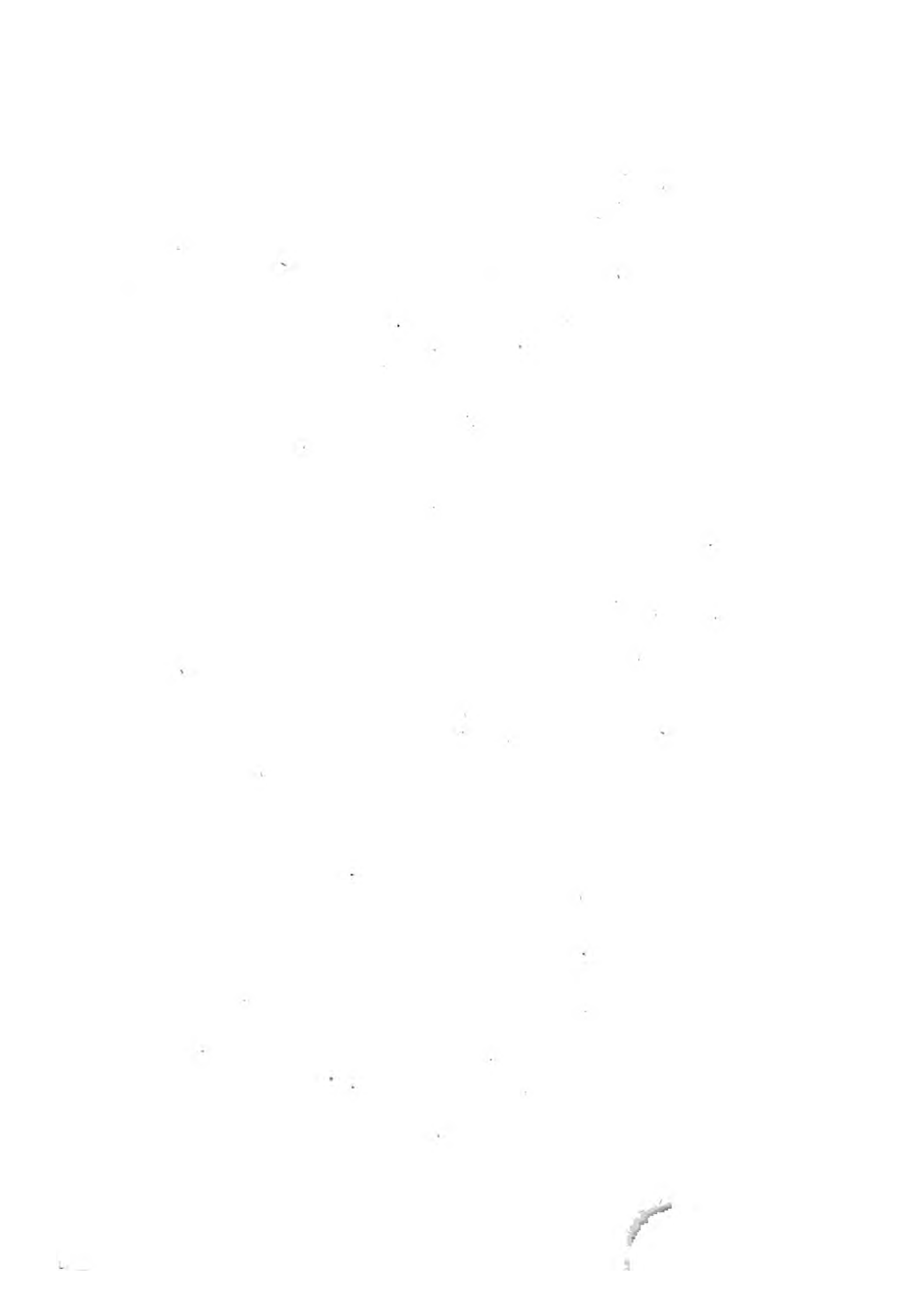
The crust is circular, grey or greenish when young, rugged, polished, with a thin, smooth, elegant border, coloured with concentric shades of brown. Numerous prominent tubercles are scattered over the central part, which are very white, powdery and somewhat convex in their disks, with a clumsy imperfect kind of border. By age both crust and tubercles become of the same dirty white.

Mr. W. Borrer has helped us to a sure criterion of this species, which is its very bitter taste, not perceptible immediately, but, when perceived, very strong, disagreeable, and permanent on the palate for many hours, like that most abominable of all flavours the root of *Cyclamen europæum*.





✓



## LICHEN globuliferus.

*Vesicle-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust spreading, faintly bordered, rugged, greyish, with white powdery warts. Shields spherical, closed; at length bursting, with a thin ragged border, and blackish disk.

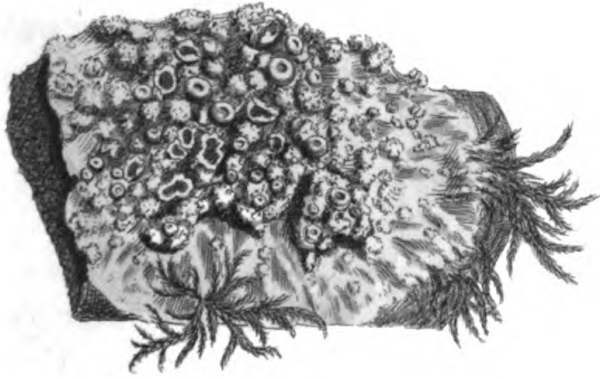
SYN. Variolaria globulifera. *Turn. Tr. of L. Soc. v. 9. 139. t. 10. f. 2.*

**DISCOVERED** on the trunks of beeches and oaks in Sussex, but rarely, by Mr. W. Borrer, by whom we were favoured with specimens in 1802; but we would not anticipate our friend Mr. Turner, who had undertaken to describe this with other new British Lichens, in a paper for the Linnæan Society, now published in the 9th volume of its Transactions.

This species is nearly akin to *L. fagineus*, *t. 1713*, and *discoideus*, *t. 1714*, with both which its crust agrees in appearance, but with the latter only in insipidity, wanting the bitter flavour of *fagineus* first remarked by Mr. Borrer. Besides numerous white powdery prominences, the crust bears here and there a few globular vesicles, depressed at the top, of the size of small peas, or vetch seeds, rather paler than the crust, whose upper part at length bursts, and the thin torn cover becomes an upright circular margin to the real disk of the shield, then disclosed, which is flat, greenish-black, occupying the bottom of the vesicle, and contains seeds lodged in parallel vertical cells like those of other Lichens.

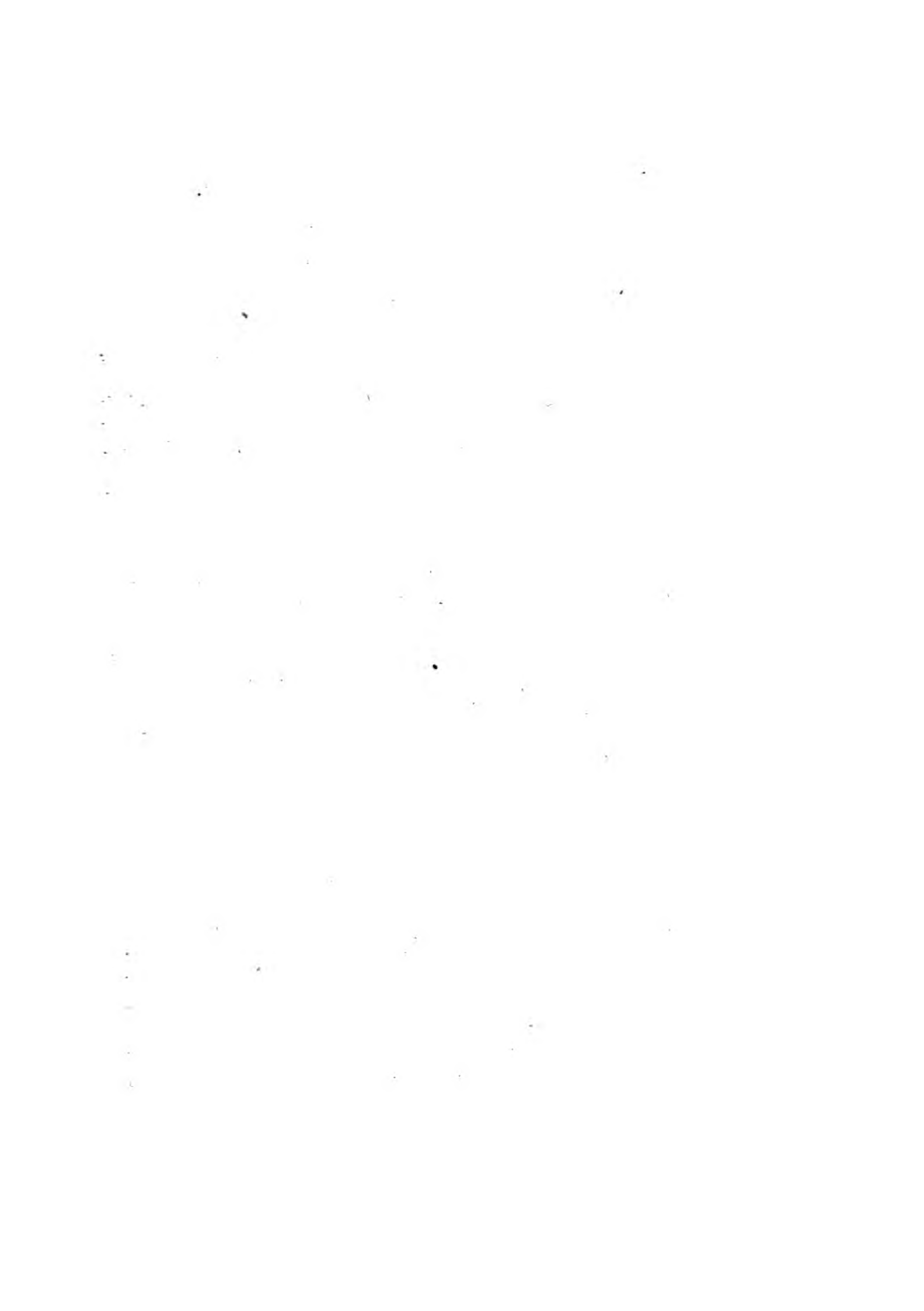
We readily assent to Mr. Borrer's idea, that the powdery tubercles of *L. fagineus*, &c. are probably assemblages of *gemmae* rather than of true seeds, being analogous to viviparous flowers; see *t. 669* and *1355*.

2008



Mar 1 1869 Published by J. Sowerby London

✓



## LICHEN multipunctus.

*Many-dotted Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

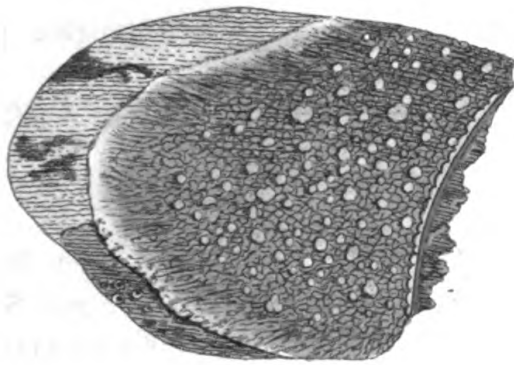
SPEC. CHAR. Crust ash-coloured, warty, rugged, tartareous, thin, with a fibrous border. Shields hemispherical, with a white aggregate powdery disk, and smooth lobed border.

SYN. Variolaria multipuncta. *Turn. Tr. of L. Soc. v. 9. 137. t. 10. f. 1.*

AMONG the eight new British Lichens described by Mr. Turner in the 9th volume of the Linnæan Society's Transactions, of which we have already given six to the public, is the present curious species, found not uncommonly, on the trunks of beeches in Sussex, by Mr. W. Borrer, who has bestowed specimens upon us.

This has doubtless been overlooked among the *fagineus*, *discoideus*, &c. Its crust is of a similar grey or ash-coloured hue, tartareous, but thinner, spreading in roundish patches, with a fine thin minutely fibrous edge; the surface grows rugged and warty by age, and is always opaque or unpolished, changing nearly to white in drying. The shields are numerous, rather small, hemispherical, with a thick, smooth, lobed, but not granulated border; their disk white, rugged, peculiar for being marked with 3 or 4 dots, which are found to be so many distinct disks, as it were, in one border, being separated from each other at the base internally, by the fleshy substance of the crust. The old disks change to a brownish colour.

Mr. Borrer observes that this species is destitute of the nauseous bitter taste, which he first noticed in *L. fagineus*, t. 1713.



1840, published by J. Sowerby London



✓



[ 2062 ]

## LICHEN velatus.

*Veiled Lichen.*

---

*CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust limited, tartareous, thin, rugged, greyish, with a pale edge. Shields small, crowded; the disk yellowish, veiled with a white membrane; border thick, even, of the substance of the crust.

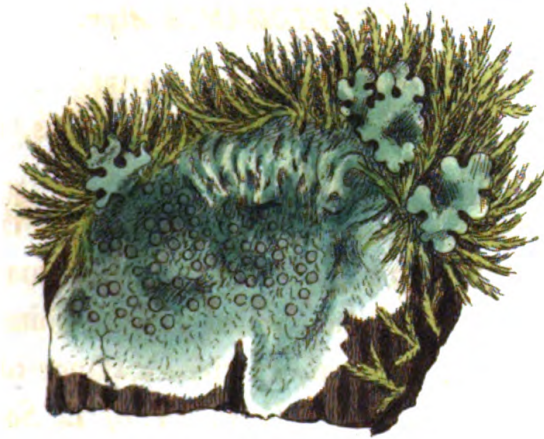
SYN. *Parmelia velata*. *Turn. Tr. of L. Soc. v. 9. 143. t. 12. f. 1.*

---

COMMUNICATED by Mr. W. Borrer, along with the preceding, from Sussex, where it grows, but rarely, upon ash trees.

It has the crust and general habit of our *L. multipunctus*, *t. 2061*, and surely proves that there can be no generic distinction, natural nor even artificial, between the two species. The crust in the present is a little greener; usually perhaps more uneven. The shields are sessile, numerous, small, with a thick, but not much elevated, smooth border, originating from the crust; their disk is flat, of a yellowish or pale salmon colour, but entirely concealed by a peculiar white membranous veil which is drawn across it from the border, and which seems sufficiently to distinguish this species from several others to which it is otherwise very nearly allied. This veil, to be understood, requires examination in a recent or moist state.

2062



*Printed and published by J. Sowerby London.*

✓



## VARIOLARIA griseo-virens.

*Greyish-green Variolaria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

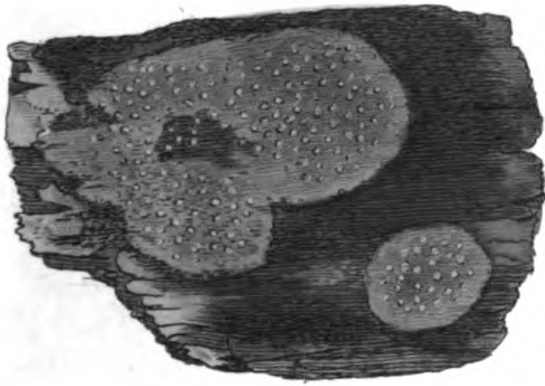
SPEC. CHAR. Crust elliptical, thin, slightly tartareous, rugged, grey, scarcely limited. *Receptacles* roundish, with a narrow border. Powder greenish.

SYN. *Variolaria griseo-virens.* *Turn. and Borr. Lich. Brit. v. 1. 54.*

ON the smooth cuticle of the bark of birch and cherry trees, given us by Mr. W. Borrer, from Stratton-strawless leath, Norfolk. The grey brownish crust looks like a dirty stain, or mass of decayed *Lepraria*; but on examination proves to be of a continued, rugged, though thin substance, and composes oblong transverse patches, an inch or two in length, and half an inch in breadth. The colour is the same, whether the plant be moist or dry. The little pale-green fructification, either scattered or crowded, readily discovers this species when once known. Each receptacle is roundish, with a narrow border, mostly concealed by the protruding powder, which turns greener or yellowish with moisture.

We can no longer decline adopting this genus, which our friends above cited have well illustrated, and to which they refer our *Spiloma Vitiligo*, t. 2075, of whose "*margo spurium*" we could not but be aware, but we thought there were hairs intermixed with its powder. The propriety of establishing *Variolaria* is hinted in v. 24. 1713. though the nature of the powder it bears is still a mystery. See t. 1713, 1714, 2008, 2061, 2401, for others of this genus.

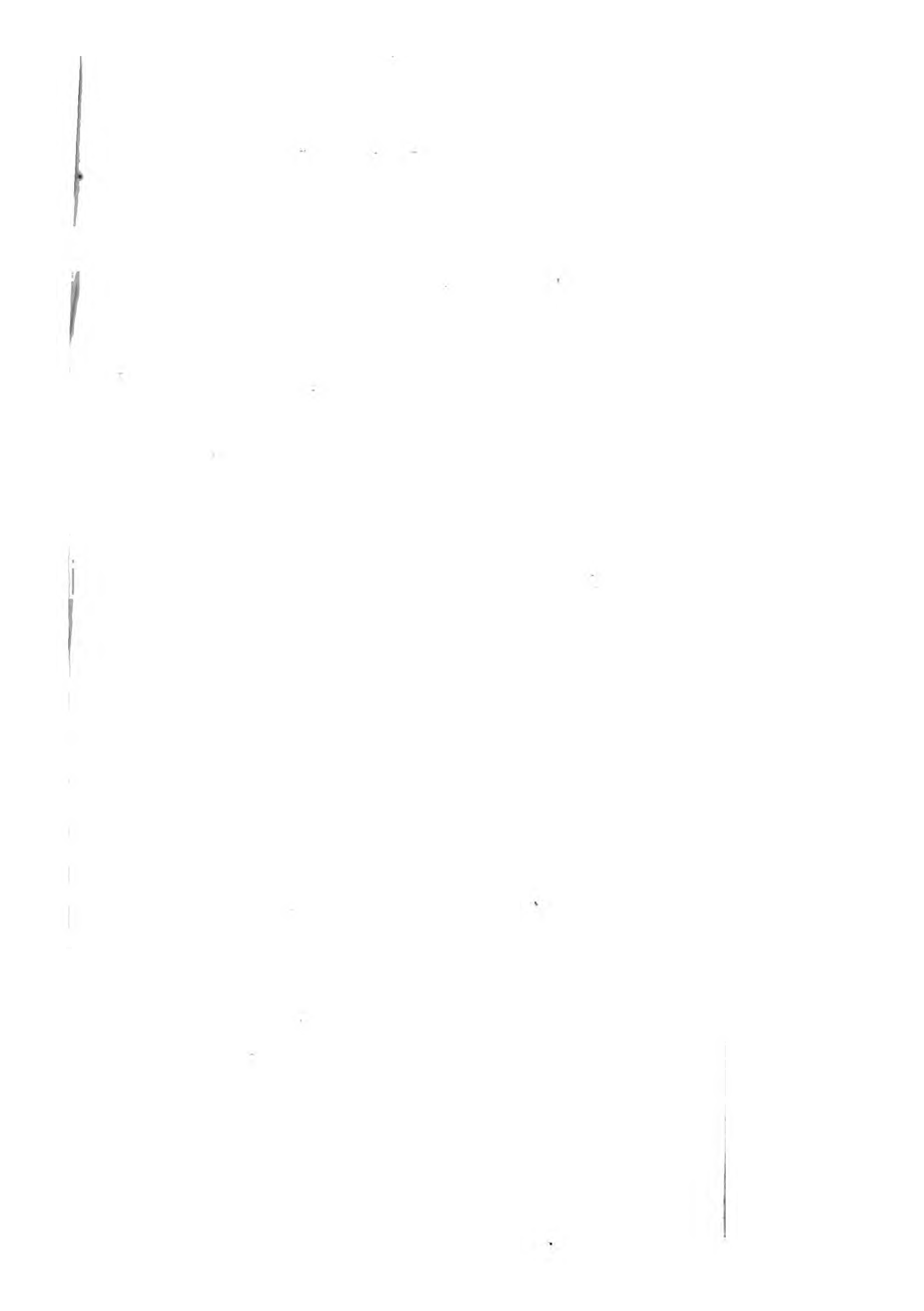
2400



*Sp. in a public collection for the University of London*



✓



## VARIOLARIA aspergilla.

*Sprinkled Variolaria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

SPEC. CHAR. Crust orbicular, tartareous, thickish, dull white, wrinkled, with a smooth white polished edge. *Receptacles* scattered, elevated, hemispherical, with an obsolete border. Powder very white.

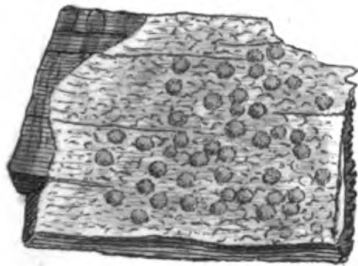
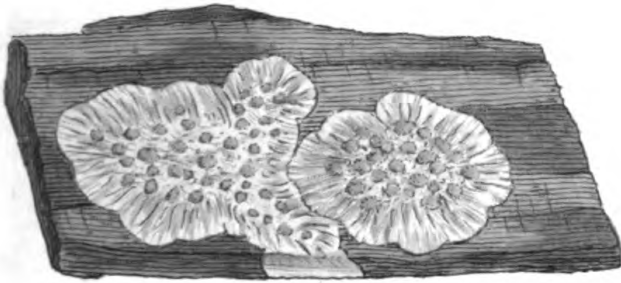
SYN. *Variolaria aspergilla.* Ach. *Meth.* 13. Turn. and Borr. *Lich. Brit.* v. 1. 67.

*Lichen aspergillus.* Ach. *Prodr.* 28; excluding the reference to Persoon.

THIS, received from Mr. W. Borrer, who finds it in Sussex, more commonly on rails than on trees, agrees less precisely than could be wished with a named specimen from Prof. Acharius, which is whiter, and answers to the description in his *Methodus*, of the crust being *scarce manifestly rimose*; whereas ours is wrinkled, and when dry evidently full of cracks. Mr. Turner and Mr. Borrer nevertheless have decided it, by their specimens from that author, to be right. We are not without doubts of his having confounded different plants.

The edge of the present is thin, polished, of an uniform white; the rest greyish or blueish white, a little thickened and tartareous, wrinkled and cracked. *Receptacles* neither numerous nor crowded, but scattered, convex and prominent; their border minute and soon obliterated; their internal disk pale flesh-coloured, concealed by the copious white powder, which forms a dense mass, and when rubbed turns greenish. The colour of this species is unchanged by moisture. Its taste is not bitter as in *V. faginea*, t. 1713.

2401.



*W. & A. Cook, Publishers, 75, St. Paul's Churchyard, London.*

✓



[ 2410 ]

## VARIOLARIA lactea.

*Milky-white Variolaria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

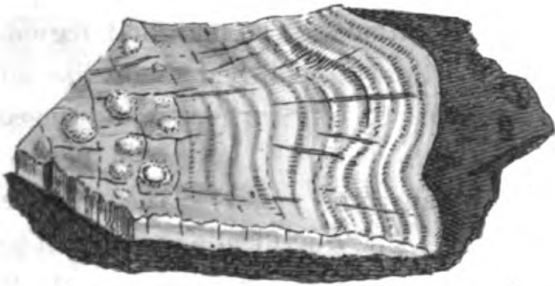
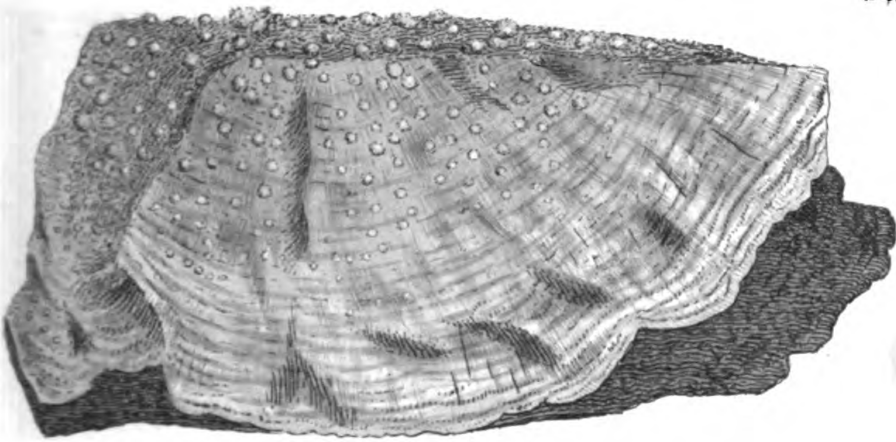
SPEC. CHAR. Crust orbicular, tartareous, thick, white, cracked; thin, polished, zoned and flesh-coloured in the circumference. *Receptacles* orbicular, very white, with an elevated margin when young.

SYN. *Variolaria lactea*. *Pers. in Ust. Ann. fasc. 7. 24.*  
*Ach. Meth. 14. t. 1. f. 6.* *Turn. & Borr. Lich. Brit. v. 1. 69.*

*Lichen lacteus*. *Linn. Mant. 132. Huds. 526.*  
*With. v. 4. 5. Hull. 285. Wulf. in Jacq. Coll. v. 3. 107. t. 4. Westr. fasc. 1. 25. t. 3?*

THE Rev. Mr. Harriman sent us beautiful specimens of this, on whinstone, from the north. Its crust spreads widely and circularly, without interruption, being tartareous, cream-coloured, finely granulated, tuberculated, cracked and opaque over the greater part of its surface. The marginal region, if we may so speak, is much thinner, polished almost like satin, marked with numerous concentric lines or plaits, and tinged at the edge with a delicate flesh-colour. This part is better described by Wulfen than any other writer. Acharius seems not well to have known it. The fructification when young is small, not unlike the shields of a *Lichen*, having a thickish elevated border, though only an uneven disk. The latter in process of time becomes very white and powdery. The internal disk Mr. Turner says is pale brown, but not easily discoverable. Notwithstanding the doubts of Acharius reported in the *Lich. Brit.* we cannot have any scruples as to Wulfen's synonym.—Dr. Westring's plate is much less like our plant; indeed it seems scarcely intended for it, though drawn by Acharius, from whom we have a correct specimen.

2410



*May 1. 1852 published by J. Sowerby London.*



✓



## VARIOLARIA dealbata.

*White-wash Variolaria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

SPEC. CHAR. Crust tartareous, thickish, greyish white, cracked, tumid, papillary and rugged; obscurely zoned at the circumference. *Receptacles* orbicular, prominent, white, with an aggregate internal disk.

SYN. *Variolaria dealbata.* *Decand. Franc. v. 2. 525?*  
*V. corallina.* *Ach. Lich. Univ. 319. t. 5. f. 6.*

*Lichen dealbatus.* *Ach. Prodr. 29.*

*Isidium corallinum*, a supposed variety. *Ach. Meth. 138. t. 3. f. 7; bad.*

*I. paradoxum.* *Turn. & Borr. Lich. Brit. v. 1. 97.*

WE are obliged to Mr. Turner for this very complete specimen; but we have received others from various British friends, as well as from Dr. Acharius. The plant is not rare on hard rocks, in mountainous countries.

It differs from *V. lactea*, t. 2410, in having a very narrow, imperfectly zoned, border, but especially in the crust bearing scattered, cylindrical, papillary processes, often two together. The *receptacles*, when young, are small, concave, powdery, white cups; but when arrived at maturity, which happens to a few of them only, they become raised and convex, as large as hemp-seed, their surface still white and powdery, but finally displaying several little, concave, brownish or flesh-coloured, separate disks.

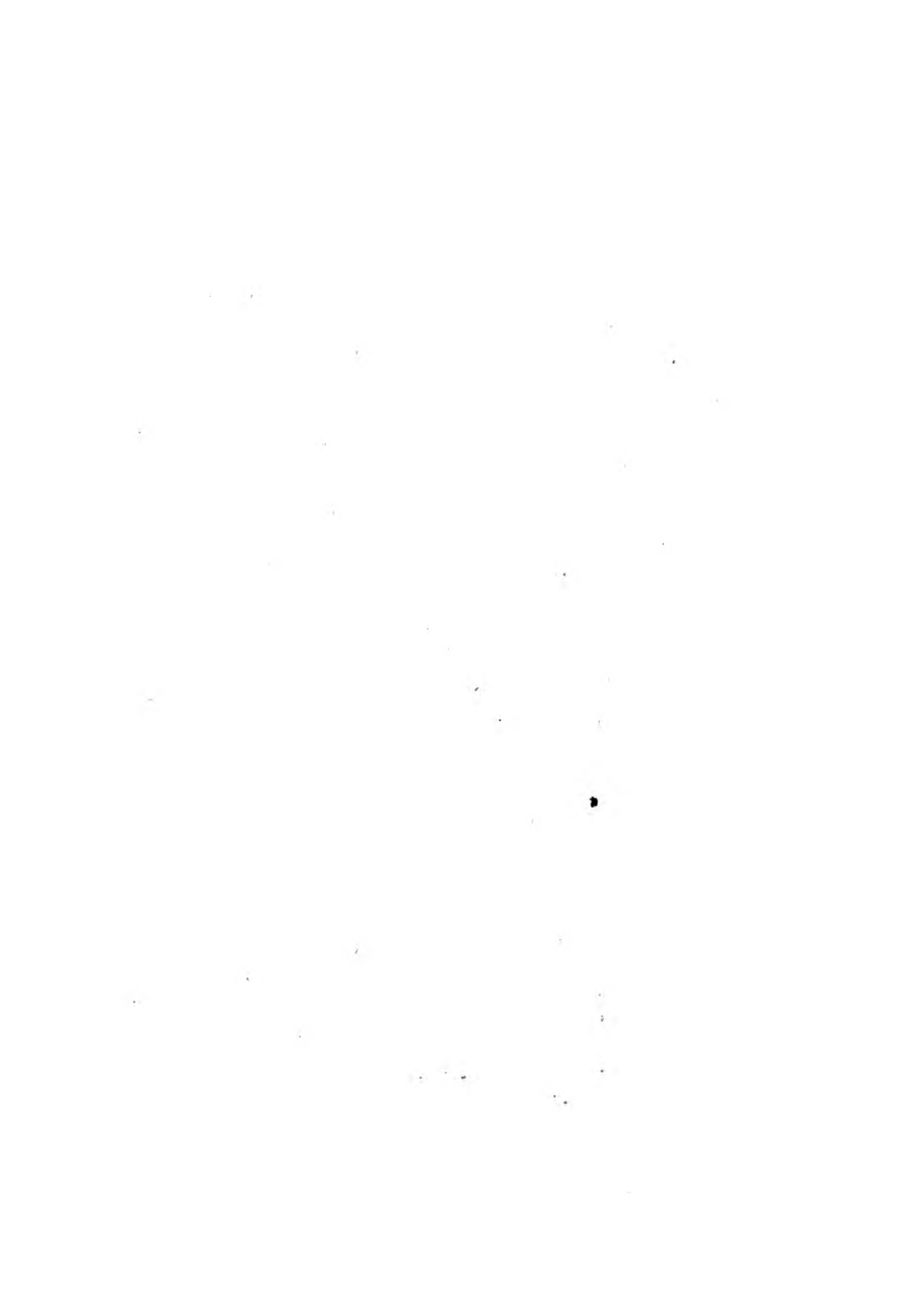
The learned authors of the *Lichenographia Britannica*, from whom we have taken our two first synonyms, consider this plant as an *Isidium*, on account of the *papillæ*, not without a most candid expression of their doubts. We dissent from them with much hesitation; but having, in no species, been perfectly satisfied of the nature of those *papillæ*, we are now led the more to doubt their being the fruit, and we rather rely on the *receptacles*, obviously agreeing with *Variolaria*.

2519.



*Manuscript published by J. G. Smith, London.*

✓



## VARIOLARIA cinerea.

*Ash-coloured Variolaria.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* cup-shaped, with a torn border from the crust, powdery, with a fertile disk beneath.

SPEC. CHAR. Crust orbicular, tartareous, thin, ash-coloured, cracked; its circumference indeterminate. *Receptacles* orbicular, very small, white, with an elevated margin, and a flesh-coloured disk.

FOR this also we are obliged to the Rev. Mr. Harriman, who found it on whinstone in the county of Durham. It has been thought a variety of the last, (*V. lactea*), but we presume to think it as distinct as any other of the genus; differing from *lactea* in the grey ashy colour, and great tenuity, of the crust; but especially in the margin being indeterminate, extending itself in dispersed spreading patches, and by no means limited by a thin shining zoned border, which is essential to the former. The fructification is copious though small, in minute white prominent dots. These prove, under a magnifier, to be orbicular receptacles, with an elevated entire border of the substance of the crust, and a very distinct, solid, flesh-coloured disk, covered by a dense layer of very white powder, which easily rubs off, and the disk becomes visible by means of its reddish hue.

This species is not mentioned in the *Lichenographia Britannica*, though perhaps alluded to under *V. lactea*  $\beta$ , *arenaria*, p. 69.

2411.



*Fig. 1112 published by J. S. Swadlow*



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## LICHEN discoideus.

*Inspid Powdery-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, bordered, greyish. Tubercles mealy, white, flattish: at length concave, with a dilated, torn border.

SYN. Lichen discoideus. *Ach. Prod.* 28.

*L. fagineus.* *Hoffm. Enum. t. 7. f. 5.*

*L. albescens.* *Huds.* 529.

*L. carpineus.* *Lightf.* 807.

*Lichenoides candidum et farinaceum, scutellis ferè planis.* *Dill. Musc.* 131. *t. 18. f. 11.*

*Variolaria discoidea.* *Ach. Meth.* 14.

THIS is probably as common as *L. fagineus*, with which it has been confounded. The synonym of Dillenius, generally applied to *fagineus* before Professor Acharius wrote, surely rather belongs to this, and we think we are right also in quoting Lightfoot, though the *carpineus* of Linnæus is a very different thing.

The present specimen was sent us from Yarmouth by Mr. W. Borrer, who observes that the bitter flavour of *L. fagineus* is not found in this species. Acharius describes it as most white when young, but his own specimen, though old, is as white as possible. The chief characteristic of *L. discoideus* seems to be the little elevation of the tubercles, which, after their powdery contents are discharged, become quite concave, to which may be added their dilated and expanded margin. On the trunks of old trees, particularly in wet weather, this Lichen is very conspicuous for its whiteness.

1724



*Mar. 1807. Published by Jas. Sowerby London.*

✓



OPEGRAPHA Persoonii.

*Rock Opegrapha.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust leprous, indeterminate, whitish. *Clefts* aggregate, somewhat branched, contorted, rugged, linear.

SYN. *Opegrapha Persoonii*, *Ach. Meth.* 17. *Winch.* v. 2. 30.

*O. rupestris.* *Pers. in Ust. Ann. fasc.* 11. 20.

*Lichen Persoonii.* *Ach. Prodr.* 19.

$\beta$ . *Ach. Meth.* 17.

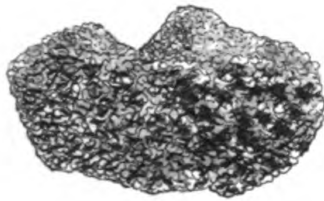
*L. simplicis varietas.* *Dav. in Tr. of Linn. Soc.* v. 2. 284.

---

**F**OUND on calcareous rocks, or on sand-stones, granites, and walls of various materials. Our specimen on coarse white sand-stone was communicated by the Rev. H. Davies, and shows both states of the species. That part in which the fructification is most dispersed and simple, agrees with an authentic specimen of *O. Persoonii* from Acharius. The more crowded or aggregate part is the variety  $\beta$ , described by Mr. Davies as one state of his *Lichen simplex*, see t. 2152, from which however it proves, now this tribe of plants is better understood, totally distinct.

The crust is dispersed, very thin and powdery, often scarcely discernible at an advanced period of growth. *Clefts* deep black, rather shining, elevated; sometimes scattered, short, and very small; more frequently aggregate, or branched; in the abovementioned variety especially they are, as it were, heaped together. They are twisted or wavy, rugose, with a deeply impressed disk narrower than the margins.

2345.



Published by J. S. Murray & Co.



✓



[ 1890 ]

O P E G R A P H A notha.

*Spurious Opegrapha.*

---

CRYPTOGAMIA *Algæ.*

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thin, powdery, white, dispersed. Clefts prominent, mostly simple, rounded, wavy, dilated, of various dimensions.

SYN. *Opegrapha notha.* *Ach. Meth.* 17.

*O. lichenoides.* *Persoon in Ust. Ann. fasc.* 7. 30. t. 2. f. 4., a, b.

*Lichen nothus.* *Ach. Prod.* 19.

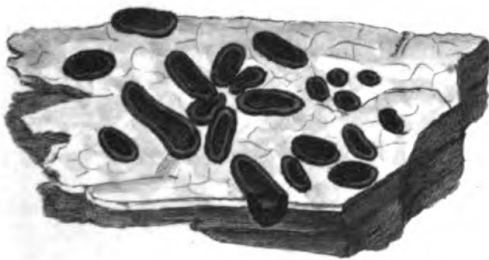
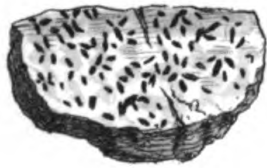
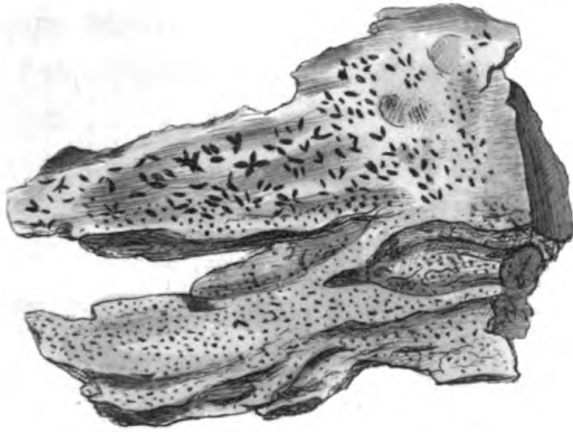
*Graphis curvula.* *Ehrh. Crypt.* 253.

---

PERSOON and Ehrhart seem to have observed this species independent of each other. The specific name given by the former, and that of Acharius, allude to the same characteristic mark, the breadth and dilatation of the fructification, which in an advanced state almost resembles the shields of a *Lichen*, being so broad in its middle part as to be almost ovate. Sometimes the young clefts, being very short, have a similar figure. Professor Acharius mentions several varieties, which we have from himself, but which appear rather different stages of growth. The crust is thin, leprous or powdery, generally very white, sometimes more dispersed, and by age becoming yellowish or dusky.

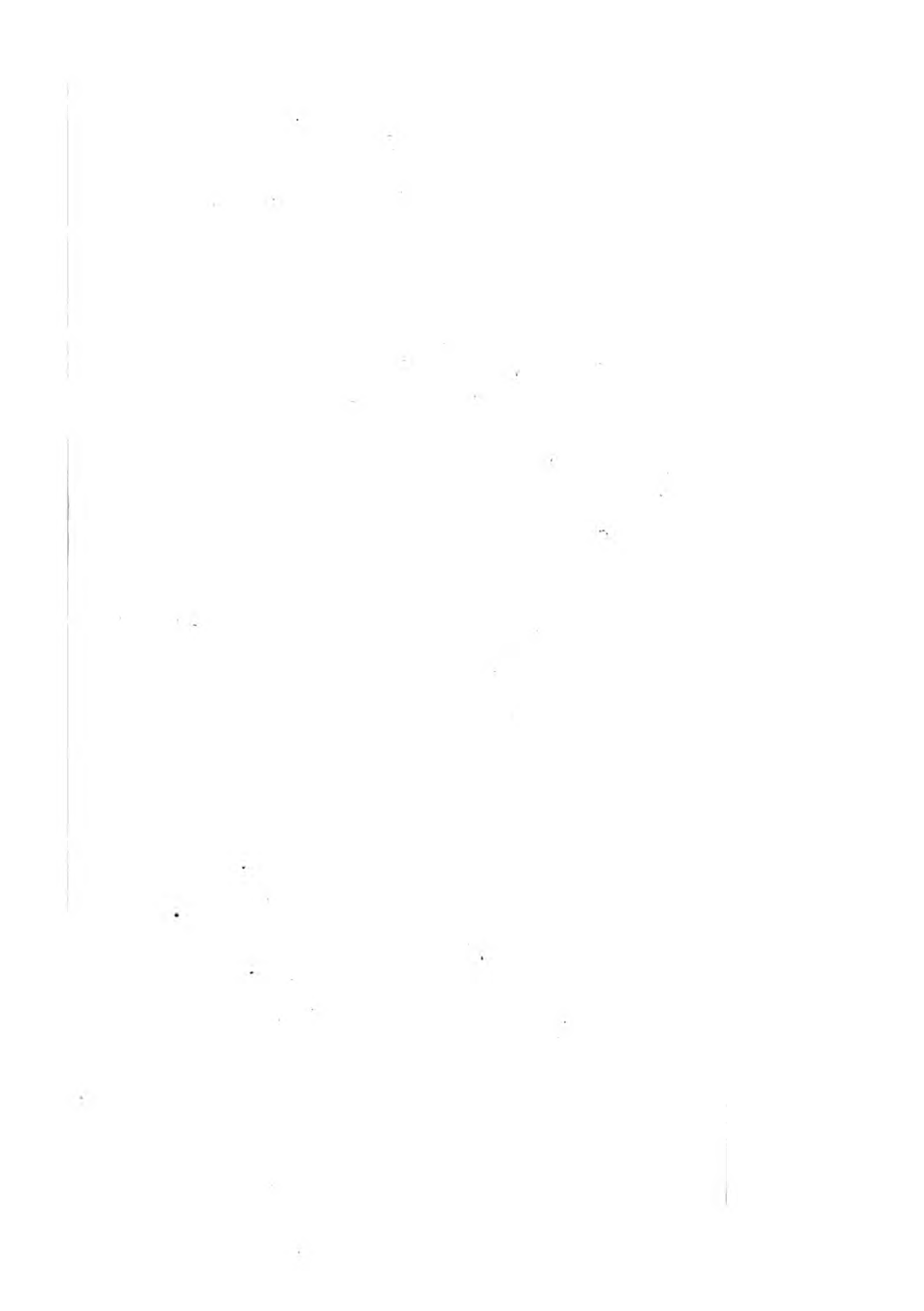
Mr. Turner sent our specimens from old trunks of trees near Yarmouth.

1890



*June 2, 1868. Published by J. & S. Sowerby, London.*

✓



## OPEGRAPHA nimbosa.

*Clouded Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Seeds in black, linear, sessile, simple or branched, bordered clefts, in an uninterrupted crust.

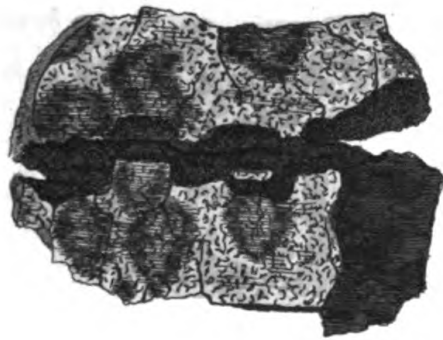
SPEC. CHAR. Crust leprous, white, shining, rugged, cracked. Clefts simple, minute, rounded, flattened, crowded.

SYN. Opegrapha nimbosa. *Ach. Meth.* 18, t. 1. f. 8.

GATHERED on the barks of large trees at Coltishall, Norfolk, by Mr. D. Turner, who judges it to be what Acharius intends under the above appellation; nor do we see any reason for doubt, though, for want of an original specimen, we cannot be absolutely certain.

This ranks among the smaller species of its genus. The crust is, as Acharius says, very white, spreading indeterminate, thin, in some degree polished, rugged, at length cracked and very uneven. Clefts but little projecting, numerous, roundish or oblong, curved, obtuse, with a very thin black edge, and a dilated hoary disk. The figure in Acharius represents the latter black, as indeed is every part at an early stage of growth, when the clefts are short and elliptical, almost round.—The reader will observe a considerable degree of affinity betwixt this and our *Lichen lynceus*, t. 809, except that the latter is much larger in all its parts.

2346.



*See also published by J. S. Sowerby London.*







[ 1911 ]

OPEGRAPHA *microscopica*.*Microscopic Opegrapha.*

---

*CRYPTOGAMIA Algæ.*

**GEN. CHAR.** *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

**SPEC. CHAR.** Crust determined, very thin, smooth, shining, pale copper-coloured. *Clefts* scattered, immersed, somewhat parallel, mostly simple, oblong, with a very narrow black edge.

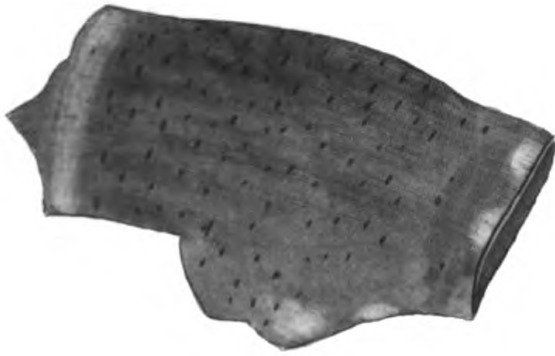
**SYN.** *Graphis microscopica*. *Ehrh. Crypt. 273.*

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**FOUND** by Mr. W. Borrer on the smooth bark of young oaks in Sussex, along with *Lichen analeptus*, t. 1848. In the original specimen of Ehrhart, now before us, these two species are confounded; but as the present only belongs to *Opegrapha*, his *Graphis*, we must do him the justice to presume it is what he intended. We find no mention of it in any other publication.

The thin, smooth, pale brown, somewhat copper-coloured crust forms limited patches of various sizes, very much like those of the *Lichen* above mentioned. The fructification differs essentially, consisting in the present instance of the true oblong *clefts* of an *Opegrapha*, generally simple, ranged in a parallel manner, very small, and furnished with an extremely narrow black edge.

1911



*July 1868. Published by J. A. Sowerby London.*

✓



## O P E G R A P H A diaphora.

*Various-fruited Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thin, smooth, white. *Clefts* simple, elevated, unequal; the largest elongated and wavy.

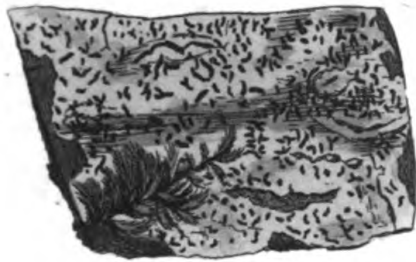
SYN. *Opegrapha diaphora*. *Ach. Meth.* 19. *Winch.* v. 2. 30.

*O. varia*. *Persoon in Ust. Ann. fasc.* 7. 30.

*Lichen diaphorus*. *Ach. Prodr.* 20.

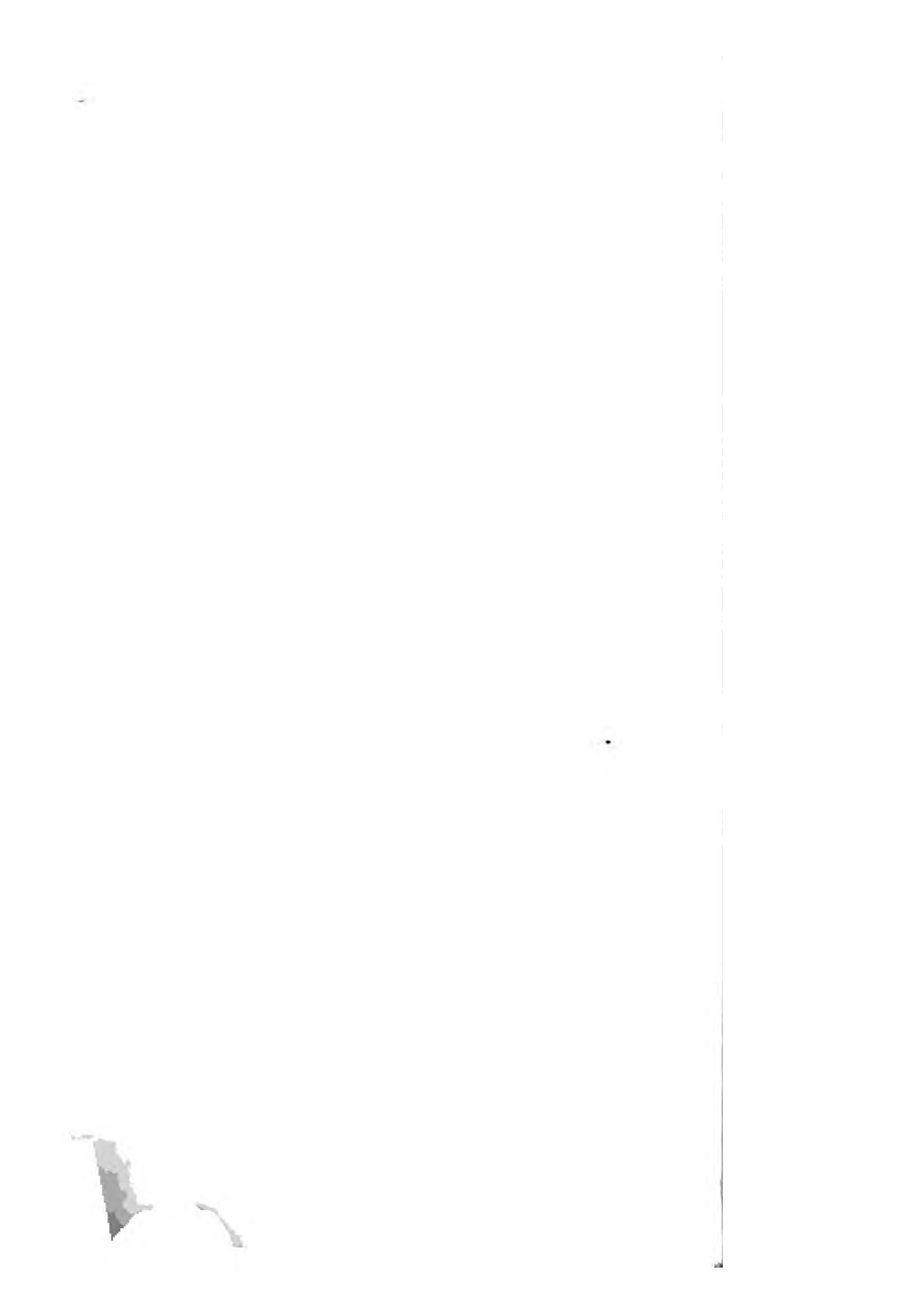
NOT unfrequent on the trunks of trees. We received it from Mr. Turner, who had previously determined the species, and we find no essential difference between his specimen and those of Acharius and Swartz. We confess however very great difficulty in distinguishing the present species from *O. notha*, t. 1890.—The crust is indeterminate, scarcely limited, thin, either quite smooth or a little scaly, not powdery, white, scarcely greyish. *Clefts* rather dispersed, of two different appearances, either oblong, short and straight; or linear, elongated, and zigzag. The breadth is nearly equal in all; they are very black, and their disk becomes by age dilated and somewhat convex.

2280



*May 1, 1911, published by the University of London.*







OPEGRAPHA betulina.

*Birch-bark Opegrapha.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, dilated, white, bordered with black. Clefts mostly simple, prominent, linear, with an extremely narrow disk.

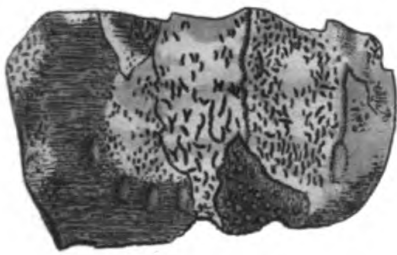
SYN. Opegrapha betulina. *Persoon in Ust. Ann. fasc. 7. 31. t. 3. f. 5, A, a. Ach. Meth. 20.*

Lichen betulinus. *Ach. Prodr. 23.*

---

**T**HIS occurs on the smooth bark of the common Birch, and was sent us from near Yarmouth by Mr. Turner. The patches are rather broad, white, smooth and somewhat shining, with a thin brown or blackish edge, chiefly visible when the plants meet and confine each other's growth; otherwise the growing margin is white and indeterminate. Clefts inclined to be parallel, straightish, or slightly zigzag, linear, narrow, sometimes tapering at each end to a sharp point, elevated, of a shining black, scarcely powdery, in our specimens at least; their disk less in diameter than the border on either side. Sometimes we have found a few of the clefts here and there forked, or confluent, which we have taken care to express, but such are very unusual.

2281



*May 1, 1901, published by J. S. Lowry, London*

J



[ 1811 ]

OPEGRAPHA vulgata.

*Common Opegrapha.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thin, indeterminate, greenish grey, somewhat scaly. *Clefts* small, linear, divaricated, zigzag, simple or branched, with a thick edge and very narrow disk.

SYN. *Opegrapha vulgata.* *Ach. Meth.* 21.

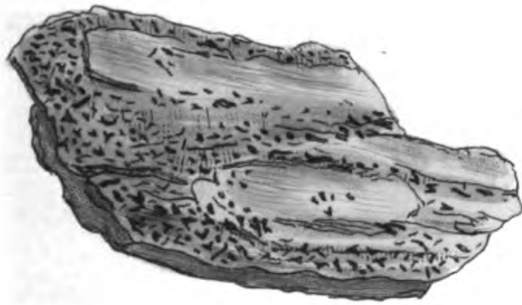
*Lichen vulgatus.* *Ach. Prod.* 21; synonyms all perhaps erroneous.

---

A VERY common *Opegrapha*, generally overlooked as a bad or imperfect state of the more elegant species. It grows chiefly in the clefts and hollows of the bark of old trees, especially fir.

The crust is indeterminate, but sufficiently evident, running in small irregular blotches, of a greenish pale grey, its surface roughish or scaly, in our specimens often sprinkled with little black dots or warts, perhaps young or abortive fructification. *Clefts* numerous, scattered and divaricated in all directions, never parallel; they are small, zigzag, of various lengths, simple or branched, having a narrow disk and thick inflexed border. In Dr. Acharius's own specimens the fructification is often branched, and we are inclined to think that few species of *Opegrapha* have truly simple clefts, which Mr. Turner also has hinted to us.

Dr. Acharius seems doubtful whether this may be the *Lichen rugosus* of Linnæus. No doubt many things were confounded by that great man under this as well as other intricate cryptogamic species, but we rather presume *O. epiphega* to be his *L. rugosus*. We have not however examined what Dillenius's *t.* 18. *f.* 2. precisely represents.





V

THE HISTORY OF THE

ROYAL SOCIETY

The first meeting of the Society was on  
 the 28th of December 1660, at the house  
 of Sir Robert Boyle, in Oxford. The  
 members were Sir Robert Boyle, Sir  
 Christopher Wren, and several other  
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1660, Dec. 28.

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[ 2347 ]

## OPEGRAPHA rubella.

*Reddish Opegrapha.*


---

 CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust continued, limited, reddish ash-coloured, slightly rugged. *Clefts* short, rounded, somewhat curved, their disk broader than the borders.

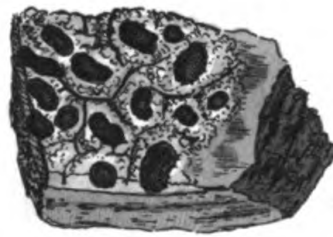
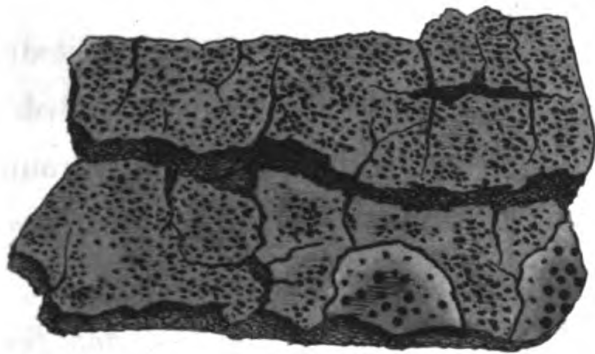
SYN. *Opegrapha rubella.* *Pers. in Ust. Ann. fasc. 7.*  
*31. t. 1. f. 2, A, a. Ach. Meth. 21. Winch, v. 2. 30.*  
*Lichen rubellus. Ach. Prodr. 22.*

---

ON the trunks of large trees ; communicated by Mr. Turner. Mr. Winch has thought this scarcely distinct from *O. vulgata*, t. 1811, but we find sufficient differences. The crust of the present is more uninterrupted, of a reddish smoky hue. *Clefts* regularly scattered all over it, like dots, numerous, short, rounded, almost all separate ; their disk black, flattened, at least as broad as the margins, frequently broader. Persoon's figure represents the *clefts* more pointed at each end than we find them, but we see no material cause to suspect his synonym, upon which that of Acharius solely depends.

We have now published every species of this genus, known to be British, except *O. conglomerata* and *congesta*.

2347



*None are published by J. S. Sowerby London.*

v





## OPEGRAPHA herpetica.

*Eruptive Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust tumid and somewhat rugged, brownish olive grey. *Clefts* prominent, crowded, simple, oblong, convex, irregular.

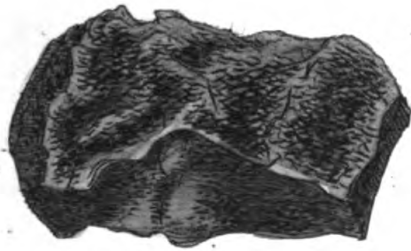
SYN. *Opegrapha herpetica.* *Ach. Meth.* 23. *Winch Bot. Guide*, v. 2. 30.

*Lichen herpeticus.* *Ach. Prod.* 20.

DR. SWARTZ, who first determined this species, has favoured us with a Swedish specimen, according precisely with those, found by Mr. Turner on trees about Yarmouth, whence our figure was taken.

It is known by its uneven crust, of a dirty olive brown or grey, which is described by Acharius as bordered with black, a character scarcely perceptible in any specimens we have seen. The fructification is minute, consisting of very irregular, crowded, little, short, black clefts, variously divaricated and curved occasionally, but scarcely ever cloven, much less branched: at length they become turgid, with roughish or jagged edges.

1789



*Sept. 2007, Published by J. Sowerby, London.*



✓



## O P E G R A P H A epiphega.

*Broad Wrinkled Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, evanescent. *Clefts* simple, oblong, rather tumid, of various shapes, much crowded, at length running into broad patches.

SYN. *Opegrapha epiphega.* *Ach. Meth.* 24. *Winch.* v. 2. 30.

*O. faginea.* *Persoon in Ust. Ann. fasc.* 7. 31.

*Graphis maculiformis.* *Ehrh. Crypt.* 263.

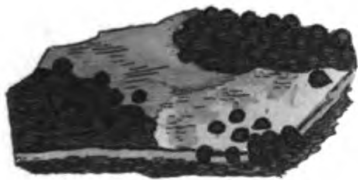
*Lichen rugosus.* *Linn. Sp. Pl.* 1607. *Huds.* 524.  
*With.* v. 4. 4. *Hull.* 284. *Lightf.* 802. *Sibth.* 317.  
*Abbot.* 257.

*L. macularis.* *Relh.* 446.

*Lichenoides punctatum et rugosum nigrum.* *Dill.*  
*Musc.* 125. t. 18. f. 2.

FEW persons who have attended at all to the most common appearances in nature, can have failed to observe this cryptogamic plant, which makes broad black patches every where on the smooth and even bark of young Beeches and Oaks. The crust is so thin, scaly, and evanescent, as scarcely to be detected with certainty except in a very young state. The clefts are extremely numerous and crowded, small, simple, coal black, various in length, mostly curved, blunt at each end, frequently oval or almost orbicular when young; their disk narrow; edges tumid, unequal and shining. By age the clefts become dilated, confluent, and look as if they had been rubbed down into a nearly even surface, entirely black, and slightly sunk below the level of the bark.—*O. macularis*, *Ach. Meth.* 24, seems a slight variety.

When we carefully examine the early growth of this plant, observing how its black clefts or receptacles are actually sunk into the bark, and rise from under the cuticle, which, in scaling off to let them pass, merely assumes the aspect of a crust, we are much disposed to refer it to the genus of *Fungi* called by some authors *Hysterium*; but the most profound cryptogamists have thought otherwise.



*May 1, 1901 published by J. S. Perry, London.*

✓



[ 1812 ]

OPEGRAPHA elegans.  
*Elegant Grooved Opegrapha.*

---

CRYPTOGAMIA Algæ.

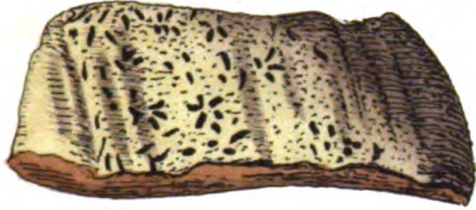
- GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.
- SPEC. CHAR. Crust orbicular, granulated, white, somewhat shining. *Clefts* immersed, scattered, divaricated, mostly simple, with a grooved border.
- 

DISCOVERED by Mr. W. Borrer in Sussex, on the smooth bark of young trees.

The crust is several inches broad, circular and uninterrupted, white and somewhat polished, not at all mealy, but finely granulated all over with little regular protuberances. *Clefts* scattered, divaricated in every direction, shortish, straight, mostly simple, though not invariably so. They project but little above the crust, accompanied by a slight accessory border, which sometimes, as in other species, turns back. Their proper border is peculiar, being marked with a deep uninterrupted longitudinal furrow on both sides of the disk, which latter is very narrow.

This species cannot be referred to any in the works of Acharius, rich and ample as they are, and we have given it a name chosen by Mr. Borrer, which it well deserves.

1812



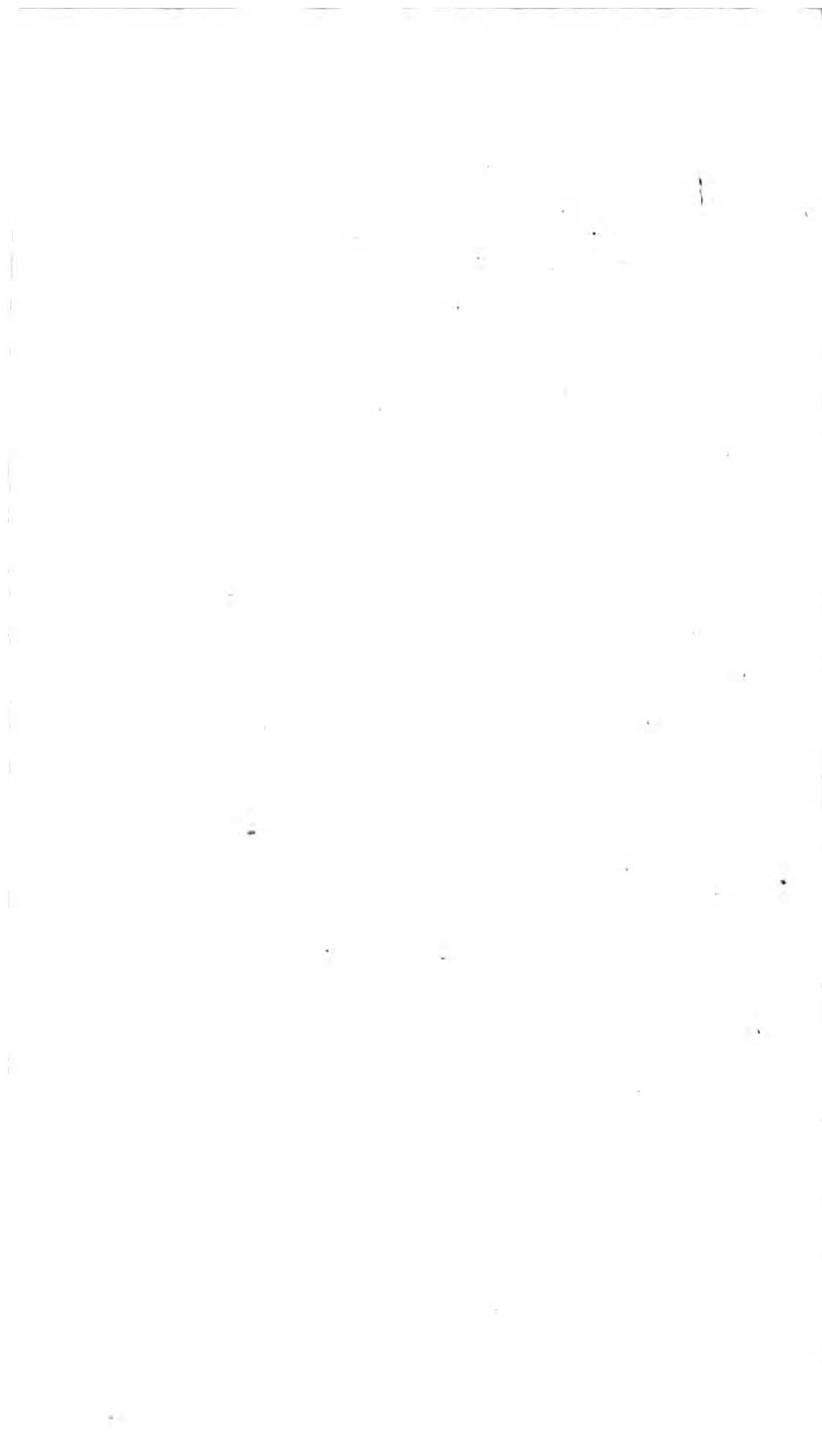
1812



Nov. 1. 1807. Published by J. Sowerby, London.



✓



[ 1847 ]

## OPEGRAPHA astroidea.

*Starry Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust limited, irregular, very thin, membranous, smooth, greenish white, somewhat shining. *Clefts* immersed, flattish, branching in a starry form.

SYN. *Opegrapha astroidea*. *Ach. Meth.* 25.

*O. radiata*. *Pers. in Ust. Ann. fasc.* 7. 29. t. 2. f. B, b.

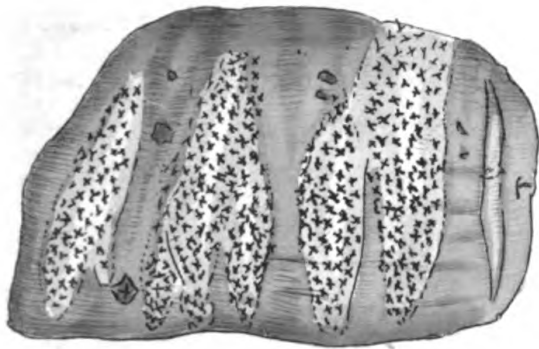
*Lichen astroites*. *Ach. Prod.* 24.

VERY common on the smooth barks of trees, and when magnified a far from inelegant object.

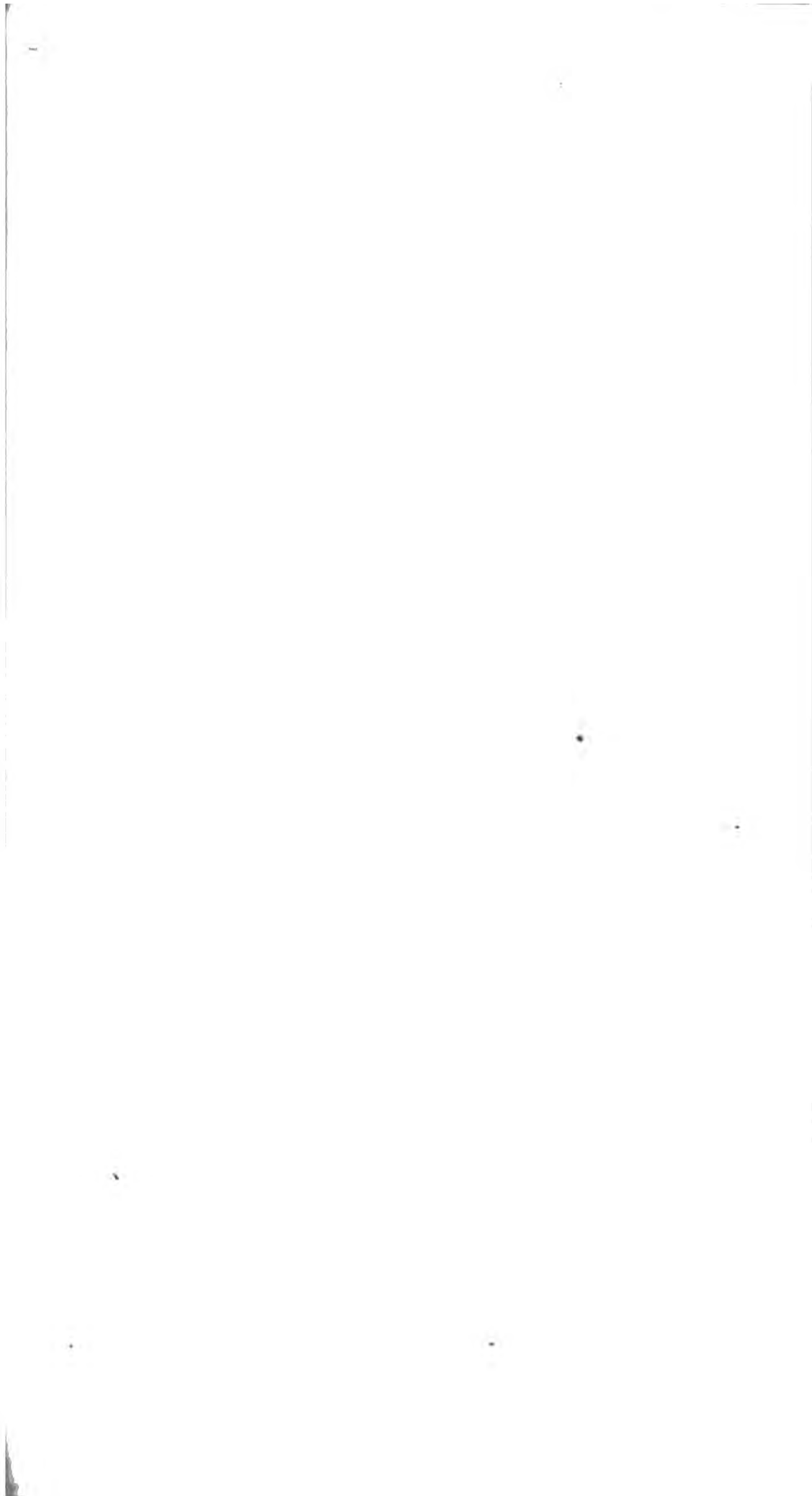
The crust forms patches of various shapes, clearly limited, but not marked with any black edge. It is at first thin even and uninterrupted, generally white, or varying from a pale to a deeper olive. By age it divides and cracks, sometimes scaling off in little flakes, assisted by the protruding fructification. The latter consists of innumerable coal-black specks, more or less regularly radiating like stars, sometimes only three-cleft like a bird's claw. They are white internally, but very black in all their external surface as well as sides.

Professor Acharius has lately, we understand, constituted, in Schrader's *Journal*, a new genus called *Arthonia*, into which, whether it be a good genus or not, we presume to think he has improperly admitted this species.

1817.



*Tab. 1180. Published by Jas. Coworth, London.*





OPEGRAPHA calcarea.

*Chalky Opegrapha.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thick, chalky, very white. *Clefts* prominent, aggregate, radiant, coal-black.

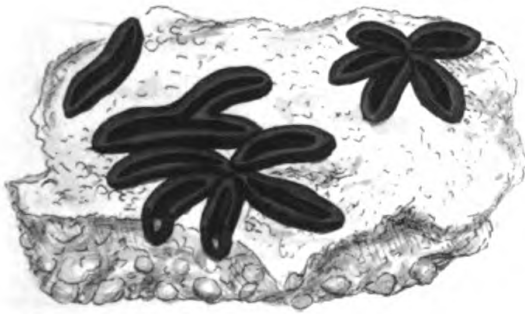
SYN. *Opegrapha calcarea.* *Turn. MSS.*

---

ONE of the most striking and distinct species of *Opegrapha*, which we have long known on the mortar of old walls in Norfolk and Suffolk, but which has been passed over as a variety of some more common species growing on trees. Mr. Turner has at length defined it, nor, since the genus has been studied, can there be a doubt of its difference from all hitherto-described species.

The crust is very conspicuous for its brilliant whiteness, and unpolished chalky surface. The fructification is observed by Mr. Turner to originate in little dots, each of which at length becomes a more or less compound assemblage of radiating, tumid, prominent clefts, no less remarkable for their deep black hue than the crust is for its pure whiteness. Each cleft has a strong longitudinal black furrow, with a thick, rounded, simple border on each side.

1790



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



✓



[ 1828 ]

OPEGRAPHA *epipasta*.*Dotted Opegrapha.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust irregularly circumscribed, very thin, smooth, glaucous-white. *Clefts* very minute, short, oblong or roundish, turgid, simple or somewhat aggregate.

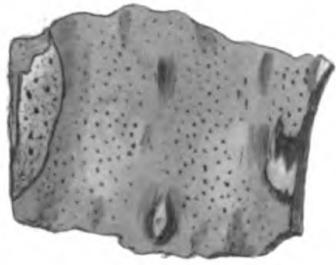
SYN. *Opegrapha epipasta.* *Ach. Meth.* 26.

*Lichen epipastus.* *Ach. Prod.* 23.

COMMON on the smooth barks of trees. We have it from Thorpe near Norwich, from Yarmouth, and from Sussex.

The crust forms roundish patches, well determined but not regularly circular, smooth, thin, of a greyish or glaucous white. By age it often grows more white and flaky. Fructification sprinkled over the crust like little black dots, rising up under its flakes, and so acquiring a sort of broken spurious border. Each dot, or cleft, is short, and, generally speaking, rather roundish than linear, tumid, rugged; very rarely aggregate so as to seem branched or compound. The habit of the crust, and of the fructification when microscopically examined, prove this to be a real *Opegrapha*, however dissimilar at first sight from other species, and confirm the genus as a natural one.

1826



*Dessiné, Publié par J. S. Severin, London.*

✓

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1



[ 1753 ]

OPEGRAPHA denigrata.  
*Black Opegrapha.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust very thin, membranous, smooth, white. Clefts slightly prominent, coal black, smooth, crowded, wavy, simple or divided.

SYN. *Opegrapha denigrata.* *Ach. Meth.* 27.

*O. atra.* *Persoon in Ust. Ann. fasc. 7.30. t. 1. f. 2, C, c.*

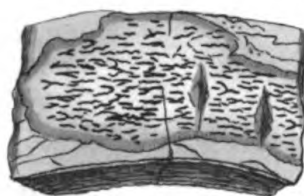
*Lichen denigratus.* *Ach. Prod.* 24.

---

WE have been backward in adopting most of the genera into which the learned Professor Acharius has divided the great family of *Lichen*, because we knew his studies to be progressive, and that he had not yet accomplished all his designs. The genus of *Opegrapha* however, named and characterized by Humboldt and Persoon, and consisting of numerous species, confounded by Linnæus under his *Lichen scriptus*, is so clearly distinct that we cannot hesitate to admit it. Adanson indeed had previously called it *Grafts*, in the same work in which he made a strange genus of Dillenius's *Sphagnum* 3, 4, 10—13, and called it *Green*, in defiance of all Greek and Latin nomenclature: but such whimsical writers, whether they happen to be occasionally right or wrong, neither deserve nor receive any attention, because their perverse changes and contrarities, if listened to, would give more trouble than any of their discoveries could compensate; and it is always to be suspected that truth is not their primary object; which is notorious with regard to Adanson.

The present species grows on the smoothest bark of trees. Its very thin, greenish-white, smooth crust forms roundish patches, inseparable from the bark. The lines or clefts of fructification are peculiarly black, crowded, somewhat parallel, undulating, simple or branched, a little prominent, and but slightly sunk into the crust, which does not rise into a border at their sides.

1753



*Bone 12/07 Published by J. J. Senorby London.*



✓



[ 2301 ]

## OPEGRAPHA cerasi.

*Cherry-tree Opegrapha.*

---

*CRYPTOGAMIA Algæ.*

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust limited, shining, white. *Clefts* immersed, linear, somewhat wavy, parallel, acute, simple or branched.

SYN. *Opegrapha cerasi.* *Ach. Meth.* 27. *Persoon in Ust. Ann. fasc.* 11. 20.

*Lichen cerasi.* *Ach. Prodr.* 26.

---

MR. W. BORRER has lately discovered this pretty and distinct species, on the barks of old cherry or plum trees.

The crust is cream-coloured, extended horizontally in narrow oblong patches partly round the tree, continued, distinctly limited, thin, rather rugged or scaly, but otherwise smooth and polished. *Clefts* also lying parallel to each other in the same horizontal direction, of a somewhat greyish black, straight or slightly wavy, acute at each end, sunk in the crust, sometimes coalescing or running into each other, so as to become branched. Their disk is very narrow and black; edges becoming elevated by age. The fructification is extremely well described both by Persoon and Acharius.

2301



*... ..*

✓



[ 1754 ]

## OPEGRAPHA pulverulenta.

*Powdery Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust expanded, smoothish, membranous, white. Clefts immersed, powdery, zigzag, branched and confluent, with an elevated border from the crust.

SYN. *Opegrapha pulverulenta.* *Persoon in Ust. Ann. fasc. 7. 29. t. 1. f. 2, B, b. Ach. Meth. 28.*

*L. scriptus, var. Ach. Prod. 25. Hoffm. Enum. t. 3. f. 2, a, b.*

NOT uncommon upon trees. We are obliged to Mr. Turner for well-authenticated specimens, not having ourselves received this species from Professor Acharius, or at least only its large variety  $\epsilon$ .

The crust is of the same colour with that of *O. denigrata*, *t. 1753*, but more spreading and undefined, thicker and more uneven, rising up into a spurious border to the fructification. The clefts are deeply immersed, zigzag, more or less branched, divaricated and confluent, pointed at the extremities; their disk powdery and whitish, which is the origin of the specific name.

Most probably *tab. 18. f. 1.* of Dillenius might be drawn from a specimen of this species; but we have not received any information upon the subject, nor have we visited his herbarium at Oxford since the subject of this genus came under our consideration.

1754



*June 22/67 Published by J. & Sowerby London.*



✓

100

100



[ 1755 ]

OPEGRAPHA *serpentina*.*Serpentine Opegrapha.*


---

 CRYPTOGRAMIA *Algæ.*

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust leprous, tartareous, uneven, whitish. Clefts immersed, crowded, somewhat powdery, zigzag, simple and branched, with an elevated border from the crust.

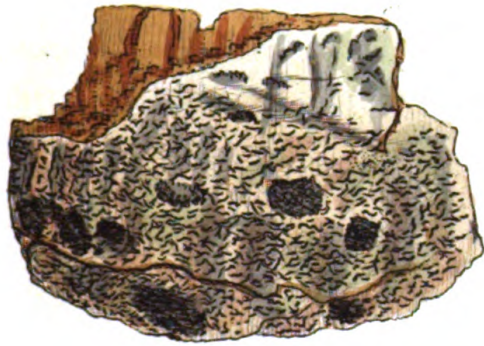
SYN. *Opegrapha serpentina*. *Ach. Meth.* 29. *Schrad. Journ. ann.* 1801. *fasc.* 1. 79.

*Lichen serpentinus*. *Ach. Prod.* 25.

---

SENT from Yarmouth by Mr. Turner, who is by no means convinced of its being permanently distinct from *O. pulverulenta*. Acharius rests the character of the present species on its thicker and tartareous crust; but we know this circumstance to be variable in some Lichens, as *subfuscus*; and Mr. Turner has traced intermediate varieties between the crusts of these two *Opegraphæ*. A difference in the habit of the fructification is also mentioned, and perhaps not without foundation, but the clefts of *O. pulverulenta* are extremely variable. In this they are more frequently unbranched, and more irregularly sprinkled over the crust. We beg leave to remark that the arrangement of these organs, and their more or less parallel position, are much affected by the mode of extension of the bark. Nevertheless, as *O. serpentina* has been deliberately kept distinct by such first-rate cryptogamists as Acharius and Schrader, we have thought best to publish a figure of it, being the first that has appeared,

1755



June 1. 1867. Published by J. S. Sowerby London.

✓



[ 1813 ]

## OPEGRAPHA scripta.

*Black-letter Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thin, membranous, shining, smooth, greenish-white, bordered with black. Clefts immersed, smooth, linear, slightly zigzag, simple, or much branched in a parallel direction.

SYN. *Opegrapha scripta.* Ach. Meth. 30.

*Lichen scriptus.* Ach. Prod. 25. Linn. Sp. Pl. 1606.

Huds. 523. With. v. 4. 4. Hull. 284. Relh. 446.

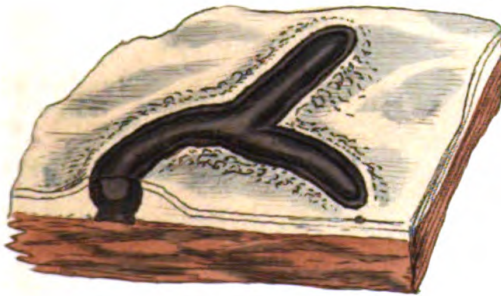
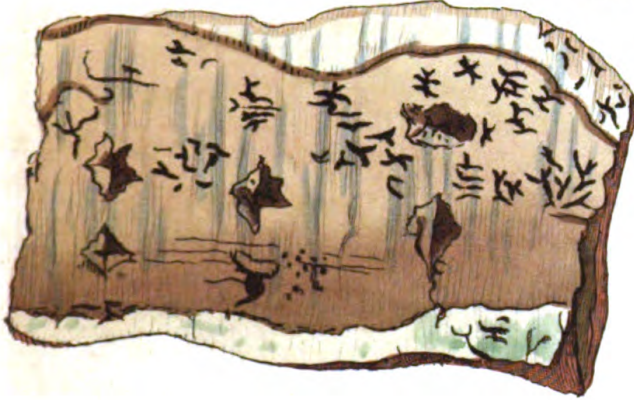
Sibth. 316. Abbot. 257. Lightf. 800.

*Lichenoides crusta tenuissima, peregrinis velut litteris inscripta.* Dill. in Raii Syn. 71. Musc. 125. t. 18. f. 1?

IN the history of the genus *Opegrapha* this species, under which most of the rest have been confounded, deserves peculiar notice. It is not uncommon on the smooth barks of trees in woods, but does not obtrude itself upon every rugged exposed stump in the highways like some others.

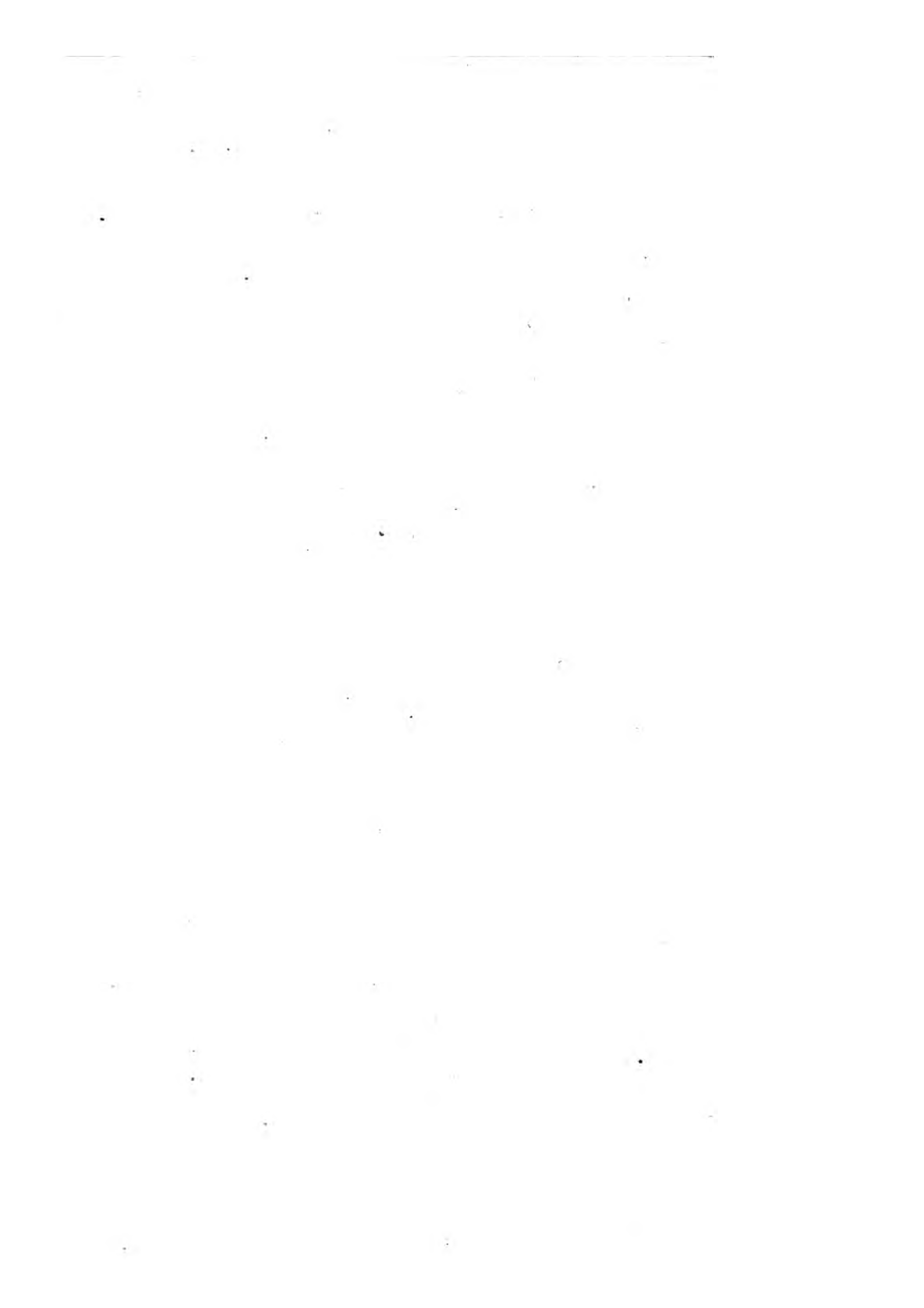
The crust is broad, continued, thin, even, smooth and polished, of a greenish or brownish white, with a blackish edge. Fructification scattered, so much resembling Hebrew or Chinese characters that one is disposed to think some antiquary of quick genius and fertile fancy might read in them legends of other times, and perhaps compose a fairy *ogham* or alphabet by their means. To the botanist their generally numerous and complicated branches, always disposed more or less in a parallel manner, the linear form of each, with a broad smooth disk, and narrow border, express very intelligibly the distinctive character of the species. See *O. pulverulenta*, t. 1754.

1873





✓



## OPEGRAPHA Lyelli.

*White-bordered Opegrapha.*

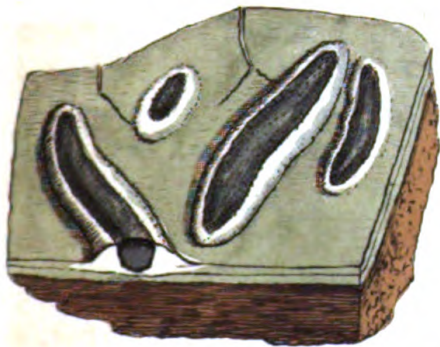
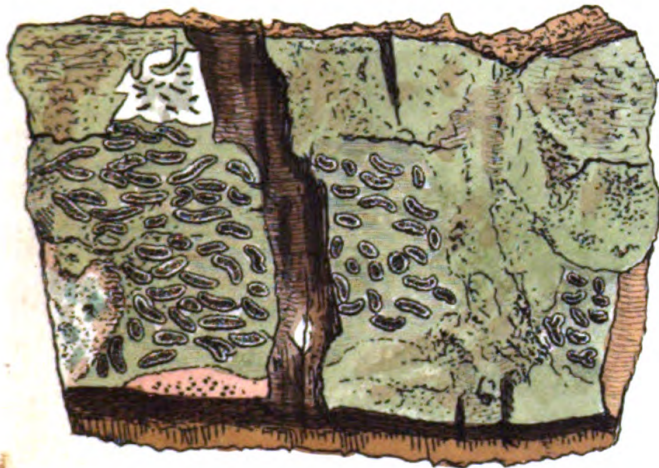
## CRYPTOGAMIA Algæ.

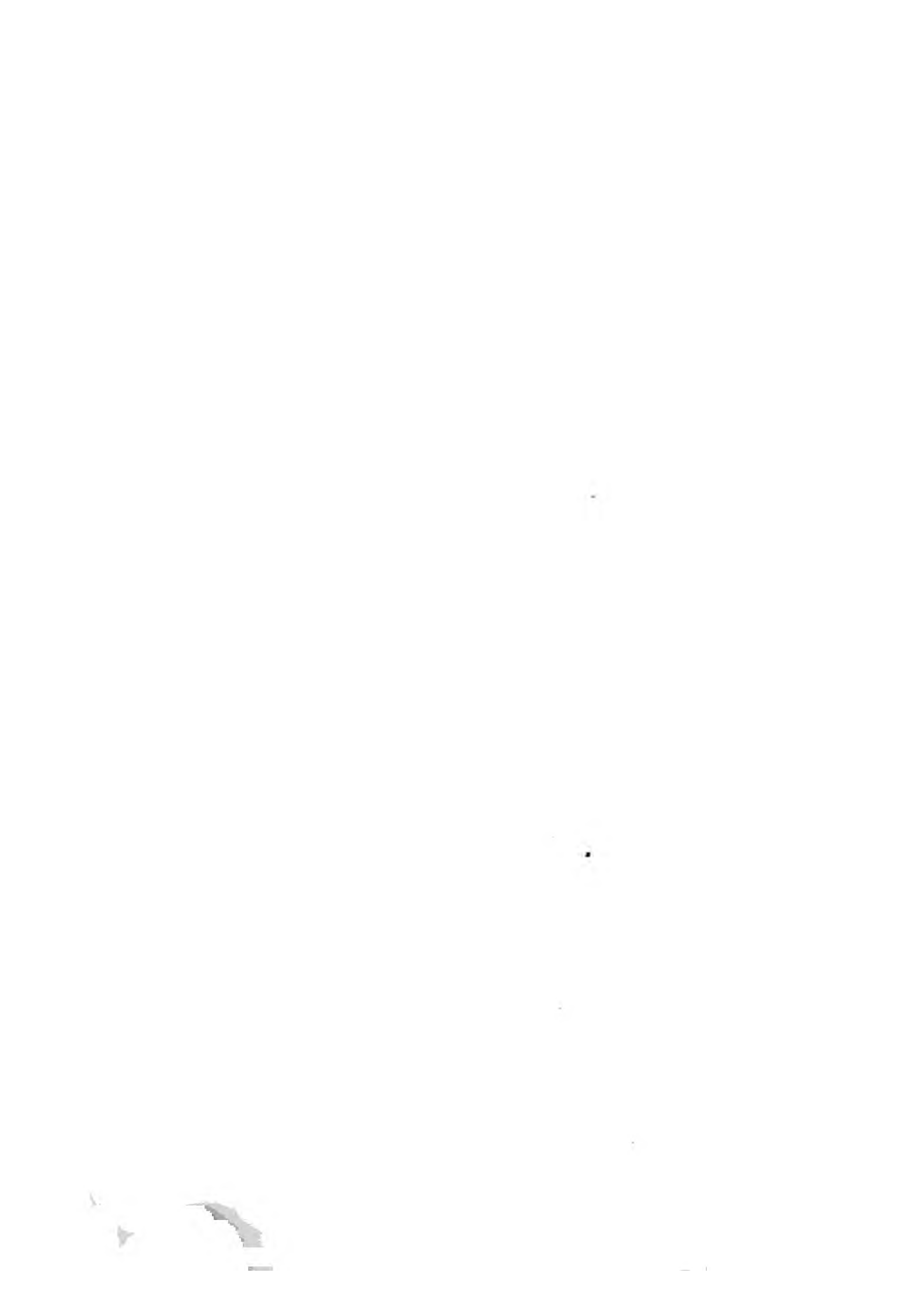
GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust smooth, membranous, pale olive. Clefts prominent, turgid, crowded, curved, obtuse, greyish and powdery, with an elevated, white, powdery border.

AS far as we can discover, either from the specimens or descriptions of Dr. Acharius, this is a species unknown to him, and we have named it in honour of its discoverer, Charles Lyell, Esq., who found it on the rugged bark of trees in the New Forest, and to whom we have frequently been obliged for rare cryptogamous specimens.

This *Opegrapha* ranges near *pulverulenta*, t. 1754, and *serpentina*, t. 1755. Its crust is remarkably smooth, and almost waxy in appearance, of an uniform pale olive green. The clefts are numerous and crowded, mostly simple, sometimes branched, various in length, curved, obtuse or rounded at each end, very prominent, their disk broad and convex, hard, black, but clothed with a grey or whitish powder. Their border is extremely peculiar, being thick, perfectly white, and powdery, quite different in texture, surface, and colour from the crust whence it seems to originate.







[ 1756 ]

## OPEGRAPHA dendritica.

*Tree-like Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust tartareous, determined, very white and somewhat powdery. Clefts immersed, depressed, without any elevated border, repeatedly branched, zigzag, tapering at each end.

SYN. *Opegrapha dendritica*. *Ach. Meth.* 31. t. 1. f. 10.

RESPECTING this beautiful species there is no doubt nor difficulty. It has been found in Sussex by Mr. W. Borrer, and in the New Forest by Mr. Lyell. Acharius only has described it, from Spanish specimens, with an indifferent figure.

It grows on the smooth bark of trees, in roundish, cream-coloured, somewhat mealy, patches; the crust thin but tartareous, spreading in a determinate manner, all the clefts radiating as it were from the centre, and not extending to the edge, which, for some distance, is smooth, uniform, and spotless. It should seem as if the fructifying clefts were formed by a shrinking in the central part of the crust, or as if that part could not keep pace in dilatation with the marginal region, and were over-stretched. Our figure expresses this better than it can be done by words. The clefts are black, sunk below the surface of the crust, and destitute of any margin, except an occasional slight elevation of the crust, the proper black border, usual in the genus, being scarcely perceptible. Their form is waving, tapering very acutely at each end, branched and forked in a most elegant manner, those furthest from the centre being the most complicated.

1756



*Jura Lager, Published by Ja. Sowerby, London.*



2



## OPEGRAPHA venosa.

*Veiny Opegrapha.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

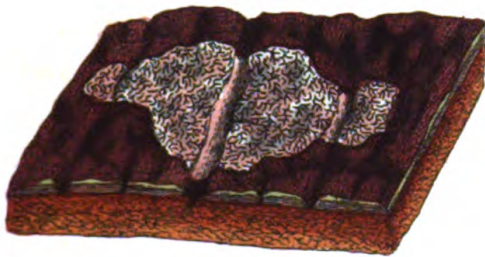
SPEC. CHAR. Crust tartareous, determined, reddish white. *Clefts* immersed, convex, without any elevated border, repeatedly branched, curved, parallel and equidistant, obtuse at the ends.

DISCOVERED by Charles Lyell, Esq. growing upon the trunks of Beeches in Hampshire, but rarely. It is remarkable for being always surrounded by *Lichen obscurus*, t. 1752, now reckoned an *Arthonia*; see v. 29. 2079.

Nothing can be more curious or distinct than the present species, when duly examined. The crust is limited, and perhaps black-edged; but this it is hard to determine, on account of the surrounding plant, which has certainly a black border. Its substance is tartareous, rugged and uneven, white with a dirty reddish tint, scarcely powdery. The *clefts* are curiously and regularly dispersed, much branched and twisted, but their ramifications, however complex and varied, keep generally at equal distances from each other, like the walks of an artificial maze. They are deeply sunk in the crust, but convex above, intensely black, with obtuse terminations; not tapering to a point, as in *O. dendritica*, t. 1756, nor do they, as in that, spread radiating from a centre.

Mr. Lyell at first sent this *Opegrapha* under the apt name of *elaborata*; but appears to have since determined it to be the *venosa* of Persoon, of which however we find no mention in any book that has yet come to our hands. Perhaps it may be included in the *Lichenographia Universalis* of Acharius.

2454.



Spec. 1812. Publ. by J. Sowerby London.

J



## CALICIUM sessile.

*Black Sessile Calicium.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

SPEC. CHAR. Crust not discoverable. *Receptacles* nearly sessile, pear-shaped, black, polished, with a thick inflexed margin, and black powder.

SYN. *Calicium sessile.* *Pers. Tent. suppl.* 59. (*Ach.*)  
*Turn. & Borr. Lich. Brit. v.* 1. 128.

*C. stigonellum.* *Ach. Meth.* 88.

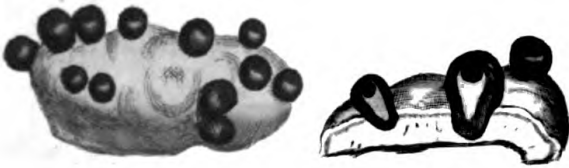
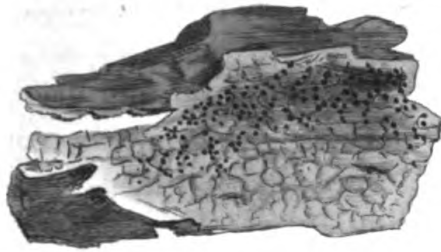
*Lichen gelasinatus.* *With. v.* 4. 8. *t.* 31. *f.* 1. *Hull.* 285.

*Sphæria sphincterica.* *Sowerb. Fung. t.* 386. *f.* 1; excluding the reference to Bulliard.

THIS remarkable production was first made known in England by Dr. Withering, who described it as a new *Lichen*, not advert- ing to its being a parasite on the well-known *L. pertusus*, *t.* 677. Many have, with more probability, taken it for a fungus; but Mr. Turner and Mr. Borrer retain it (after Persoon) in *Calicium*; a measure justified by its near affinity to our *Lichen microcephalus*, which is properly a *Calicium* also.

Its chief singularity is the total absence of a crust, at least at the period of its fructification. The receptacles are scattered over the tumid unequal crust of the plant which is their foster-mother, into which they are a little sunk. Each looks like a grain of the finest gunpowder, but under a microscope proves pear-shaped, polished, with a very short solid stalk, the disk small, deeply hollow, producing a black opaque powder. The margin is said to be occasionally white.

2520.



*Microscopically published by J. L. S. L. L. L.*







[ 1865 ]

## L I C H E N microcephalus.

*Minute Pin-headed Lichen.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

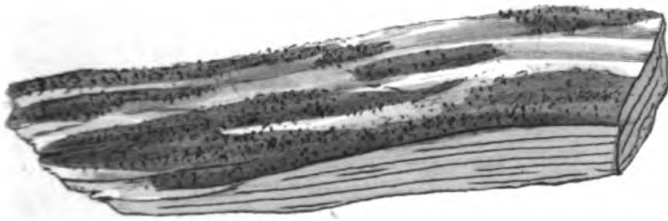
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust olive-coloured, rugged. Tubercles minute, nearly globose, black and shining, on shortish black stalks ; their disks flat and opaque.

**DISCOVERED** on oak rails at Caister near Yarmouth, in Dec. 1805, by Mr. W. Borrer, to whom we are indebted for specimens.

The crust is of a very perceptible thickness, uninterrupted, tartareous, olive-coloured, very rough and rugged, internally whitish, and we think there can be no doubt of its belonging to the tubercles, as we know no other species of *Lichen* which it precisely resembles, and it has moreover a general affinity to the crust of an Acharian *Calicium*, to which tribe the plant before us unquestionably belongs. The chief doubt arises from these tubercles being so very like those of *C. stigonellum* of Acharius, coal-black and very shining, with a flat, depressed, opaque disk ; and that species is asserted to have no crust, its tubercles being found scattered over *L. pertusus*, t. 677, in a parasitical manner. They are moreover much shorter stalked than in our plant, otherwise it might be suspected we had now, for the first time, become acquainted with the real crust of those tubercles.

1865



Mar 1868. Published by J. S. Severby London.

[ 2473 ]

## CALICIUM ferrugineum.

*Rusty Calicium.**CRYPTOGAMIA Algæ.*

**GEN CHAR.** *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

**SPEC. CHAR.** Crust thin, granulated, tartareous, rusty-white. *Receptacles* on short stalks, thick, black, often compound, with a pale rusty disk.

**FOUND** by Mr. Turner on pales at Framingham, near Norwich. We are obliged to him for specimens, and for the name under which this decidedly new species is to appear in the *Lichenographia Britannica*.

We think it proper also now to adopt the genus *Calicium*, of which many species have already appeared, as Lichens, in this work. See *t.* 414, 810, 1464, 1465, 1539, 1540, 1832, 1865, 2462. Among all these the *inquinans*, *t.* 810, comes the nearest to that before us, especially in the crust; but its receptacles are much more sessile, scarcely rising above the inequalities of the crust, and their disk is black, merely a little paler than the margin. The receptacles of the present are smaller, and their disk of a very light rusty or copper brown. Several of them are remarkably compound or tufted, with small imperfect disks, an accident observable, in some degree, in other species.

2473.



*Revised published by J. C. Shroder, London.*

v





[ 1465 ]

## LICHEN clavellus.

*Grey-crusted Pin-headed Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

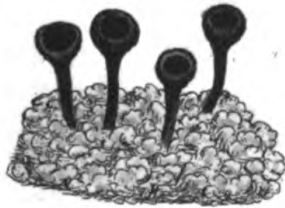
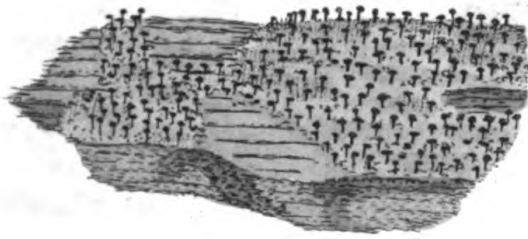
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, cracked, greyish white. Tubercles on black foot-stalks, spherical, flattish, black, powdery, with a greyish black border; grey beneath.

SYN. Lichen clavellus. *Ach. Prod.* 83.Calicium clavulare. *Ach. Meth.* 90.

FOUND plentifully on the same barn with the preceding, with which it is often so intermixed that their two crusts can hardly be distinguished. That of the present however is thicker, lobed and cracked rather than granulated. The fructification is totally different. Little black cylindrical stalks rise plentifully from the cracks of the crust, each bearing a round flattish head, black and powdery above, greyish beneath, and surrounded by a thin greyish border. A doubt has been suggested whether the crust belongs to these heads. From very careful examination, and the analogy of other species of *Calicium* in Acharius, we believe it does. It may be more doubtful whether our *L. sphærocephalus*, t. 414, be a different species. If we are right in its crust, it is certainly so. However this may be, having now the true *L. clavellus*, compared with specimens from Acharius, and agreeing with them in crust and fruit, we think proper to figure it, as he says in his *Methodus* he could quote no certain synonym, nor figure, for it. We can assure him, notwithstanding the deference so justly his due, that our *L. inquinans*, t. 810, appears to us always quite distinct from this.

1465



*June 1. 1805. Published by J. Sowerby, London.*

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## LICHEN inquinans.

*Sooty-knobbed Lichen.*

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*CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

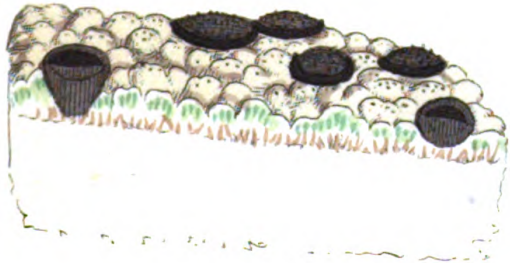
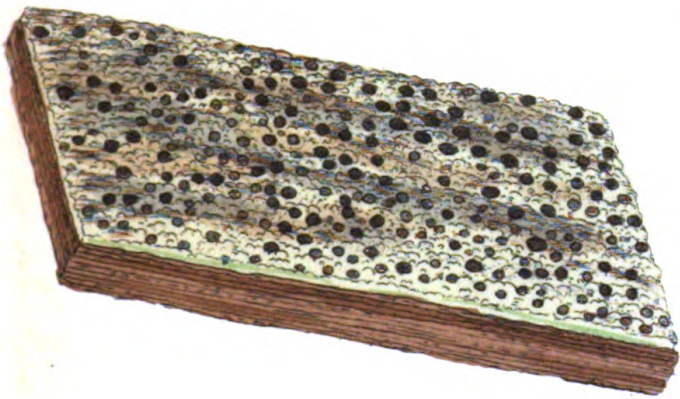
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust white, granulated. Tubercles a little prominent, round, flattish, grayish-black, powdery, with a smooth black edge.

---

**T**HIS most certainly nondescript Lichen is by no means unfrequently to be met with on dead wood, as pales, gates, &c.; but it seems to prefer such pieces as are placed horizontally. Mr. Turner has found it near Yarmouth, Mr. Sowerby in Effex. Probably many botanists have neglected it as a supposed variety of *sanguinarius*, a species under which more than two or three have been confounded.

In crust indeed this is not very different from the genuine *sanguinarius*, except in not being red within, but on the contrary greenish just under the surface. The tubercles however, which are copiously produced, and scattered irregularly over the crust, afford a character no less obvious than decisive, first observed by Mr. Turner. On the slightest touch they stain the finger with a very fine black sooty powder, which is discharged by innumerable pores in their disk, being probably the seed. This distinguishes it from every other crustaceous Lichen with which we are acquainted. The *sphærocephalus* indeed, v. 6. t. 414, has tubercles that produce a powder mixed with fibres, and those tubercles stand on long stalks, to which ours even in that respect betrays an affinity when its tubercles are dissected from the crust,



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## LICHEN graniformis.

*Grained Lichen.*


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 CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust granulated, smooth, greyish white.

Tubercles scattered, roundish, black, polished, wrinkled, irregular, without a border, mostly sessile.

SYN. Lichen graniformis. *Hagen. Lich.* 47. t. 1. f. 2.

*Dicks. Crypt. fasc.* 1. 10. *With. v.* 4. 7. *Hull.* 285.

*Sibth.* 319.

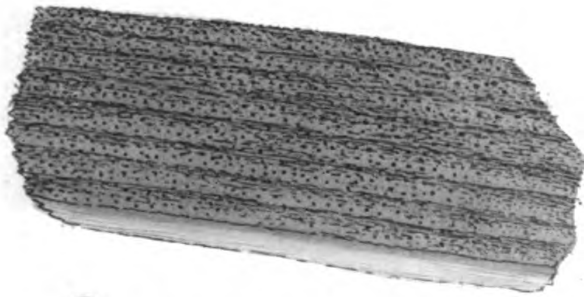
*Calicium claviculare, β roscidum. Ach. Meth.* 90.

---

THIS minute *Lichen* seems to have been involved in needless obscurity. Hagen's synonym cannot be questioned, and we can answer for those of Dickson and Acharius on the authority of original specimens, but we have no positive means of ascertaining the references of the excellent writer last mentioned.

Mr. D. Turner first observed this species on a wooden barn of Mr. Crowe's at Lakenham, where we have often examined it since, and have found it always the same. The crust forms broad patches on the flat boards, and is thin, loosely granulated, of a greyish white, the particles rounded, smooth (not mealy), running into lines, as Hagen well observes, from the grain of the wood. The tubercles with us are sessile, scattered, small, roundish, irregular, extremely wrinkled, very black, but rather polished, without any kind of border. Some of them in Dr. Acharius's specimen stand on thick flattish stalks, like those of the *Bæomyces* tribe, but their surface never becomes powdery. We conceive therefore this must be totally distinct from his *Calicium claviculare*, see our next plate, though he rightly observes it is what has been taken by himself for black warts in *L. Ehrhartianus*, see t. 1136, with which it often grows intermixed.

1464



*June 1 1866. Published by J. S. Longley, London.*

✓



## LICHEN sphærocephalus.

*Black Pin-headed Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, yellowish. Tubercles on black footstalks, globose, dark grey, discharging black powder intermixed with fibres.

SYN. Lichen sphærocephalus. *Web. Gott.* 198.

*Mucor lichenoides.* *Linn. Sp. Pl.* 1655. *Relh. Cant.* 473. *With. Bot. Arr. v. 3.* 483.

*Trichia lichenoides.* *Sibth. Ox.* 406. *With. Bot. Arr. ed. 3. v. 4.* 399.

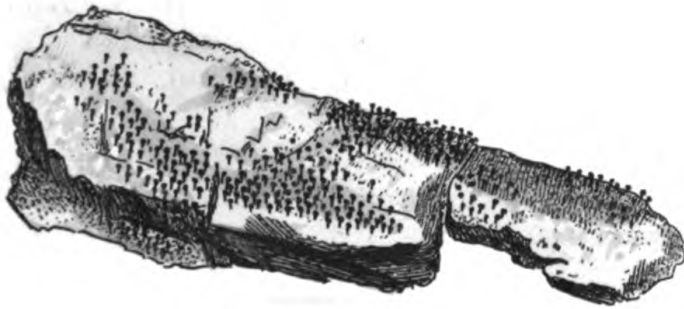
*Clathrus cinereus.* *Huds. Fl. An.* 631.

*Coralloides fungiforme arboreum nigrum, vix crustosum.* *Dill. Musc.* 78. t. 14. f. 3.

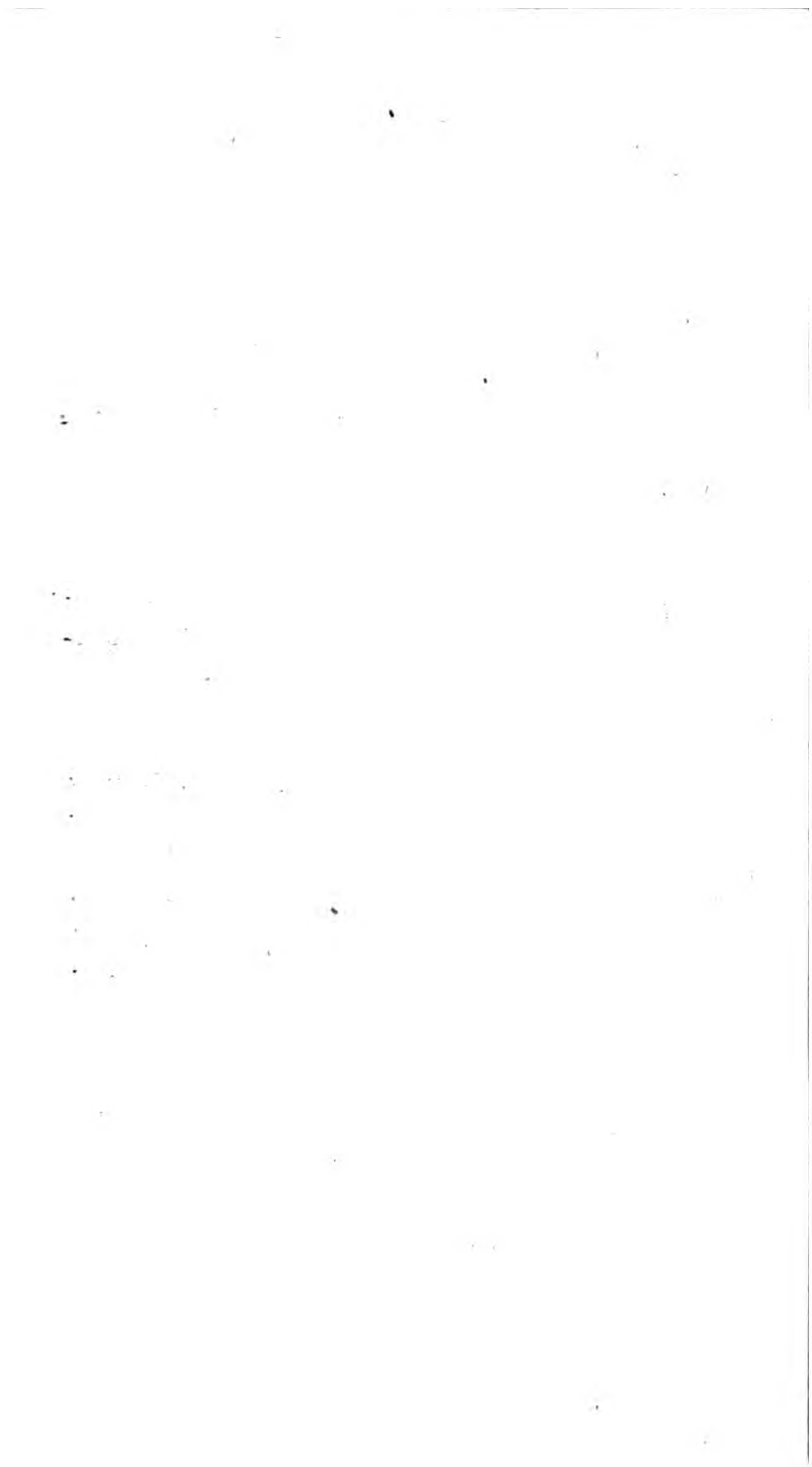
IN the clefts of the bark of old oaks this little plant may be found at almost all seasons, but is most conspicuous after rain.

Crust leprous, very thin and much dispersed, of a yellowish or greenish colour, and probably overlooked as *Byssus candelaris* by most writers, who have described as a fungus what are the genuine tubercles of this *Lichen*, and which rise from the crust on slender black erect stalks, seldom one line in height, themselves being smaller than wild-poppy seed, globular, grey or blackish, generally solitary, but we have found 2, and Haller 3, on one stalk. In due time these tubercles burst at the summit, and throw out black powdery seeds mixed with fibres, in which respect this species agrees with *Lichen fragilis* and *globiferus* already figured in the 2d volume of the present work.

*Lichen sphærocephalus* was first so named by Weber, who considers it as *Mucor sphærocephalus* as well as *M. lichenoides* of Linnæus. Dillenius knew it well, and has justly arranged it near our *Lichen byssoides*, t. 373, to which it is in many respects allied. In writing our account of the latter we were not aware of the *Lichen* now before us being placed by Mr. Hudson in his very incorrect genus of *Clathrus*.



✓





LICHEN debilis.

*Weak Pin-headed Lichen.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust membranous, very thin, white. Tubercles black, convex with a recurved margin, on long, slender, wavy, black stalks.

SYN. *Calicium debile.* *Turn. and Borr. Mss.*

*Coralloides fungiforme arboreum nigrum, vix crustosum.* *Dill. Musc. 78. t. 14. f. 3 A?*

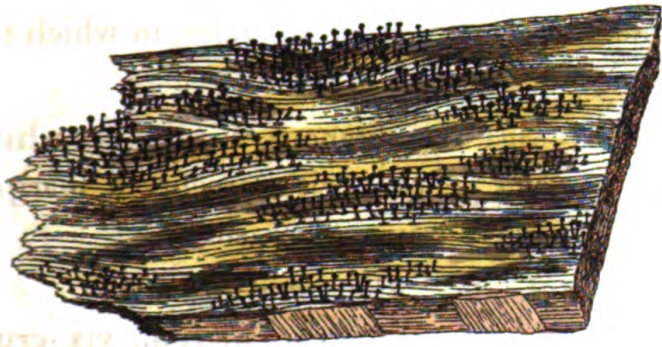
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OBSERVED by Mr. W. Borrer on old timber, frequently under the eaves of thatched buildings, where its thin white filmy crust often spreads very widely. The fructification is copious, consisting of very black, opaque, more or less convex tubercles, whose margin is reflexed, and which are each supported by a black, slender, wavy stalk, occasionally forked or divided, sometimes polished, sometimes not.

Mr. Borrer indicates the above synonym of Dillenius; but the magnified part of the figure seems different, as well as the portion marked B.

We are well aware that the genus *Calicium* must finally be adopted, and we merely for the present refer its species, as heretofore, to *Lichen*.

2462

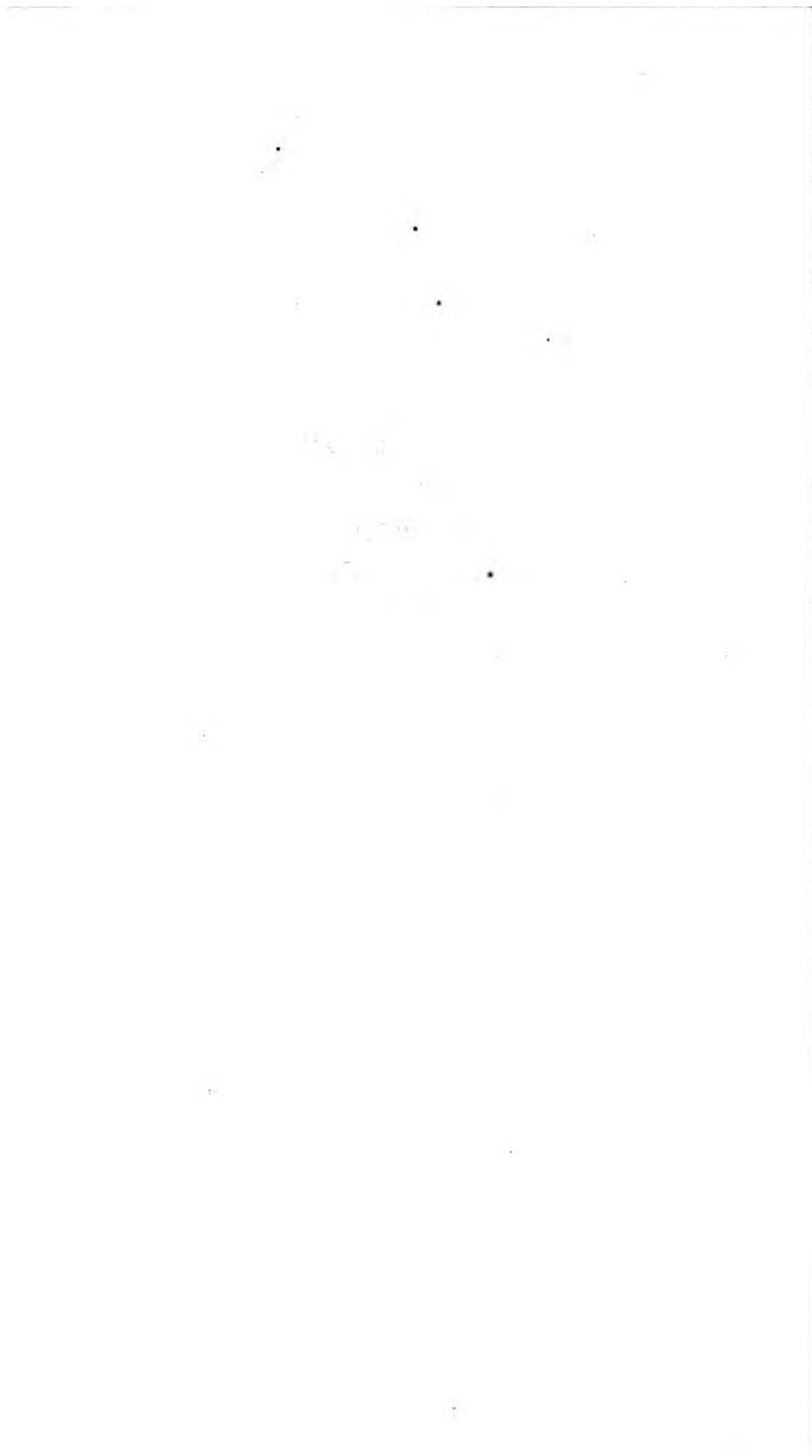


*As seen published by J. S. Swartz & Co.*

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[ 1540 ]

LICHEN trabinellus.  
*Brown Pin-headed Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

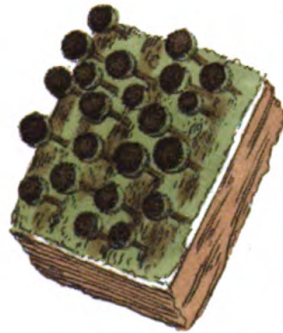
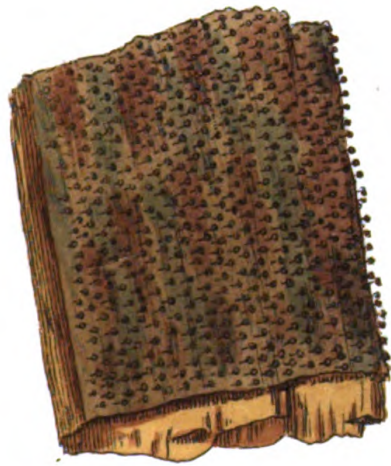
SPEC. CHAR. Crust rugged, cracked, brownish-white. Tubercles on shortish brown foot-stalks, spheri- cal, flattish, greenish-yellow; disk powdery, dark brown.

SYN. Calicium trabinellum. *Ach. Meth. Suppl.* 14.

---

COMMUNICATED with the above synonym by Mr. W. Borrer from Hurst-pierrepont, Sussex, where it grows on several boarded buildings. It was however first observed by Mr. D. Turner on a barn belonging to Mr. Crowe at Lakenham near Norwich, where it is to be found in abundance at all seasons. Our specimens agree exactly with those sent by the acute Mr. Wahlenberg, its original discoverer, from Tornoa in Lapland.

The crust is of the nature of *L. clavellus*, t. 1465, but rather more scattered and of a pale brownish hue. The stalks are short, cylindrical, polished, of a dark brown almost black. Heads globular but flattened, externally of a vivid greenish-yellow, especially their border, which forms a striking and beautiful contrast with the dark brown powdery disk.



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[ 1832 ]

LICHEN hyperellus.  
*Convex Pin-headed Lichen.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, granulated, tessellated, yellowish green. Tubercles on black stalks, black, with a very convex powdery disk.

SYN. Lichen hyperellus. *Ach. Prod.* 85.

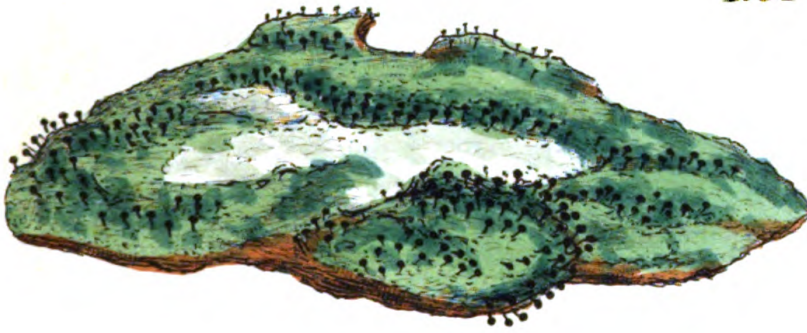
Calicium hyperellum. *Ach. Meth.* 93.

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THIS I first found on an old oak at Earsham, Norfolk, in 1783, but took it for *L. sphærocephalus*, t. 414. It however proves, by original specimens from Dr. Acharius, to be his *hyperellus*. We have received fine specimens found near Bury by Mr. Turner, and are obliged to him for calling our attention to the above name.

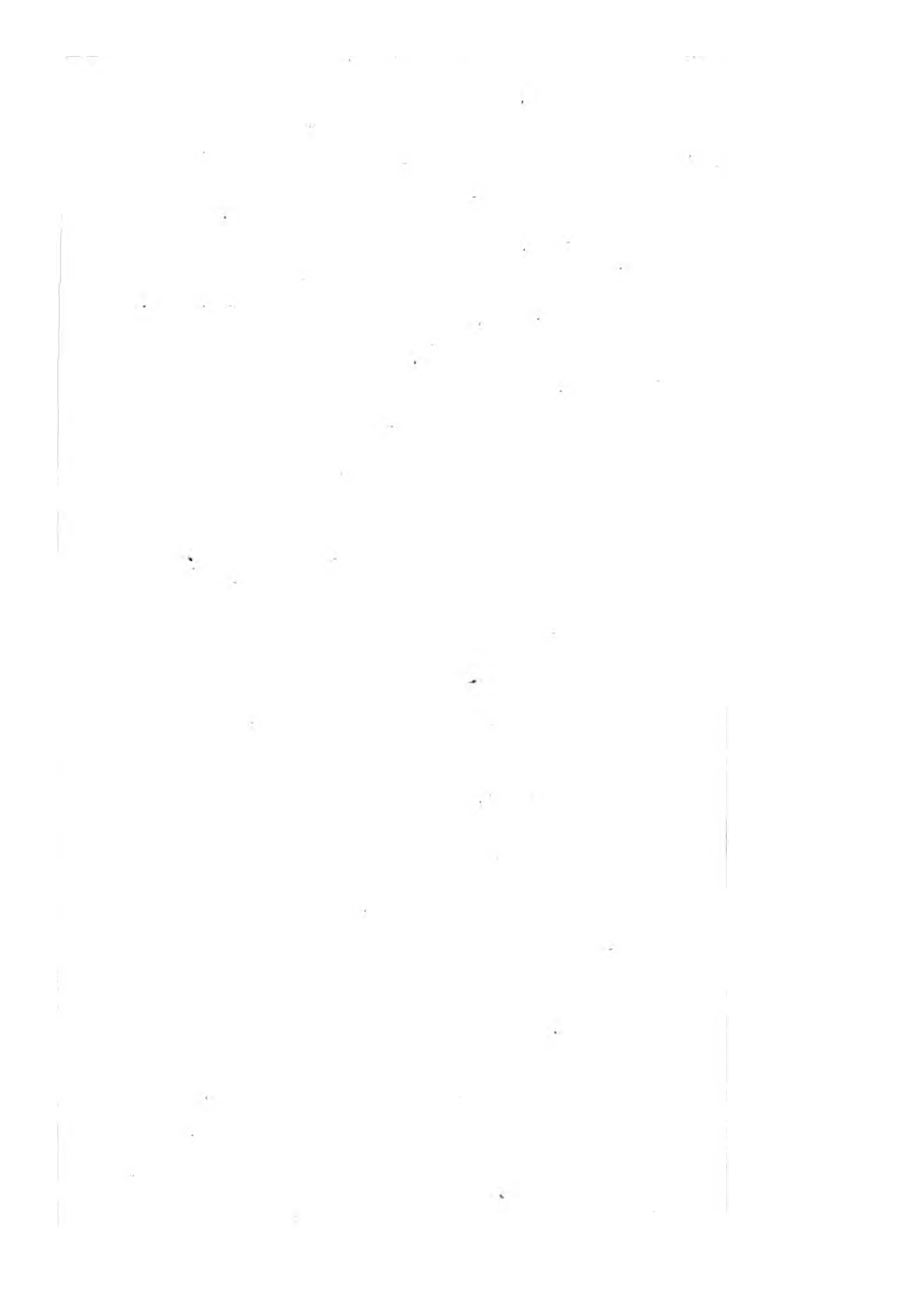
The crust is conspicuous for its bright yellowish green hue, and is very rugged, cracked and granulated, by no means leprous or mealy. Tubercles copious, black all over, on black stalks scarcely a line high, whose base is said by Acharius to be somewhat thickened in general; but this we scarcely perceive. The disk of each tubercle is very remarkably convex, or hemispherical, rough or powdery in appearance, being besprinkled with innumerable seeds, found by Mr. J. D. Sowerby to be combined in pairs, and each about the 8000th part of an inch in diameter. The border of the whole tubercle is smooth, and in due time reflexed.

1832



*Jan 1808 Published by J. Sowerby, London.*





CALICIUM chrysocephalum.

*Gold-headed Calicium.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

SPEC. CHAR. Crust granulated, indeterminate, dispersed, pale yellow. *Receptacles* on black stalks, pear-shaped, yellow towards the border, with an orange-brown disk.

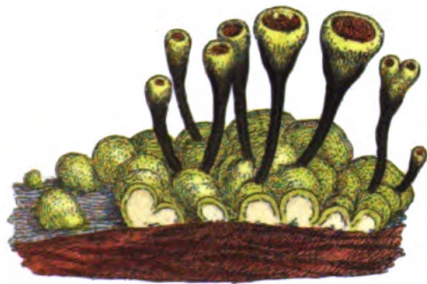
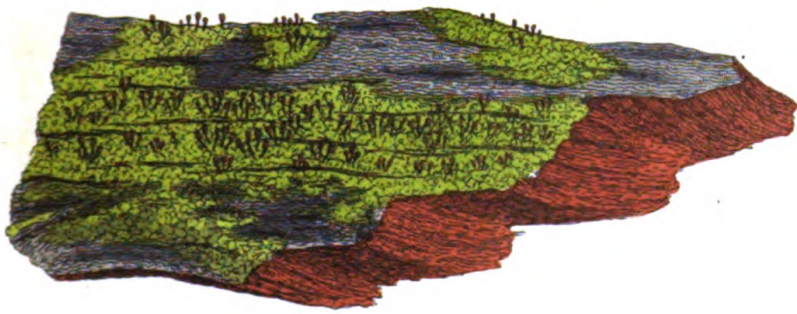
SYN. *Calicium chrysocephalum.* *Ach. Meth. suppl.* 15.  
*Lichen chrysocephalus.* *Turn. Tr. of Linn. Soc.*  
*v. 7. 88. t. 8. f. 1.*

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**T**HIS beautiful species, which places beyond all doubt the true nature of the crust and fructification of its genus, was found by Mr. Turner, its original describer, on old pales near Sotterley, in Suffolk.

The crust generally grows in oblong patches, about four inches in extent one way and two the other, of a bright, sometimes greenish, yellow, very much resembling some common Lichens, till it is submitted to a microscope, when it proves to consist of globose granulations, crowded or dispersed, internally of a dull buff-colour. These bear numerous little stalks, a line or more in height, capillary, of a shining brownish black. Each supports one, rarely two, pear-shaped flat-topped heads, black at their base, bright yellow upwards, especially at the margin; their disk occupied with powder of a dull orange-colour. When old, and the powder or seed is gone, the receptacles remain hollow and black, till they themselves break off and leave the naked stalks. Mr. Turner occasionally met with some heads almost sessile, and clustered together.

2501



*Jan. 1852 published by J. Van der Linden*







## CALICIUM æruginosum.

*Verdigrise Calicium.*

## CRYPTOGAMIA Algæ.

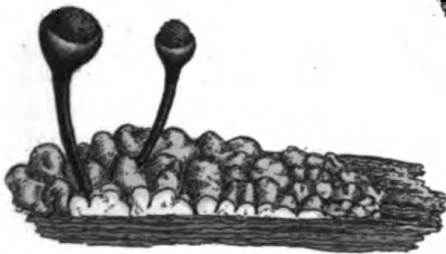
GEN. CHAR. *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

SPEC. CHAR. Crust thin, tartareous, somewhat granulated, of a verdigrise grey. *Receptacles* on slender black stalks, black, hemispherical, with a convex brownish-black disk.

FOUND by Mr. W. Borrer, on old boards at Cuckfield, Sussex, and communicated to us by Mr. Turner, with the above name, the species being as yet nondescript.

The crust is thin, but more continuous and determined than in some other species, though regularly granulated; white within; externally of a light verdigrise or glaucous grey; occasionally almost white, perhaps from the bleaching effects of air or light, as in *Lichen ventosus*, t. 906. The Tubercles are not very copious in our specimen. Each stands on a slender, black, shining, curved stalk, and is hemispherical or cup-shaped, of the colour of the stalk. The powdery disk is remarkably convex or hemispherical, of a light or brownish black.

2502.



*Not republished by J. S. Swortby London.*

1





## CALICIUM curtum.

*Short-stalked Calicium.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance ; disk powdery.

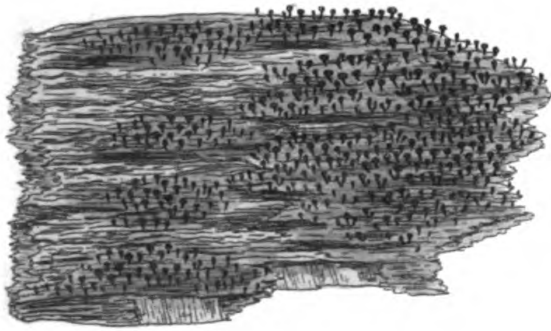
SPEC. CHAR. Crust filmy, very thin, whitish. *Receptacles* on thickish black stalks, obovate or hemispherical, black, with black, prominent, loose powder.

SYN. *Calicium curtum.* *Turn. & Borr. Lich. Brit.* 146.

THE learned authors of the *Lichenographia Britannica*, to whom we are obliged for specimens of this species, describe it as the most common of its genus, on decaying wood in shady places, though not to be referred with certainty to any described by foreign writers.

It is most nearly akin to *C. debile* (see our *t.* 2462), from which, as far as we can find, it differs chiefly in the shortness and thickness of the stalks, and greater size of its receptacles, whose base is always decurrent into the stalk, not flat or excavated underneath. The powder of the disk is also more prominent and copious, sometimes cohering in an oblong shape, like a little brush.

2503



*Sp. ... published by J. L. ...*







## CALICIUM cantherellum.

*Cinnamon-headed Calicium.*


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 CRYPTOGAMIA Algæ.

**GEN. CHAR.** *Receptacles* capitate, stalked, totally different in substance and colour from the crust, with a border of their own substance; disk powdery.

**SPEC. CHAR.** Crust very thin, white, powdery. *Receptacles* lenticular, pale reddish brown, clothed with white powder; their stalks slender, powdery, at length naked and brownish.

**SYN.** *Calicium cantherellum.* *Ach. Meth.* 96.

*C. peronellum.* *Ach. Meth.* 96. *Winch v. 2.* 42.

*C. pallidum.* *Pers. in Ust. Ann. fasc. 7.* 20. *t. 3.*  
*f. 1, 2.*

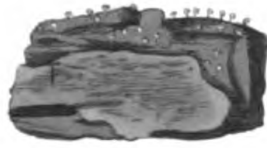
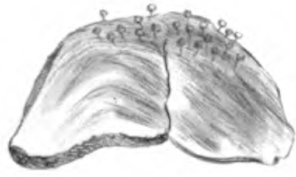
*Lichen cantherellus.* *Ach. Prodr.* 85.

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**MR. WINCH** is the only British writer who mentions this species, as found on decayed wood, near Eggleston, Durham. Nothing can be more distinct, from all we have hitherto figured of the same genus. The crust is white, powdery, or, as Persoon says, downy, but very thin and evanescent. Stalks ascending, not very slender, of a light red brown, clothed with white deciduous powder. Heads convex above and below, but not globose, their disk of a light reddish brown, or pale cinnamon-colour, clothed at first with copious, dense, white powder, which after a while disappears.

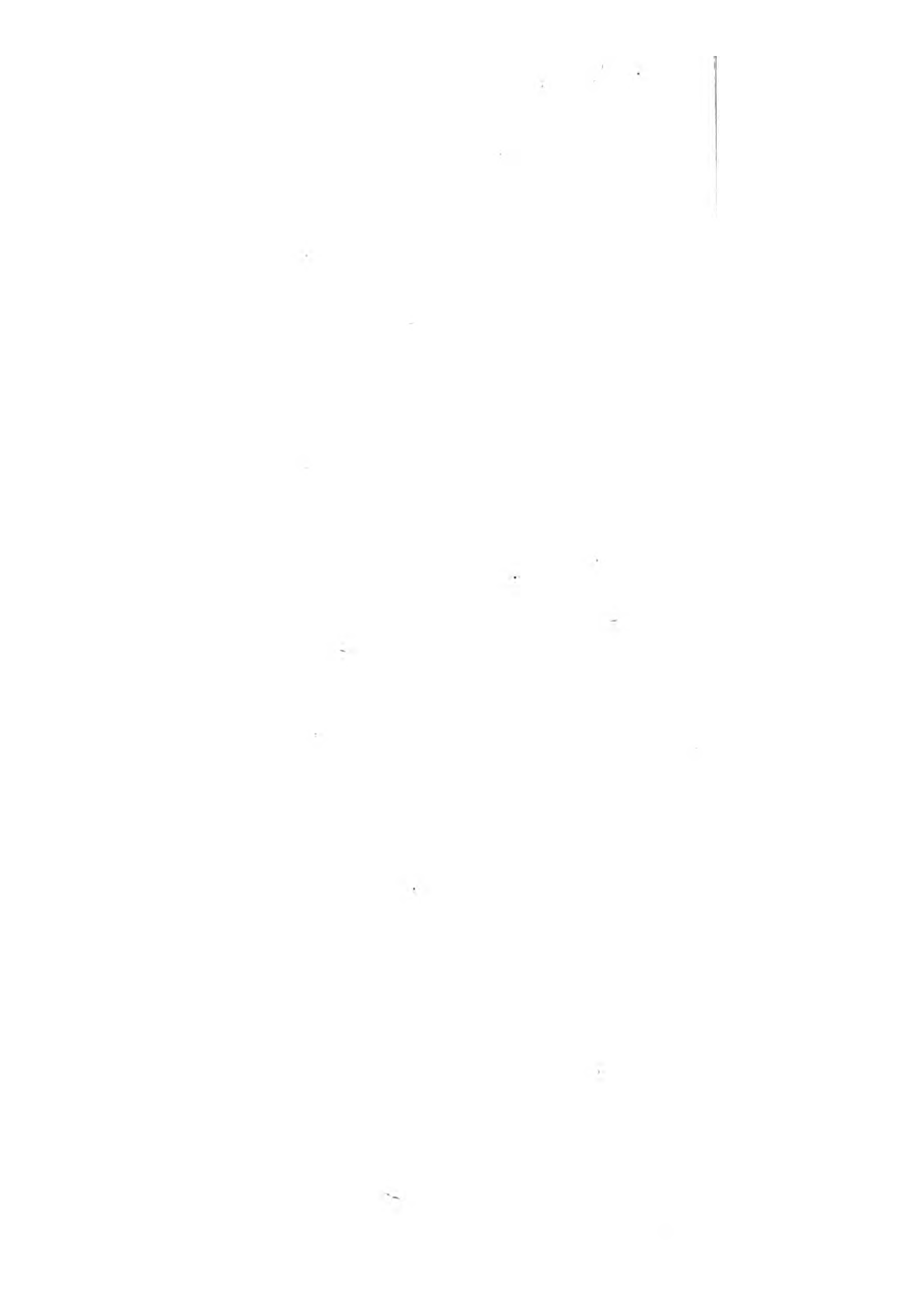
We unite without scruple two species of Acharius, on the authority of specimens sent by himself, and in conformity to a hint of his own in the *Methodus*,

2557.



*Fig. 1, 2, 3, published by J. S. Sowerby, London*

✓



## LICHEN acicularis.

*Minute Pin-headed Lichen.*

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*CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, powdery, pale greenish ash-coloured. Tubercles nearly globose, tawny, on shortish, cylindrical, upright stalks; disk small, brown, powdery.

SYN. Lichen acicularis. *Ach. Prodr.* 85,

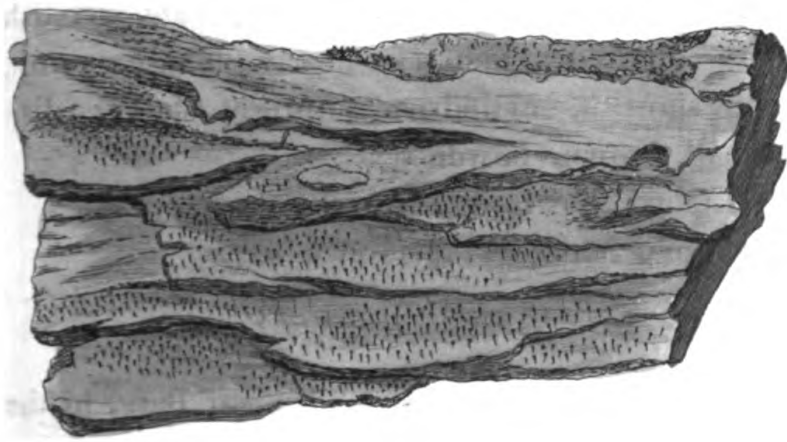
Calicium aciculare. *Ach. Meth.* 97.

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**F**OUND on the bark of old Scotch firs near Bury, by the Rev. G. R. Leathes, and sent under the above name, determined we believe by specimens from Acharius, but we are not possessed of any such. His account of the species, however, agrees sufficiently well, to leave little doubt on the subject. As to his synonyms, we have no means of forming an opinion, nor are they perhaps to be determined,

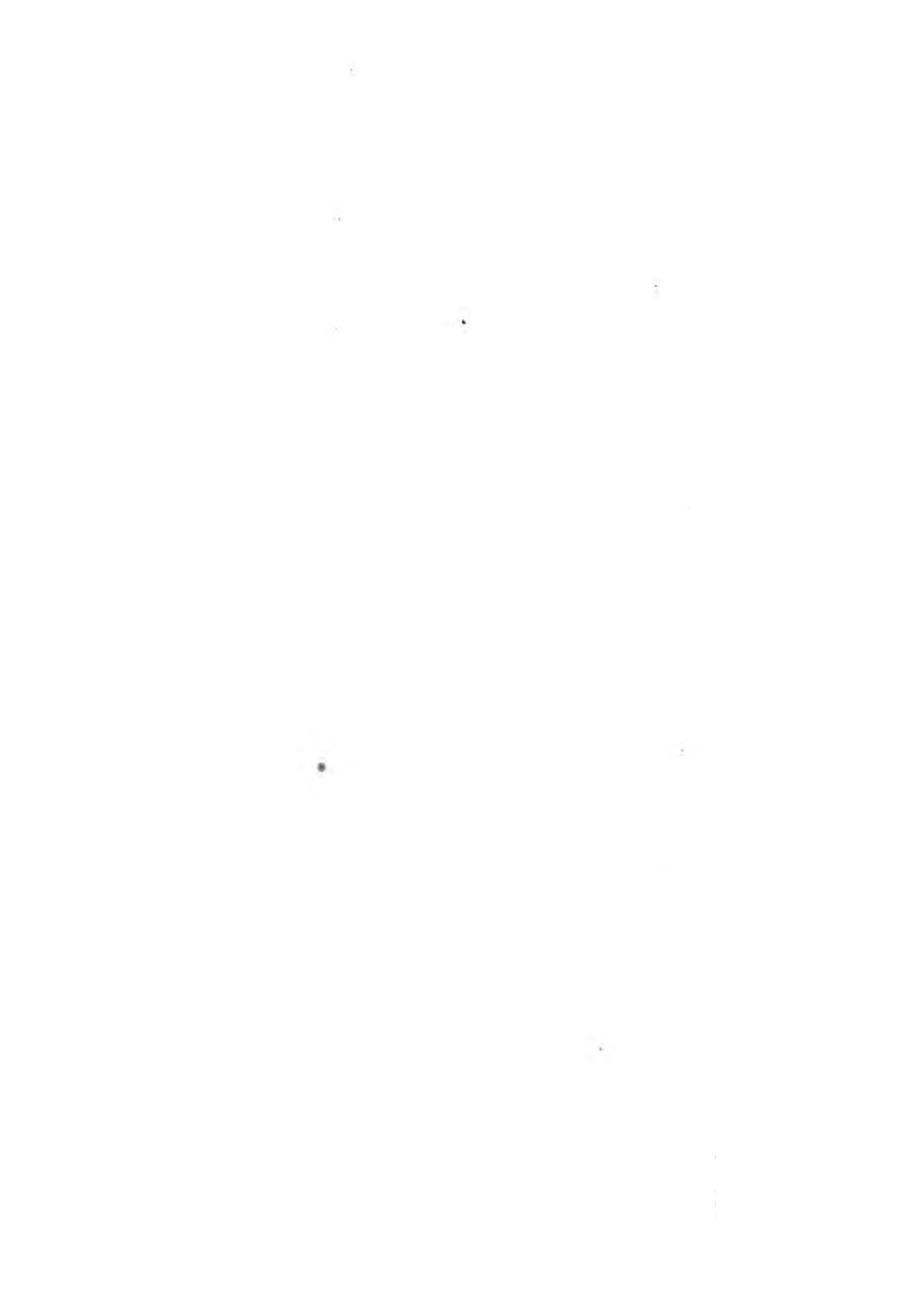
This is, as he says, "one of the least of its tribe, differing from *L. capitatus*, t. 1539, in having a paler-coloured crust, shorter stalks, and the head not exactly globose. The whole is besprinkled with tawny powder, except the base of the stalk, which in the adult *Lichen* is naked, turning brownish. Disk altogether imperceptible, like a little dot." Our specimens are perhaps further advanced than what Acharius saw; having the tawny powder partly rubbed off, and the disk more expanded, so as to show the brown seeds, which are all single and unconnected.

2385.



*Moss, as published by J. A. Murray-Larkin.*

✓





LICHEN capitatus.  
*Sulphurous Pin-headed Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, powdery, greenish-yellow.

Tubercles on capillary foot-stalks, globose, yellow; disk brown, powdery.

SYN. Lichen capitatus. *Ach. Prod.* 86. *Schreb. Lips.* 134. *Relh.* 457.

*Calicium capitellatum.* *Ach. Meth.* 98.

*Mucor furfuraceus.* *Linn. Sp. Pl.* 1655. *Hull.* 419.

*Clathrus virescens.* *Huds.* 632.

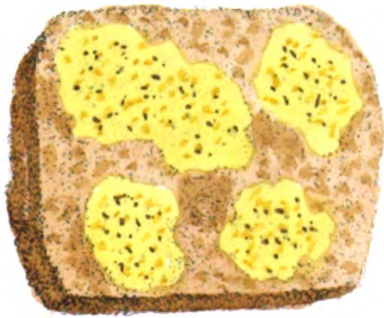
*Trichia furfuracea.* *With. v. 4.* 398.

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COLLECTED by Mr. W. Borrer on the sandy soil near Dorking, Surry, in the month of July. It grows also on rotten wood. A specimen sent by Dr. Acharius is on a bit of black turfy earth.

Much diversity of opinion has existed among botanists concerning the genus of this minute vegetable, as the above synonyms evince. It is now indeed no longer in doubt, being unquestionably of the tribe of Lichens named *Calicium* (see *t.* 1465,) which perhaps deserves as well as any other of its allies to be a distinct genus.

The crust is tender and powdery, of a conspicuous sulphur-colour, more or less inclining to green. The minute heads are globular, of the same colour, standing on very slender longish stalks, which are at first yellow, then brown. The powder contained in the heads is likewise of a brown hue.



*Doct. 1. sheet. Published by W. J. Flowerby London.*





LICHEN Schraderi.  
*Schraderian Lichen.*

---

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust hard, whitish, smooth. Tubercles black, globose, umbilicated, half sunk in the crust.

SYN. Lichen Schraderi. *Ach. Prod.* 13.

*Verrucaria Schraderi.* *Ach. Meth.* 114.

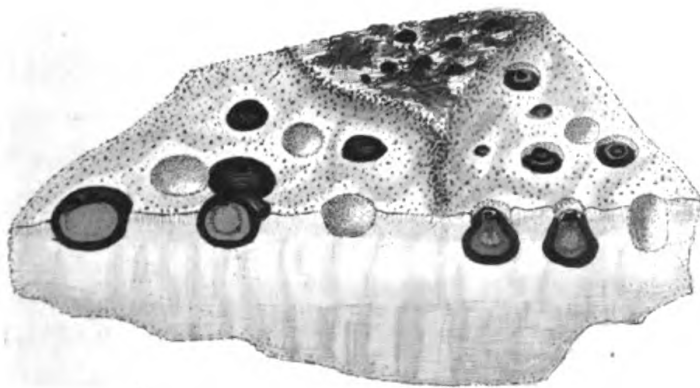
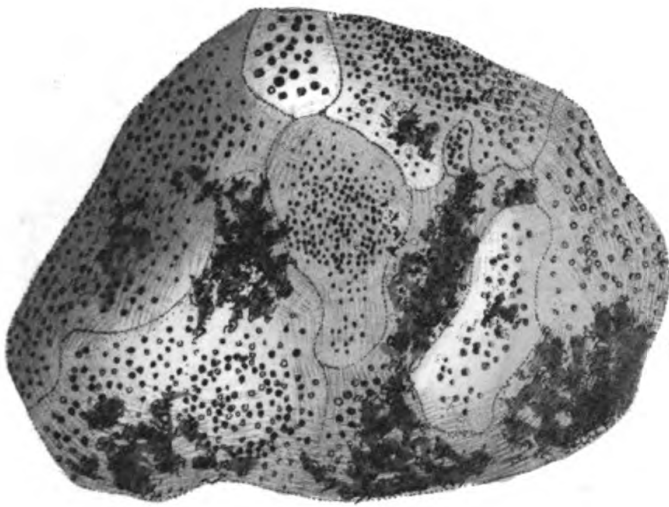
*V. rupestris.* *Schrad. Spicil.* 109. t. 2. f. 7.

---

FOUND on chalk or calcareous stones in various places, though from its minuteness often overlooked. Mr. Borrer sent our specimen from Sussex.

In the structure of its crust, the cavities of which contain the fructification, nothing can more nearly approach *L. immersus*, figured in *v. 3. t. 193*; but the fructification is smaller, and differs so essentially as to have caused Professor Acharius to refer it, very justly according to his system, to another genus, *Verrucaria*, while our *immersus* is truly a *Lecidea*. The tubercles of the plant before us are very minute, globular, when fully grown, but half sunk in the crust, marked at the top with a little puncture or depression, coal-black externally, grey within, when ripe lined with seeds.

We have compared our plant with an original specimen, sent by the liberal botanist whose name it bears, and whose admirable figure, indeed, leaves no room for doubt upon the subject.



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10





## L I C H E N Harrimanni.

*Microscopic Dot Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust tartareous, contiguous, limited, mouse-coloured, with very minute depressed dots.

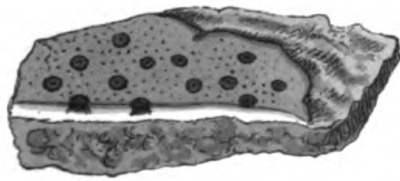
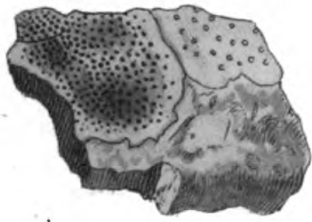
Tubercles minute, immersed, globose, with a prominent bordered orifice; dirty white within.

SYN. *Verrucaria Harrimanni.* *Ach. Lichenogr. Univ.* v. 1. 284.

WE have long ago wished to dedicate to our liberal friend, the Rev. Mr. Harriman, some one of the numerous Lichens of which he was the first discoverer, but could never obtain his consent, which probably his correspondent Dr. Acharius did not think of soliciting. We are glad that so worthy a name has become thus properly commemorated.

Mr. Harriman found the present species of *Lichen*, or, according to the Acharian system, *Verrucaria*, on hard grey calcareous rocks in the county of Durham. Its patches, though inseparable from the stone, are very distinctly limited, and visibly prominent above its surface, of a hard tartareous texture, white within, greyish or pale mouse-coloured on the outside, which is thickly besprinkled with innumerable minute depressions or dots. The tubercles are truly those of a *Verrucaria*, deeply sunk in the crust, blackish, their little bordered orifices only projecting slightly above its level.

2539



*May, 1831 - the rock by J. S. Hensley, London*

✓



## L I C H E N plumbosus.

*Lead-coloured Dot Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

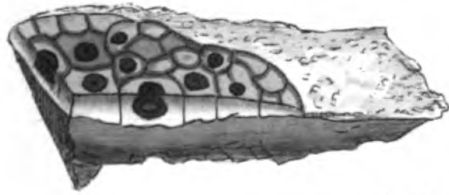
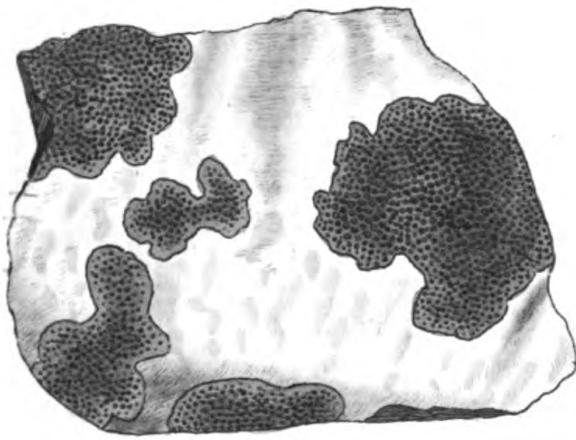
SPEC. CHAR. Crust tartareous, minutely cracked and rugged, lead-coloured, limited. Tubercles half-immersed, globose, black; pale within.

SYN. *Verrucaria plumbea*. *Ach. Lichenogr. Univ. v. 1. 285.*

GATHERED by Mr. W. Borrer, on limestone rocks near Cheddar, Somersetshire. To him we are indebted for specimens, and for the synonym. As there has long been a *Lichen plumbeus*, we are obliged to make a small change in the specific name, until our difficulties about the genera *Verrucaria* and *Endocarpon* are removed.

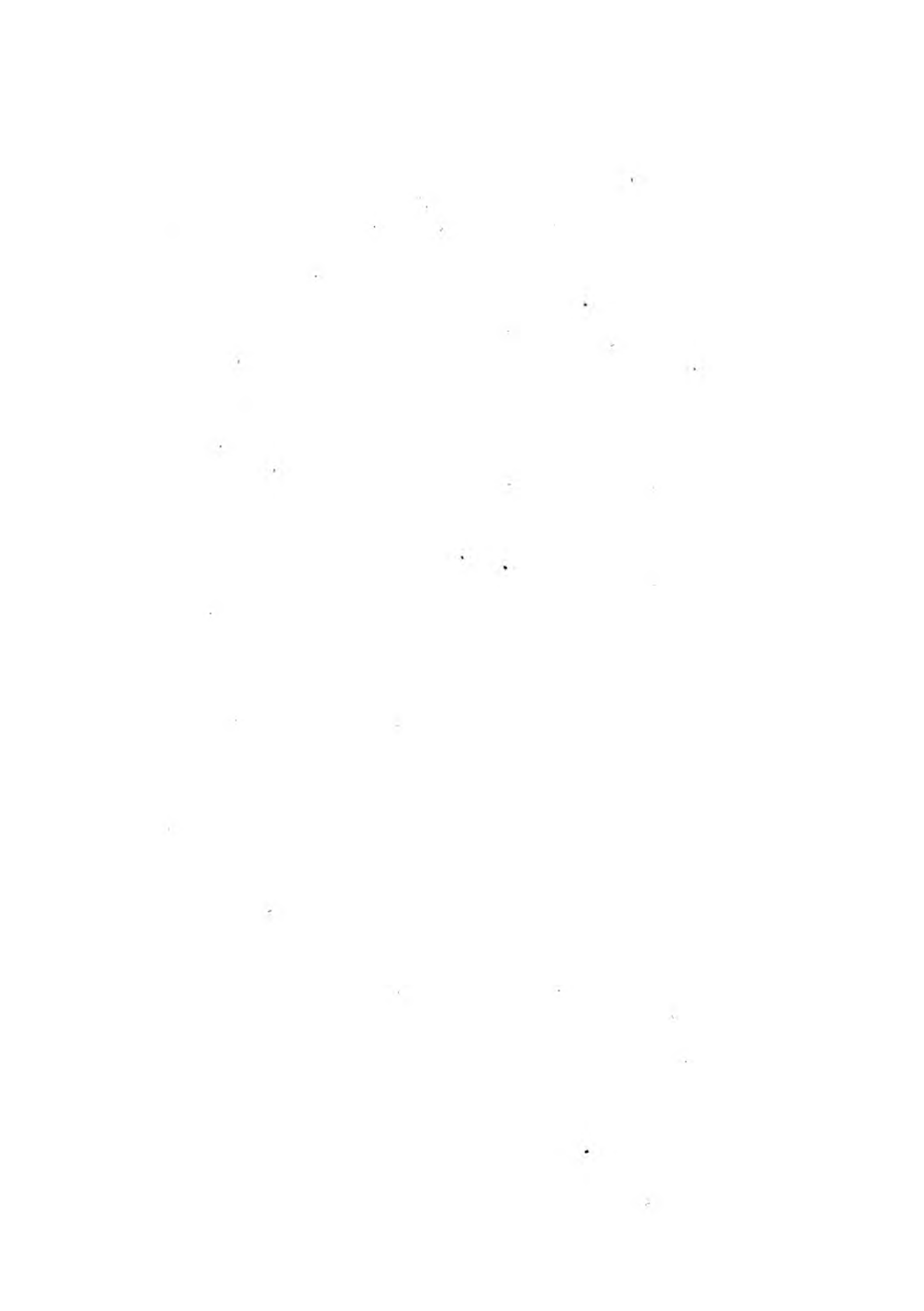
This species differs sufficiently from *L. Harrimanni*, t. 2539, not so much in the bluer colour, as in the tessellated configuration of its crust, which moreover is destitute of impressed dots. The tubercles also are much larger, sunk only about half their depth, or a little more, in the crust. We find a distinct orifice in the centre, though Acharius says it is scarcely ever discernible.

2576



*Mus. m. pulchellus* by J. S. Searby, London.







## LICHEN maurus.

*Blackmoor Dot Lichen.*

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*CRYPTOGAMIA Algæ.*

**GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

**SPEC. CHAR.** Crust thin, continued, imperfectly circumscribed, coal-black, smooth, with innumerable minute cracks. Tubercles black, immersed, swelling under the crust, and marked by an umbilicated dot.

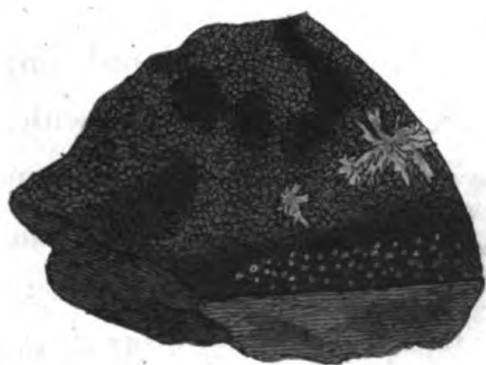
**SYN.** *Verrucaria maura.* *Ach. Meth. suppl.* 19.

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**FOUND** frequently on the Scottish coast, by Mr. W. Borrer. Our specimen, taken by that gentleman from rocks near the seaside at Dunbar, is on a reddish porphyritical stone or indurated clay.

The crust is widely extended in continued very black patches, without any marked or regular border; its substance thin, hard, inseparable from the stone; the surface smooth, somewhat polished, full of minute angular cracks. In the interstices of these cracks are found numerous slight elevations of the crust, each at length marked with a minute umbilicated depression. The tubercle underneath never protrudes, but on dissection is found imbedded in the crust, and of an intense black colour.

2456.



*Specimen 2456, collected by J. C. Kunkin, 1912.*

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LICHEN umbrinus.  
*Dark-stained Wart Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust of a deep olive black, solid, most minutely cracked. Tubercles of the same colour, half immersed, slightly convex, with a central pore.

SYN. Lichen umbrinus. *Ach. Prod.* 14.  
*Verrucaria umbrina. Ach. Meth.* 122.

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ALTHOUGH common every where on shady rocks and stone walls, even about houses, this minute Lichen has not yet found a place in any work on British plants, except it may have been taken by some botanists, as the ingenious Acharius suspects, for *L. antiquitatis*, or *L. fusco-ater*. We confess, though we never took it for either of those, we never understood its real structure, till the descriptions of this writer, illustrated by specimens from himself, explained it to us. The specimen in our plate, more perfect than usual, as having the central pore visible on the tubercles, was sent by Mr. James Turner from Gorleston church, Suffolk.

The crust forms a permanent spot, an inch or two wide, of a very dark olive black when wet, in which state it is in some degree soft and friable, its surface rather uneven, and very minutely cracked. When dry it grows blacker and harder. The tubercles are partly immersed, their surface a little convex, their colour rather paler or greener when wet, and they have, when perfect, a central black pore, which marks Dr. Acharius's genus of *Verrucaria*. They are always distinguishable from the crust by being round and without cracks. Careless observers might take this for *L. niger*, t. 1161, from which it is totally distinct in nature.

1499



*Printed and Published by W. Clowes & London*

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[ 1712 ]

## LICHEN acrotellus.

*Little Sharp-tubercled Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust scarcely any. Tubercles minute, scattered, somewhat confluent, black, unequal, convex, pointed, umbilicated.

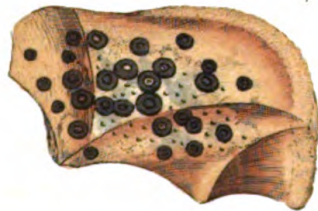
SYN. *Verrucaria acrotella.* *Ach. Meth.* 123.

COMMUNICATED to Acharius by his celebrated friend Professor Swartz, from whom we also have received a specimen, which accords precisely with what Mr. Borrer has sent us on a flint from Sussex.

No crust is discernible, except certain minute black fragments intermixed with the tubercles are to be considered as such, but we are rather inclined to believe them young or abortive fructification. The perfect tubercles are about the size of those of *L. Schraderi*, scattered over the smooth broken face of the flint, sometimes crowded together, round, with a little prominence, on the summit of which is a dimple or orifice.

Acharius hints that it may be the first rudiments of his *Urceolaria fimbriata*. We should not have suspected any such thing; but however that may be decided by future observations, we have thought it worth while to publish a figure of what has no where been noticed but in the work above cited.

1712



*Mar. 1. 1807. Published by Jas. Sowerby London.*





[ 1891 ]

## LICHEN stigmatellus.

*Little Dot Lichen.*

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*CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

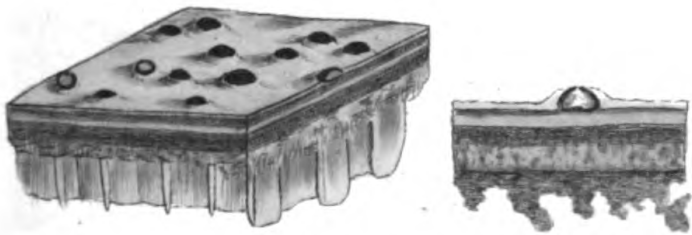
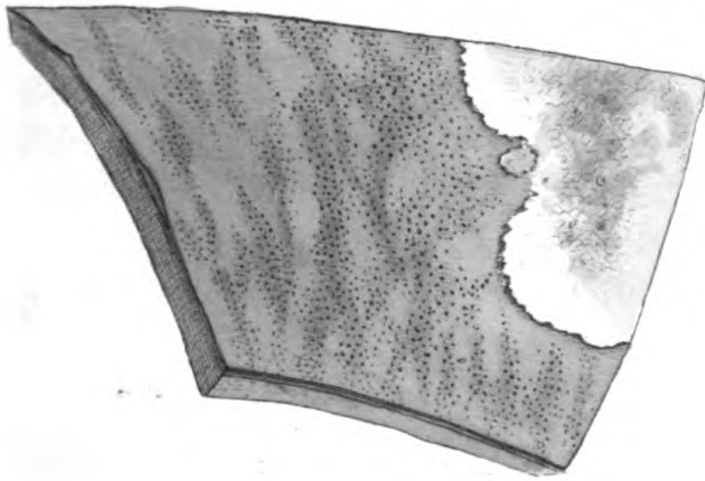
Female, smooth shields or tubercles, in which the seeds are imbedded.

**SPEC. CHAR.** Crust greyish, uninterrupted, thin, smooth and polished. Tubercles minute, convex, black, protruding through and elevating the crust.**SYN.** Lichen stigmatellus. *Ach. Prod.* 15.*Verrucaria stigmatella.* *Ach. Meth.* 117.*V. cinerea.* *Persoon in Ust. Ann. fasc. 7. 28. t. 3. f. 6. A, a.*

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**FOUND** by Charles Lyell, Esq., in the New Forest, growing on the smooth bark of trees, which it overruns in broadish uninterrupted patches. The crust is of a pale brownish grey, smooth, polished, by no means mealy, and scarcely cracked. It is about the thickness of silk paper, and of the same hue within as without. Innumerable little black tubercles, like dots, are sprinkled over the crust, in which they are imbedded, and which they elevate around their base as they swell in ripening. Each tubercle is convex, almost conical, hollow and lined with pale seeds within, which hollowness constitutes the character of a *Verrucaria*, a genus we have hitherto not ventured to adopt.—Our specimens agree with those sent by Persoon, Schrader and Acharius.

1891



*State Lab. Published by J. S. Sowerby, London.*

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[ 1848 ]

LICHEN analeptus.  
*Little Dotted-tubercled Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust determined, very thin, smooth, shining, pale copper-coloured. Tubercles scattered, black, hemispherical, with a central dot.

SYN. Lichen analeptus. *Ach. Prod.* 15.

Verrucaria analepta. *Ach. Meth.* 119.

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OBSERVED by Mr. W. Borrer on the smooth bark of young oaks in Sussex.

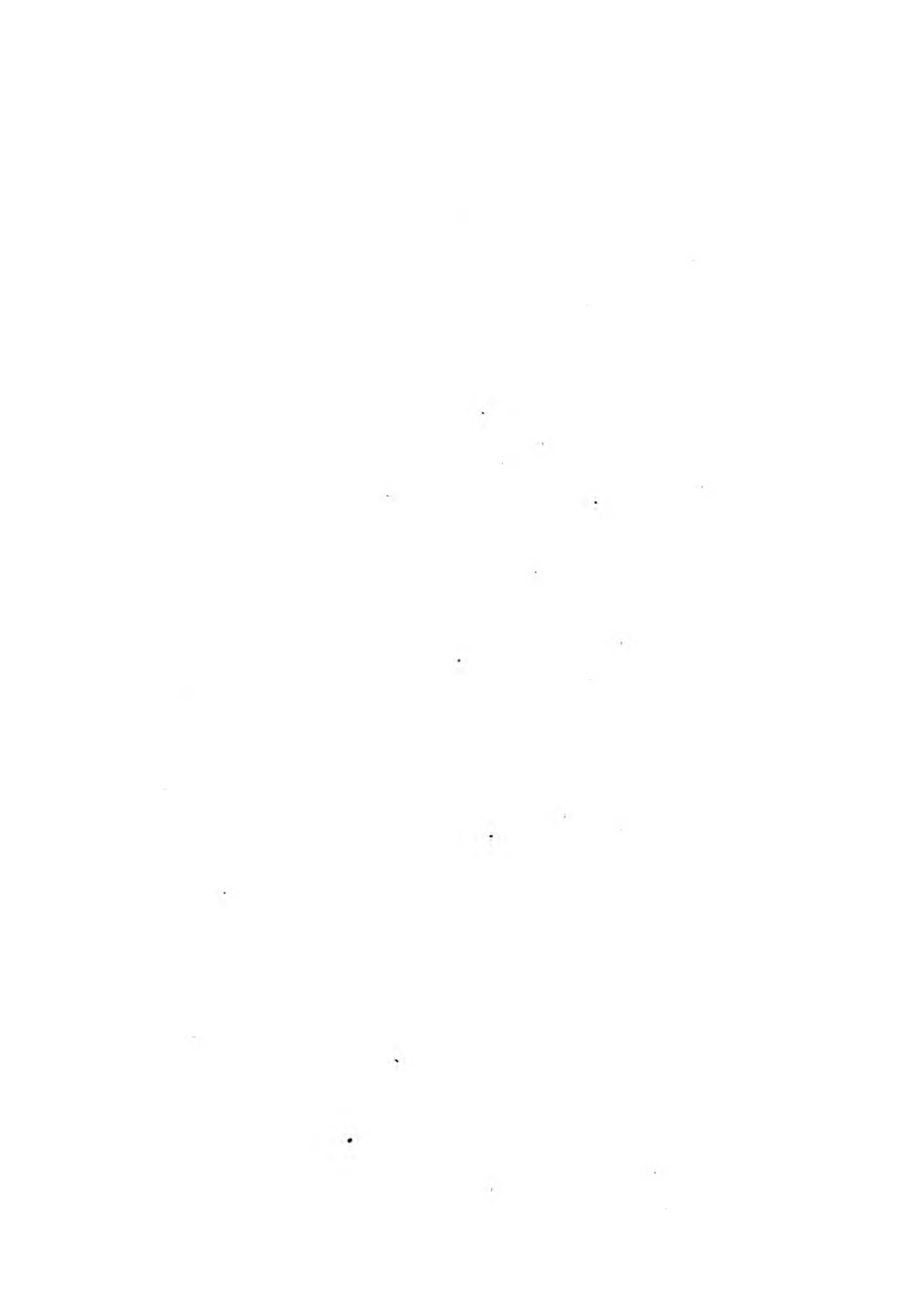
This minute vegetable forms small patches, their crust being so thin that the dark red of the bark appears through it, heightening the olive copper-like hue of the crust. By age the latter nearly vanishes. Its surface is smooth and polished; its edge determined, but not bounded by any coloured line. Tubercles minute, regularly sprinkled over the crust, (not clustered,) black, hemispherical, marked at the top with a small depression.

1848.



*Foh. 1800. Published by Jas. Sowerby, London.*

✓



## LICHEN punctiformis.

*Dot-shaped Tubercled Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

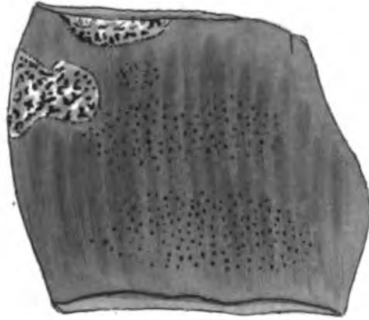
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust determined, very thin, smooth, rusty-brown. Tubercles minute, black, hemispherical, umbilicated.

SYN. Lichen punctiformis. *Ach. Prodr.* 18.*L. myacoproides.* *Ehrh. Crypt.* 264.*Verrucaria punctiformis.* *Pers. in Ust. Ann. fasc.* 11. 19. *Ach. Meth.* 119.

NOTICED commonly on the smooth bark of ash-trees, by Mr. W. Borrer. His specimens agree with those from Acharius and Ehrhart. Were it not for the decision of such consummate cryptogamists, we should, even by tracing the various appearances of their own specimens, judge this a variety of *L. analeptus*, t. 1848, from which it differs but slightly in the rather more red or rusty hue of the very thin crust. The tubercles indeed are still more minute than in that species, and so much umbilicated as to be occasionally almost cup-shaped. A comparison of the two plates will show the difference of their forms. In a young state, those of the present *Lichen* are, of course, but slightly excavated, but they are then too small to be confounded with the other.

2412



*May 1, 1912, published by J. P. Sawyer, London.*







[ 2455 ]

## L I C H E N viridulus.

*Greenish Dot Lichen.*

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*CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

**SPEC. CHAR.** Crust imperfectly circumscribed, very thin, cracked, pale greenish olive. Tubercles black, hemispherical, pointed, prominent through irregular openings.**SYN.** Lichen placothallus. *Ach. Prod.* 18.Endocarpon viridulum. *Schrad. Spicil.* 192. t. 2. f. 4.Verrucaria viridula. *Ach. Meth. suppl.* 16.

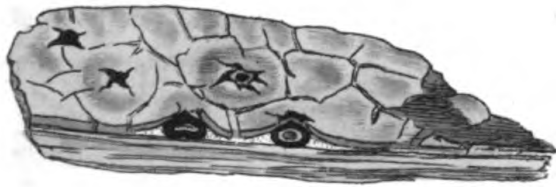
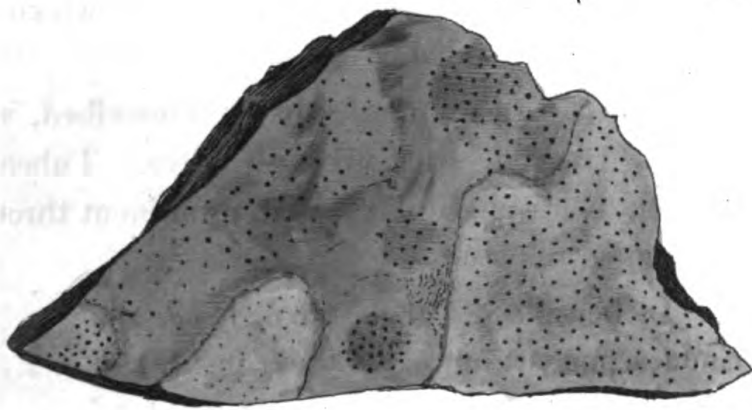
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**COLLECTED** by Miss Hutchins, on fissile slate rocks, in shady situations, in the west of Ireland, and communicated to us by Mr. W. Borrer.

The very thin and inseparable crust forms broad washy stains, very loosely circumscribed, of a greenish olive when wet; more grey and shining when dry. Plentiful tubercles are scattered throughout the crust, each bursting at first through an irregular star-like crack; but they soon rise above the surface, appearing partly denudated, and on dissection are found to be black, hemispherical, with a central papillary elevation. At length a small circular depression is perceptible in the summit of this protuberance.

*L. viridulus*, *Ach. Prod.* 29, is a *Variolaria*, which genus we have already adopted; see v. 34. 2400.

2455.



*By ... published by ...*

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[ 1681 ]

LICHEN terrestris.

*Ground Lichen.*


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 CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust pale greenish grey, slimy. Tubercles minute, black, sunk in the crust.

SYN. *Verrucaria epigea*. *Ach. Meth.* 123.*Sphæria epigæa*. *Persoon Syn. Fung. append.* xxvii.

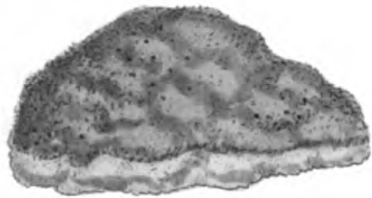
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SENT to Mr. Sowerby from the neighbourhood of Norwich by the Rev. G. R. Leathes, who observes that it is common on dry barren banks, though but little known to botanists. Accordingly we find only the above synonyms applicable to it, and even Dr. Acharius has adopted the plant from Persoon without seeing it himself.

The crust spreads uniformly over the inequalities of the soil, and is of a yellowish or greenish grey, smooth (scarcely mealy) when dry; when wet soft and somewhat slimy. The little black tubercles are immersed in the crust, and scattered over the whole plant.

If on mature consideration the genus of *Verrucaria* should be retained, the original specific name *epigæa* must also remain; but that of *Lichen epigæus* is preoccupied, though perhaps not permanently. We have thought it best, for the present, to give a new specific name of the same meaning, in order to prevent confusion.

1681



Published by J. S. Kirby London.

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## LICHEN pertufus.

*Pierced Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, greyish white, polished. Shields aggregate, waxy, flesh-coloured, concealed in swelling, polished, clustered, perforated warts.

SYN. Lichen pertufus. *Linn. Mant.* 131. *Huds.* 525. *Witb. v.* 4. 15. *Hull.* 288. *Relb.* 421. *Sibtb.* 317. *Abbot.* 261.

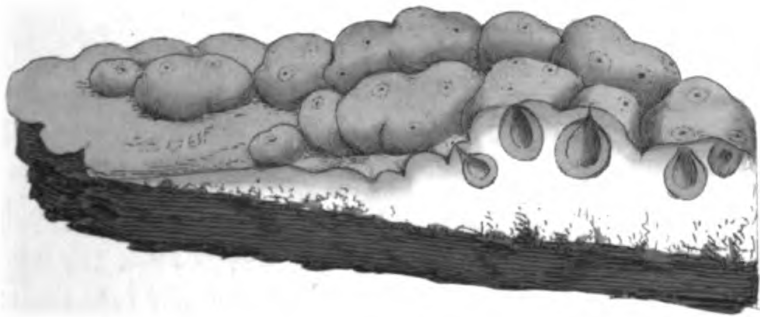
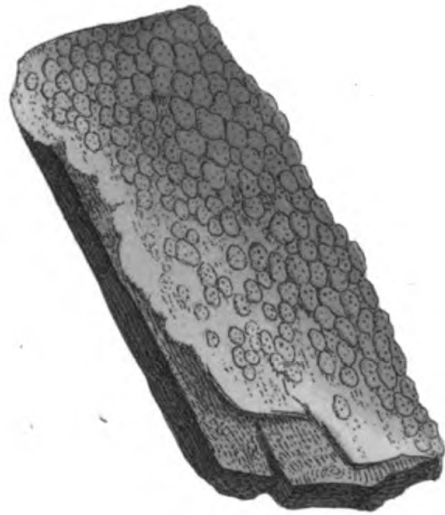
Lichenoides verrucosum et rugosum, cinereum, glabrum. *Dill. Musc.* 128. t. 18. f. 9.

NOT unfrequent on the trunks of trees in various parts of Great Britain, at all seasons of the year.

The crust is thin, smooth, polished, by no means powdery or leprous, of a grey or glaucous white, spreading over the bark, sometimes investing the smaller kinds of mosses as it goes, in patches 2 or 3 inches broad. The fructification is copiously produced, and lodged in numerous elevated crowded polished warts of the colour and substance of the crust, very irregular in their form, divided internally into several cells, each cell marked by a little depressed perforation at the top of the wart communicating with its cavity. These cells are various in number, from 2 or 3 to 7 or more, sometimes however they are solitary. In each of them is lodged a waxy concave shield, of a pale flesh-colour throughout, lining the cavity. We have never seen any thing of the black powder within, mentioned by Weber. If his observations be correct, probably the seed ripens into that substance, or the shield in disease or decay may be changed to it.

*L. inclusus*, figured in our next plate, will be found admirably to illustrate the structure of this.

077



*[Faint, illegible handwritten text]*





LICHEN inclusus.

*Crocod Lichen.*

*CEYPTOGAMIA Aiga.*

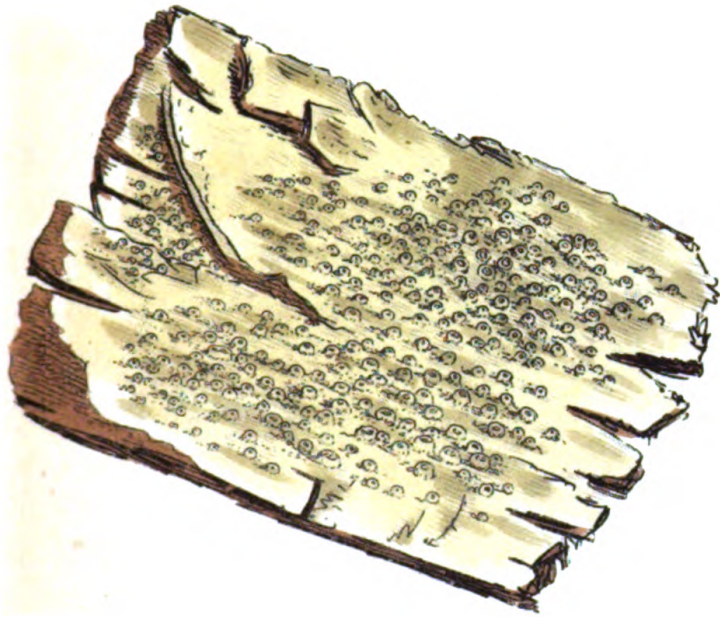
SEM. CHAL. Male, scattered warts.

FEMINE. Smooth shields or tubercles, in which the  
seeds are imbedded.

SEM. CHAL. Conspicuous, cream-coloured, polished.  
SEM. FEM. Dull, flesh-coloured, with a thin inflexed  
edge, and enclosed in a thick outer coat of the  
substance of the shell.

**T**HIS new Lichen, which Mr. Sowerby has aptly named  
*L. inclusus*, was first seen from Teesdale forest, Durham, by the  
Messrs. Hartman and Mr. Oliver. I have found it plenti-  
fully on the *Juniperus*, on trees upon the hill immedi-  
ately opposite to the front of the house, but it appears to be  
a very recent and recently introduced, unless it may have been  
long introduced in an advanced state: indeed part of Dille-  
nberg's figure is that which much resembles this. I have no  
doubt, from the nature of their being perfectly distinct,  
that they are such.

The male of *L. inclusus* is cream-coloured, not grey or glau-  
cous like the other species like that of *peruvianus*. Shields very  
conspicuous and scattered, but not aggregate; they are concave,  
or rather convex, and extremely smooth, thin and incurved in  
the margin, and very membranous, and very brittle,  
and they are lodged in a globose cavity, formed out  
of the substance of the shell, and together above its general surface,  
but the cavity is not in general, with a thick inflexed  
edge, but is much and separate from the edge of the  
shell. The female of these cavities are crowded as  
well as the male, but this is in a very different mode from the  
arrangement of the warts of *L. peruvianus*, and the perfora-  
tions of the male are much wider than in that species.



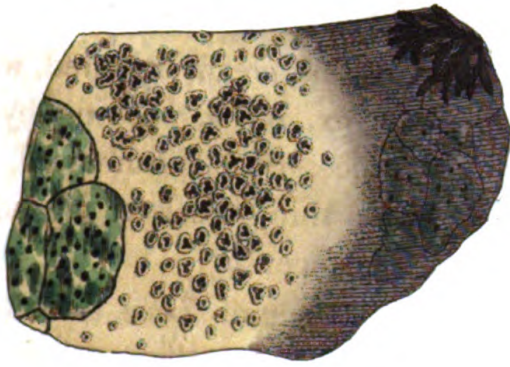








2401.



*Enlarged by J. H. Schimper*

## LICHEN melaleucus.

*Brownish Covered Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, cream-coloured, with scattered, rather convex, warts, opening by an irregular inflexed orifice. Shields immersed, depressed, brown, with a thin, obsolete, jagged border, of their own substance.

SYN. *Thelotrema melaleucum*. *Turn. and Borr. Mss.*

**F**OUND on the bark of young oaks, in St. Leonard's forest, Sussex, by Mr. W. Borrer, who proposes to publish it, under the synonym we have cited, in the *Lichenographia Britannica*. We retain the specific name, in reducing the plant to *Lichen*; because the former *L. melaleucus*, *Ach. Prod.* 15, is a nonentity, or rather not distinct from *gemmatus*, *ibid.* 17, as Dr. Acharius has been so good as to inform us by letter.

The present is most akin to our *inclusus*, *t.* 678, but sufficiently different. Its crust makes irregularly elliptical, cream-coloured, thin patches on the smooth bark, an inch or two over, of a filmy, scarcely tartareous, substance, smooth and rather polished, not bordered, but gradually thinner and fainter at the edge. Numerous, rather tumid, warts are scattered over the surface, in each of which is deeply lodged a brown depressed shield, or disk, with a thin, irregular, inflexed, often obsolete, border, of its own hue and substance, encompassed with the irregular orifice of the wart, though not always united therewith



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## LICHEN ceuthocarpus.

*Tumid dot Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

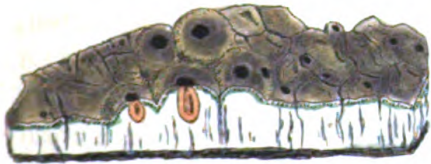
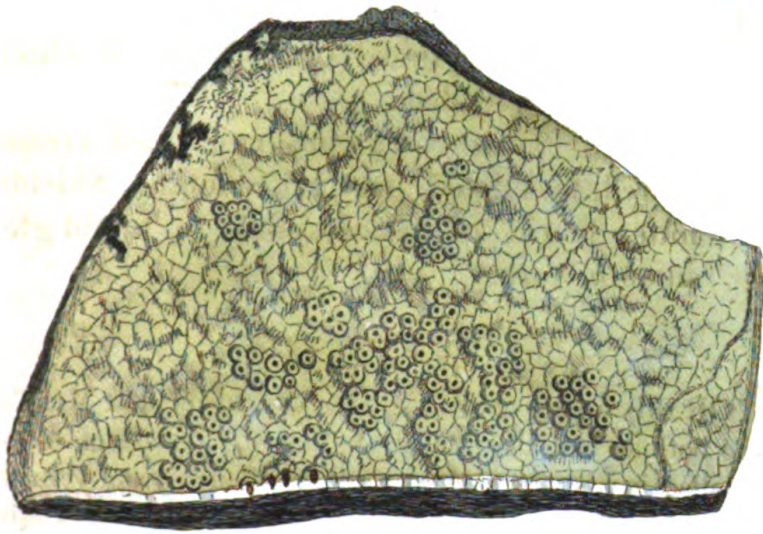
SPEC. CHAR. Crust calcareous, continued, cream-coloured, tessellated, unequal, smooth. Shields minute, black, depressed, sunk in tumid globose smooth warts.

FOR this we are obliged to Mr. W. Borrer and Mr. Turner, who both at first thought it the *Sagedia lævata* of Acharius, so called in his new general work on Lichens, not yet come to our hands. Mr. Turner having found this to be a mistake, informs us the plant will be called *Pertusaria ceuthocarpa*, in Mr. Borrer's own *Lichenographia Britannica*, now in the press. Of the characters of these genera we are as yet ignorant, but, as a species, the plant before us is unquestionably distinct from all we have published. Sir Thomas Gage, bart., as well as Miss Hutchins, have found it in Ireland, growing, in large uninterrupted patches, on slate rocks.

The crust is continued, of a tolerably even thickness, white and chalky within, externally cream-coloured, tessellated, smooth and not at all mealy. The surface is rather unequal, especially the fructifying parts, where globose, depressed, very smooth warts arise, in the centre of each of which is a little black sunk concave shield, internally pale brown. We should have referred this species to the genus *Urceolaria* of Acharius, among those already proposed. We fear much inconvenience from the common error of making too many genera in this tribe, as in others.

Mr. Borrer observes little black tubercles scattered over the surface of this *Lichen*, like those of *L. microsticticus*, t. 2243.

2372



*Jan. 1852 published by J. A. Murray London.*



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1900



## LICHEN agelæus.

*Inelegant Hollow-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust irregular, thin, uneven, smooth, cracked, greenish white. Shields clustered, minute, hollowish, irregular, greyish black, with an elevated irregular margin of the substance of the crust.

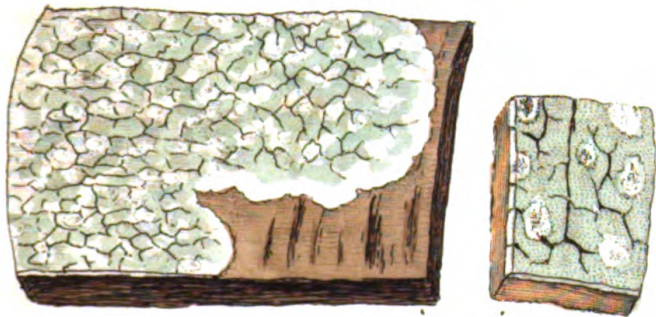
SYN. Lichen agelæus. *Ach. Prod.* 30.Urceolaria agelæa. *Ach. Meth.* 150.

THIS obscure Lichen is found by Mr. Turner about Yarmouth, and Mr. W. Borrer in Sussex, and is said by those gentlemen to be not uncommon on the barks of trees, though described only by Dr. Acharius from the communication of his learned friend Swartz. We have often observed it in its whitest early state, and have neglected it as a form of *L. fagineus*, t. 1713, or *discoideus*, t. 1714, from both which however the slightest examination proves it to be distinct.

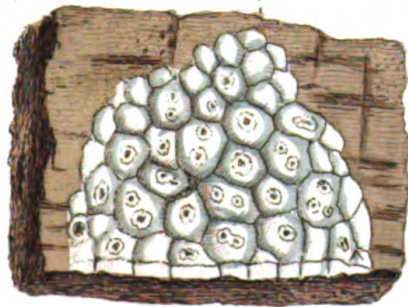
The young crust spreads in irregular oblong transverse patches round the stems of large trees, and is thin, smooth, somewhat shining, of a pale greenish white, sprinkled with roundish, white, warty cracks. These at length become more elevated, and are separated from one another by angular fissures, which render the crust tessellated. At length, several small blackish depressed shields, extremely irregular in size and shape, appear in each of those warts, every one of which shields is surmounted by a thick shapeless elevated inflexed margin, of the substance of the crust.



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## LICHEN hymenius.

*Wrinkled Hollow-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust cartilaginous, uneven, somewhat polished, greenish grey; at length extremely tumid and uneven. Shields elevated, crowded, hollowish, very irregular, black, with an excessively tumid wrinkled notched margin of the substance of the crust.

SYN. Lichen hymenius. *Ach. Prod.* 80.

*L. pertusus.* *Wulf. in Jacq. Coll. v. 2.* 181. *t. 13.*  
*f. 2.* *Schrad. Spicil. t. 1. f. 5.*

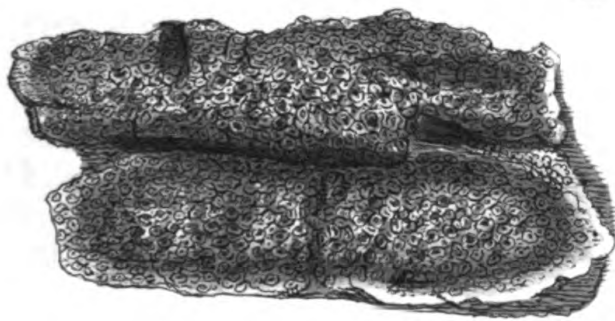
*Thelotrema hymeneum.* *Ach. Meth.* 133.

WE first received this from the late Mr. W. Brunton in 1801. It has been long known to Mr. Turner, and is not very unfrequent on the barks of old oaks and other trees. We have Hampshire specimens from Mr. Lyell and Mr. W. Borrer. Wulfen took it for *L. pertusus*, *t. 677*, a mistake which the accurate Schrader easily corrected.

It is remarkable for its extremely wrinkled and prominent aspect, consisting of innumerable irregular crowded elevated warts, each of which bears a blackish depressed shield, of the most irregular figure, enclosed in a very thick, tumid, inflexed, waved and notched margin, of the substance of the wart or crust. The warts cut perpendicularly look like the grinders of some quadruped. The crust spreads indeterminately, and is of a dull greenish grey, white within.

Acharius has formed a new genus *Thelotrema* of this, *L. pertusus*, *inclusus*, and a few other species, which bear their shields in a sort of warts.

141



*Apr 1850 - Published by J. Sowerby London*



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## LICHEN fibrosus.

*Firnis-eiged* Håanz-shielded Lichen.

## CEPTOGARIA Aige.

GEN. CHAR. Male, scattered warts.

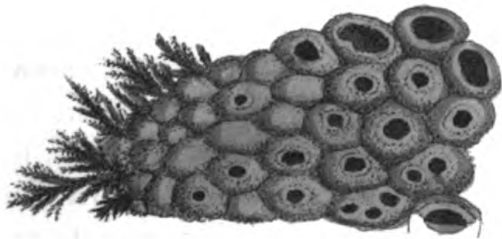
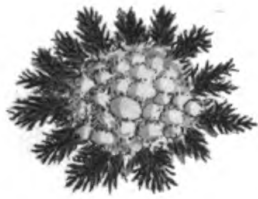
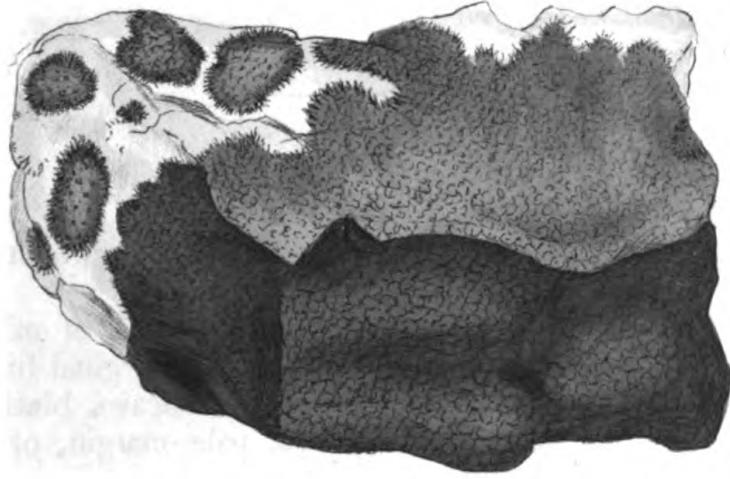
Female, smooth shields or tubercles, in which the seeds are imbedded.

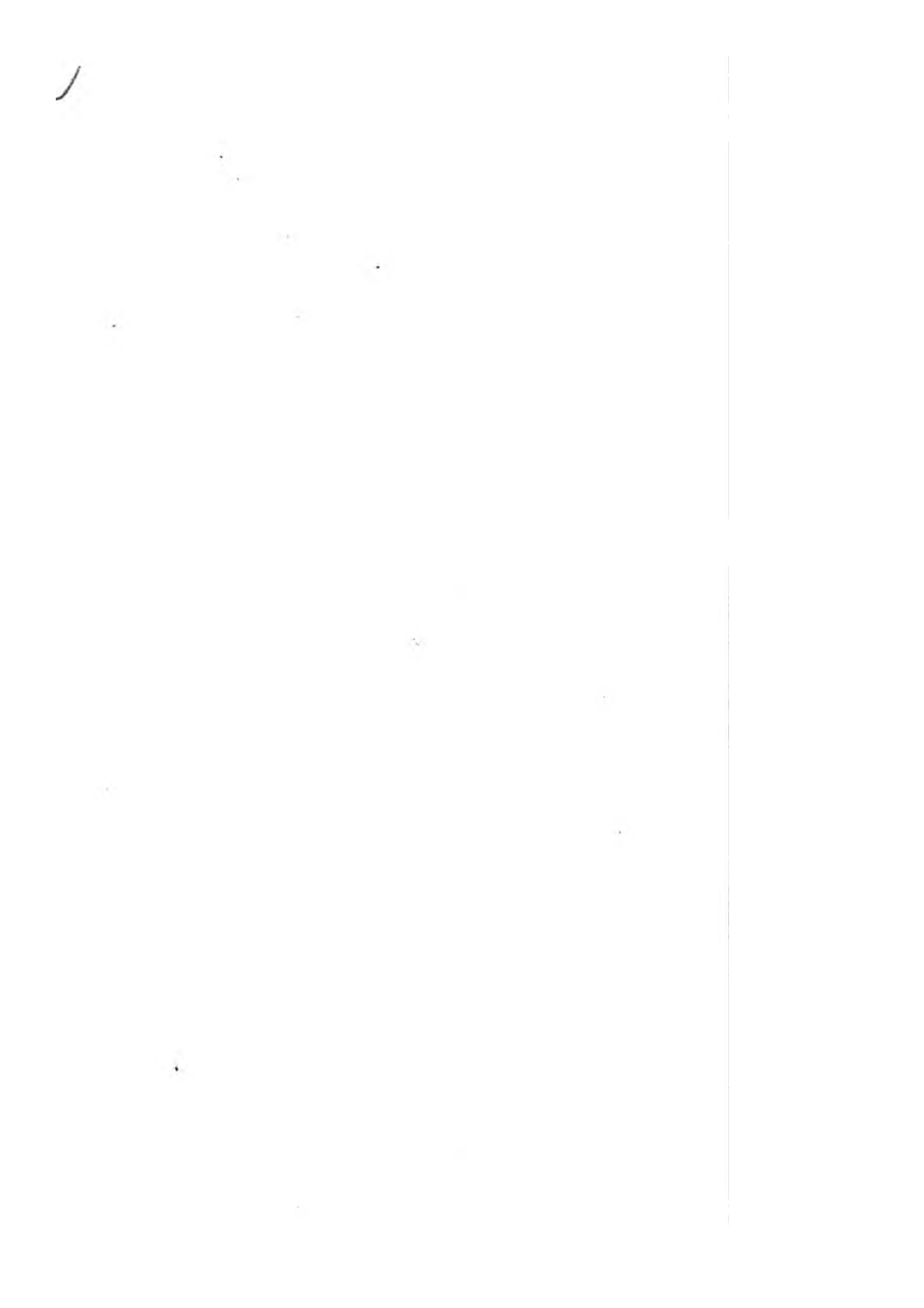
SPEC. CHAR. Crust smoky-brown, formed of minute tessellated warts, with a radiated, marginal fringe. Shields immersed in each wart, concave, blackish, with an undivided, elevated, pale margin, of the substance of the crust.

SYN. *Urceolaria fimbriata*. Ach. Meth. 145.

FOUND on flints upon the South-Downs, Sussex, by Mr. W. Borrer, who has justly determined the synonym of Acharius. Mr. Sowerby has observed it to be very common in different degrees of perfection on flinty pebbles in exposed sunny places.

The crust is of an uniform light smoky brown, tessellated, consisting of numerous, crowded, angular, convex, smooth warts, which are less distinct and more polished towards the margin, where they vanish gradually into a thin, dilated, inseparable border, sometimes coloured like the crust, and rather granulated than fibrous; at other times, (where the flint is broken and polished,) blackish, and distinctly radiated like a fringe, bearing scattered rudiments of future warts. Each of the perfect warts bears one, rarely more, small irregular concave shields, with a blackish, somewhat glaucous, disk, and an elevated, pale, undivided, roughish border, of the substance of the crust or wart, and looking as if it had become visible by rubbing. The old shields are so like those of an Acharian *Parmelia*, that we hesitate much about the genus *Urceolaria*, and in that uncertainty have been obliged to change the specific name for the present, as there is an old *Lichen fimbriatus*.







94.

[ 1940 ]

LICHEN Hoffmanni.

*Hoffmannian Hollow-shielded Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust indeterminate, greenish ash-colour, formed of tessellated crowded warts. Shields immersed in the raised centre of each wart, nearly flat, brownish, with an undivided, elevated, pale, powdery margin, of the substance of the crust.

SYN. Lichen Hoffmanni. *Ach. Prod.* 31.

*L. rupicola.* *Hoffm. Enum.* 23. t. 6. f. 3.

*Verrucaria contorta.* *Hoffm. Pl. Lich.* v. 1. 97. t. 22. f. 1—4.

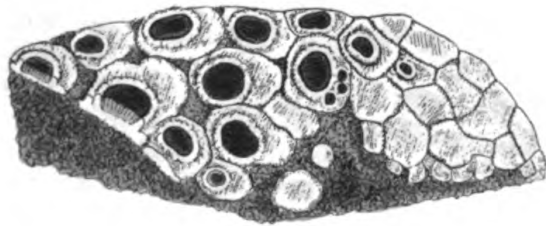
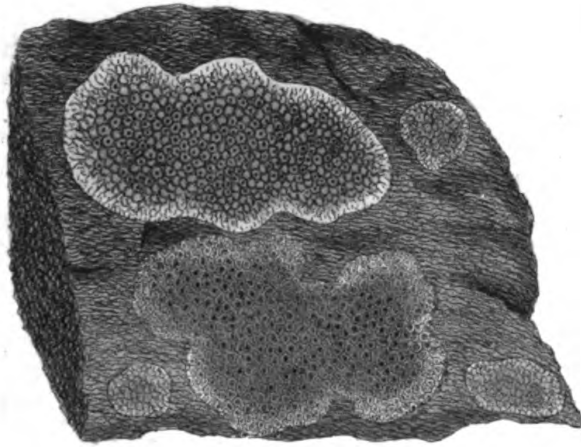
*Urceolaria Hoffmanni.* *Ach. Meth.* 145. *Winch Guide,* v. 2. 48.

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FOUND on rocks, stones and walls in many places. We have it from Wales, Yorkshire, Sussex and Suffolk. It varies much according to its different periods of growth, hence a very able botanist has judged it one state of *L. crenulatus*, v. 13. t. 930, which if true might justly bring upon us the censure of our less learned readers for making too many species, for we believe these are as distinct as most of the plants described in our numerous volumes.

This *Lichen* is related to *agelæus*, t. 1730, and *fibrosus*, t. 1732. Its crust in a young state is of a pale greyish green, and consists of numerous angular crowded smooth portions, paler at their edges, raised in their centre, where is lodged one, occasionally 2 or 3, small immersed grey slightly concave shields, with a conspicuous elevated whitish powdery border of the substance of the crust, which border sometimes forms a slightly spiral line. The aggregate crust has a plain, not fibrous, edging. By age it grows whiter, the portions more tumid, and the shields brown or blackish and nearly flat. We have it overrunning loose pebbles on all sides in a dispersed manner.

1940



*Nov. 1858, Published by J. Sowerby, London.*



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## LICHEN scrupofus.

*Hollowed Lichen.*

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*CRYPTOGAMIA Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

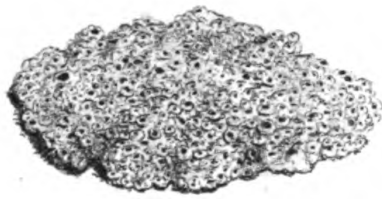
SPEC. CHAR. Crustaceous, ash-coloured, granulated. Shields immersed, black; their margin incurved and finely notched.

SYN. Lichen scrupofus. *Dicks. Crypt. fasc. 1. 11.*  
*With. Bot. Arr. v. 3. 179. Sibth. Oxon. 322.*L. excavatus. *Relh. Cant. 426.*Lichenoides crustaceum et leprosum, scutellis nigricantibus majoribus et minoribus, varietas B.  
*Dill. Musc. 133. t. 18. f. 15, B.*

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ON dry chalky heaths, and brick walls not unfrequent in Norfolk, Suffolk, and Cambridgehire. The crust is mealy, varying in thickness, rugged, very white and chalky in appearance when dry; when wet more ash-coloured. The shields are not only imbedded in it, but also concealed by an elevated thick inflexed margin, crenated at the edge, of the substance and colour of the crust. Their disk is concave, of a brown black, or greyish.

This Lichen was confounded by Hudson and Dillenius with the *ater*, from which it is very distinct in texture and colour. Dr. Sibthorp in his *Flora* seems not to have been aware of its being the *excavatus* of Mr. Relhan, but has erroneously referred that to the *muscorum* of other authors, figured in *Flo. Cant. 424.* Micheli's figure *tab. 52. ord. 33.* (not 53.) seems to be our *scrupofus*.



*Fig. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10.*

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*[Faint, illegible handwritten text]*



[ 1751 ]

## LICHEN cinereus.

*Grey Hollow-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

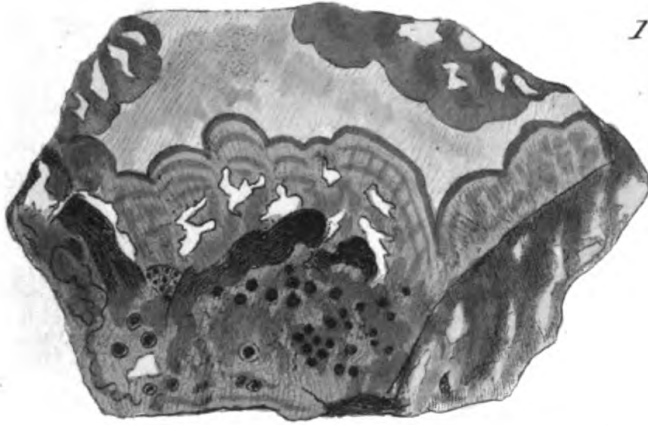
SPEC. CHAR. Crust grey, rugged and cracked, with a broad, greenish, undulated border. Shields immersed, solitary or clustered, slightly concave, black, with an elevated entire margin, of the substance of the crust.

SYN. Lichen cinereus. *Ach. Prod.* 32. *Linn. Mant.* 132. but not *Engl. Bot. t.* 820.*Urceolaria cinerea.* *Ach. Meth.* 143.

THE most common of all Lichens, according to Mr. Borrer, both on the downs and on the sea-shore of Sussex, growing on loose exposed flints. Whether it may have been confounded with *ater*, or with any thing else, or whether it may have passed unnoticed by British botanists, we have no certain information. We are certain of Dr. Acharius's name, and he is our only authority for the reference to Linnæus. What we have called *cinereus*, in *t.* 820, must retain the name of *multipunctus*, originally given by Hoffmann. The *L. multipunctus* of Ehrhart I had previously published in *Tr. of Linn. Soc. v.* 1, as *encaustus*, by which name it is distinguished in the works of Acharius.

The Lichen before us is nearly allied to our *fibrosus*, *t.* 1732, and *tuberculosis*, *t.* 1733, but is not fibrous, neither is it regularly tessellated, but rather swelling into roundish irregular knobs, and at length cracked. Its colour is grey; the substance thin and hard. Towards the margin it is obscurely radiated, and the very edge is dilated, undulated, dark-greenish, and somewhat polished. Shields small, elevated, clustered or solitary, black, slightly concave, with an elevated, smooth, entire border, of the substance of the crust.

1761



*June 12807. Published by J. A. Sowerby London.*



1



*multipunctata*  
 LICHEN cinereus.

*Grey cluster-shielded Lichen.*

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust grayish white, cracked and tessellated, with a black edge. Shields sunk, irregular, concave, black, often two or three in each portion of the crust.

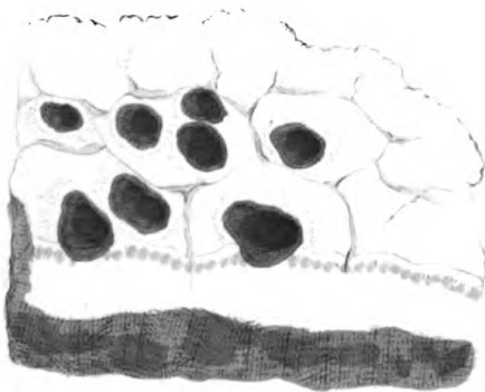
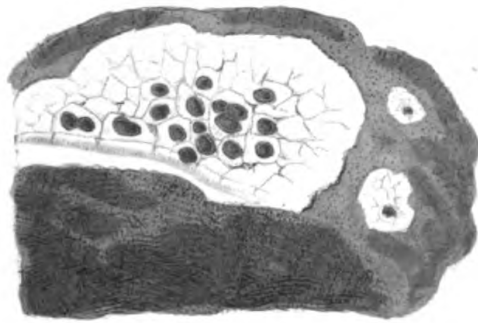
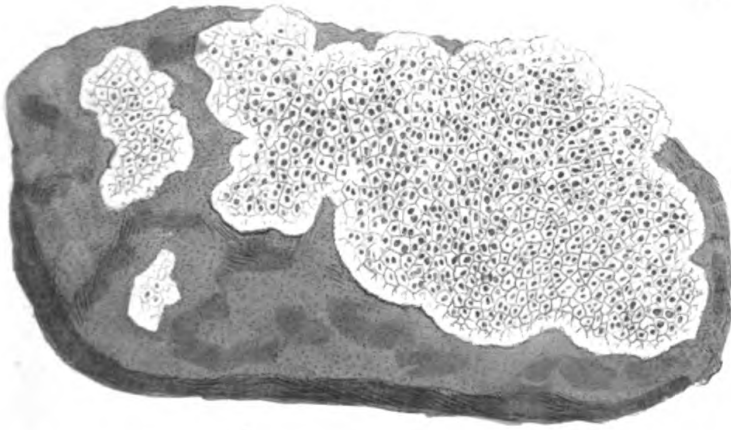
SYN. Lichen cinereus. *Linn. Mant.* 132. *Huds.* 525. *Achar. Prod.* 32. *Hoffm. Enum. t. 4. f. 3.*

*Verrucaria multipunctata.* *Hoffm. Fl. Germ. v. 2. 185.*

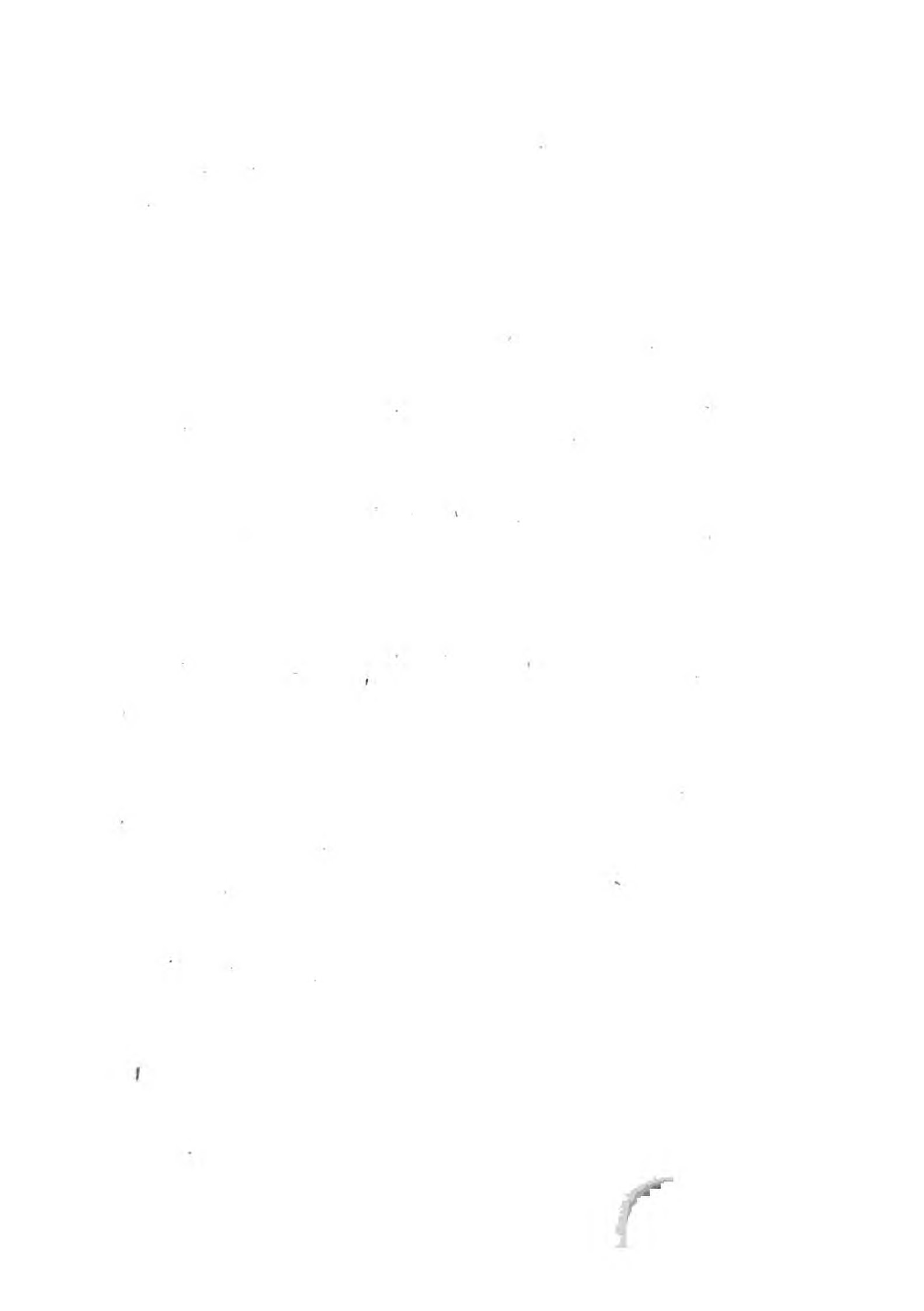
*Patellaria multipunctata.* *Hoffm. Pl. Lich. t. 63. f. 1-3.*

SEVERAL of the crustaceous Lichens of Linnæus and other authors are so slightly described, as to be involved in almost impenetrable obscurity. Many different productions perhaps accord equally well with each description, and the authors themselves may often have intended more than one under each. Among these, few botanists have been well acquainted with the *cinereus*, first described in the *Mantissa*. The *ater* of Hudson, as Dr. Acharius (in his excellent work on Lichens, lately published in Sweden) justly observes, is *cinereus* of most authors: we know it to be the *cinerascens* of Dr. Withering, by a specimen from himself to Mr. D. Turner, in which the margin of the shields is merely a little grayish, not white as in common *ater*. He therefore erroneously quotes Prof. Hoffmann's figure, *Enum. Lich. t. 4. f. 3*, which is our true *cinereus*, and was so understood by Hoffmann. As Acharius confirms this, and a specimen from Mr. Dickson of what he conceives to be Mr. Hudson's plant accords with it, we have no doubt remaining, though the Linnæan collection has no specimen marked *cinereus*.

This plant is remarkable for having frequently 2 or more of its hollow irregular shields situated in one portion of the crust, but not close together. It grows on stone walls as well as rocks. On granite the crust is more gray than on calcareous stones, in which state it is Hoffmann's *Patellaria multipunctata*. The Rev. Mr. Alderson sent these specimens from Norfolk.



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LICHEN microsticticus.

*Little-dotted Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

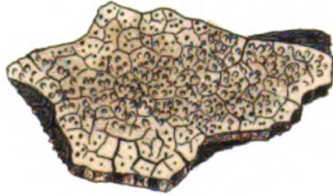
SPEC. CHAR. Crustaceous, cracked, warty, cream-coloured, with a thin, smooth, white, evanescent edge. Tubercles minute, black, with a sooty uneven border.

SYN. Lichen punctatus. *Dicks. Crypt. fasc. 3. 15. With. v. 4. 19.*—See *Winch v. 2. 47. n. 1301.*

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WE gathered this on slate rocks on the hills about Hafod, Cardiganshire, and have received it from the Rev. Dr. Stuart and others, as well as from Mr. Dickson for his real *L. punctatus*, for which we have mistaken a wrong plant in *v. 7. t. 450*. To this latter perhaps the figure in *Fl. Dan. t. 468. f. 2*, may belong; certainly not to this present species.

We venture to go counter to the opinion of the great Dr. Acharius, who considers this as one form of *L. Westringii*, *t. 2204*; but our motive is chiefly to make this production known, and to invite discussion; not by any means to assert dogmatically what we cannot prove. The crust spreads over rocks in a thin, continued, though cracked, form, and is remarkable for the peculiar tenuity of its very smooth edge, which is evanescent, not limited, much less bordered with any dark colour. The general surface of the crust is cream-coloured, turning brownish by keeping, besprinkled with minute *papillæ* or warts, which indeed betray an analogy, but not necessarily an identity, with the genus *Isidium*. Very minute tubercles are scattered over the surface, whose disk is rather convex, their border uneven and of a still more opaque and intense black than the disk. The question is whether these be the real fructification of the crust, as we believe; or parasitical productions, as in *L. gelasinatus* of Withering. They certainly have no connexion with the fructification of *L. Westringii*. There being already more than one *L. punctatus*, we have chosen a new synonymous appellation.



*Feb. 1, 1811, published by J. B. Sowerby, London.*



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## L I C H E N punctatus.

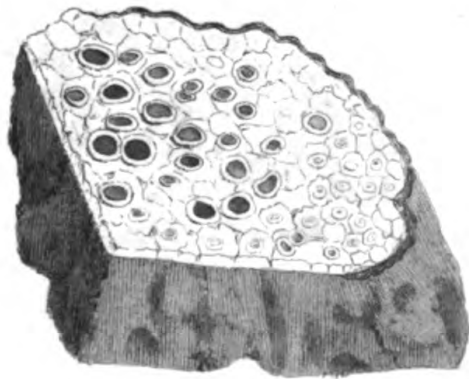
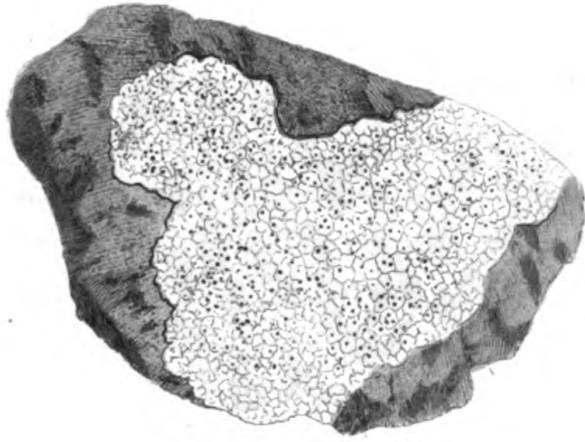
*Dotted Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

**SPEC. CHAR.** Crustaceous, cracked, greyish-white, with a very narrow black edge. Shields minute, very numerous, roundish, black, with a white margin incorporated with the crust.**SYN.** Lichen punctatus. *Dickf. Crypt. fasc. 3. 15.*  
*With. v. 4. 19. Flo. Dan. t. 468. f. 2.*

**O**BERVED on a wall near Ludlow, by Dr. Joseph Babington, in November 1796. Mr. Dickson first found it on rocks in Scotland.

This species forms a thin hard crust of a greyish white, with a narrow black margin; so that when several plants grow together, they are distinguished by a black line. The whole surface is full of little fissures, separating it into small angular portions. In the centre of each of these portions the fructification begins, being at first (according to Dr. Babington's observations) a greenish speck, soon turning grey, then brown-red, and finally black. In this last stage, the shields rise out of the crust and often become convex, having a broad white elevated margin, not visible in a young state because incorporated with the crust.—The progress of this little vegetable has not before been noticed. The figure in *Flora Danica* represents it well of its natural size, but wants a magnified portion to make it intelligible.



*Jan 10 78 Histology by J. Purdy London*

2



[ 1087 ]

## LICHEN Acharii.

*Acharian Lichen.*

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CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

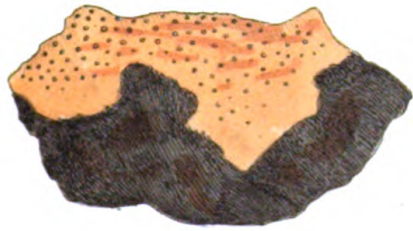
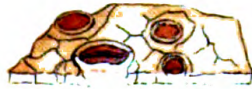
SPEC. CHAR. Crust smooth, a little cracked, pale brick-coloured. Shields sunk in the crust, reddish.

SYN. Lichen Acharii. *Achar. Prod.* 33. *cum ic.*

*L. lacustris.* *With. v. 4. 21. t. 31. f. 4. Hull. 290.*

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FOR various specimens of this little-known Lichen we are indebted to the Rev. Mr. Harriman, and Mr. Oliver. It was first found by J. W. Griffith, esq. in North Wales, who sent it to Dr. Withering; and is only met with on such granite stones, or rocks, as are occasionally inundated, as about the bed of the Tees, and shores of alpine lakes, having in its most common state the appearance of an ochraceous deposit of the water. The crust, though not very thick, is firm, hard, smooth, and even, as if partly polished, becoming more or less cracked by age. The colour is a pale yellowish brown; in some specimens, which seem not otherwise distinct, dirty white. The shields are small, pretty numerous, variously scattered, sunk in the crust, concave, of a deeper or more reddish colour than the crust, surrounded at first by a pale elevated border, which afterwards disappears. In this advanced state of *L. Acharii*, we know not how to convey a better idea of it than by comparing it to a wash of water-colour mixed up with a large portion of gum, or size, the numerous air-bubbles formed by which seem, by subsiding, to have left minute depressions scattered over the surface, and these depressions are the shields.





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## L I C H E N Gagei.

*Gagean Urceolate Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust continued, calcareous, smooth, brownish-white; irregularly cracked when dry. Shields very minute, blackish, sunk in the crust.

THIS, which is a species of the Acharian genus *Urceolaria*, was discovered on the rocks of Glena and Glen Flesk near Killarney, by Sir Thomas Gage, Bart., but is not common there. We have inscribed it with the name of its intelligent discoverer, as a mark of our gratitude and respect. Few botanists are more deeply versed in this difficult tribe of vegetables.

The only species to which this can possibly be compared is *L. Acharii*, t. 1087. Like that it grows on rocks occasionally inundated, and agrees with it in the hard even texture, and apparently levigated surface, of its uninterrupted inseparable crust. The colour however is a very pale brownish or ochrey white, not red. We are aware indeed that *L. Acharii* sometimes loses nearly all its red hue. But the far more minute, blackish, not red, shields of *L. Gagei*, which, in a young state, resemble diminutive inky dots or stains on the crust, serve amply to discriminate these two neighbouring species.

2580



*See also published by the British Museum*

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## LICHEN geographicus.

*Map Lichen.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, smooth, yellow with a black margin. Tubercles black, flat and irregular, imbedded in the crust.

SYN. Lichen geographicus. *Linn. Sp. Pl.* 1607.  
*Huds. Fl. An.* 523. *With. Bot. Arr.* v. 3. 168.Lichenoides nigro-flavum, tabulæ geographicæ instar pictum. *Dill. Musc.* 126. t. 18. f. 5.

THIS pretty and singular production, which many a heedless eye passes by in its natural place of growth, but which, when presented to their notice, the most incurious persons cannot help admiring, is found in elevated mountainous situations on the harder kinds of rocks, which it covers in large patches of a hard smooth inseparable crust, of a bright yellow or greenish colour. The black undulating margin is so extremely thin, as to look like a mere stain on the stone; but when two plants of this Lichen meet, they crowd one another's margins into a narrower line, and sometimes obliterate them, the yellow part of the crust rising above them. This crust is full of cracks, especially in dry weather, like the mud of a pond when dried up, and the whole is interspersed with small, unequal and irregular, black, opaque, angular, slightly concave tubercles or shields, exactly on a level with the crust in which they are imbedded. Hence the appearance of the whole gives some idea of a map, sprinkled with towns, and intersected with rivers and boundaries of countries. We believe this species is never found on lime-stone. It is very doubtful whether *L. atro-virens* be specifically distinct from this.

The yellow of the crust is sometimes changed, by age or accident, to a grey, in which state it might be taken for another species.



1955. *Illustration by J. Sowerby London*







## LICHEN exanthematicus.

*Eruptive Lichen.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust ash-coloured, smooth. Shields minute, concave, flesh-coloured, sunk in little hollows, and surrounded by a white lobed border.

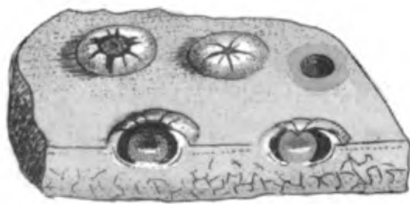
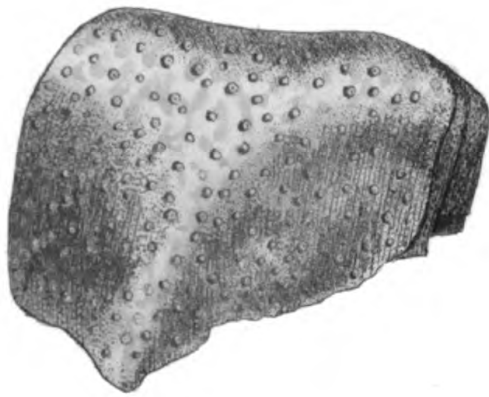
SYN. Lichen exanthematicus. *Sm. Tr. of Linn. Soc.* v. 1. 81. t. 4. f. 1. *Achar. Prod.* 35. *Dicks. Crypt. fasc.* 3. 14. *With.* v. 4. 22. *Hull.* 291.

*L. volvatus.* *Villars. Dauph.* v. 3. 998. t. 55.

*Verrucaria clausa.* *Hoffm. Fl. Germ.* 177.

THIS curious little Lichen by its manner of excavating stones is closely allied to *L. immersus*, v. 3. t. 193. M. Villars has published one by the name *volvatus*, which appears to accord precisely with it, and we have Professor Hoffman's authority for its being his *Verrucaria clausa*.

Our name, which though posterior to Hoffman's has been retained by Dr. Acharius, expresses the peculiar appearance by which this Lichen is at first sight distinguishable, resembling small white pustules breaking from a grey crust. The crust is thin, smooth and uniform, closely adhering to calcareous rocks, of a pale grey or slate-colour. Each shield is solitary, minute, concave, flesh-coloured or waxy, with a border of its own substance and colour, and is sunk in a little cavity, hollowed not only out of the crust, but out of the stone beneath, the margin of which cavity is surrounded, and in an early state closed, by a thick inflexed lobed white border.—It appears to be a very rare species. The only English specimens we have seen were found by the Rev. Mr. Harriman on the banks of the Tees, Durham. Mr. Dickson has observed the same in Scotland.



LICHEN exanthematicus.

*Eruptive Lichen.*

CREPTOGAMIA *Age.*

FORM. CRUST. Malt. scattered warts.

Forme. in many fissures or tubercles, in which the  
 lichen are imbedded.

SPERM. CRUST. Crust ash-coloured, smooth. Shields  
 minute, numerous, fish-coloured, sunk in little  
 hollows, and surrounded by a white lobed border.

SPERM. LICHEN EXANTHEMATICUS. *Sm. Tr. of Linn. Soc.*

*Vol. 1. p. 14. Art. Prod. 35. Dickf.*

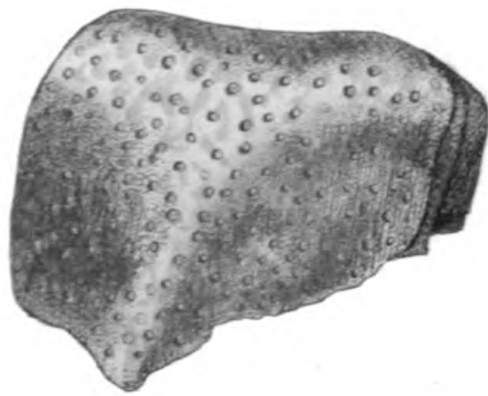
*Trans. Phil. Soc. Lond. v. 4. p. 22. Hull. 291.*

*Ann. Mus. Nat. Hist. v. 3. p. 998. t. 55.*

*SPERM. CRUST. E. fn. F. Germ. 177.*

THIS curious little Lichen by its manner of excavating  
 fissures is closely allied to *L. immersus*, v. 3. t. 193. M. Villars  
 has published one by the name *volutatus*, which appears to  
 accord precisely with it, and we have Professor Hoffman's  
 authority for its being his *Tremularia classa*.

Our name, which though posterior to Hoffman's has been  
 retained by Dr. Scharius, expresses the peculiar appearance by  
 which this Lichen is at first sight distinguishable, resembling  
 small white pustules breaking from a grey crust. The crust is  
 thin, smooth and uniform, closely adhering to calcareous  
 rocks, of a pale grey or slate-colour. Each shield is solitary,  
 minute, numerous, fish-coloured or waxy, with a border of its  
 own substance and colour, and is sunk in a little cavity, hol-  
 lowed not only out of the crust, but out of the stone beneath,  
 the margin of which cavity is surrounded, and in an early state  
 encircled by a thick inflexed lobed border. — It appears  
 to be a new species. The specimens were  
 first seen found by the P. on the  
 in the West. Durham. —



*Adapted by Dr. Sauer*

✓





## L I C H E N Perellus.

*Crab's-eye Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, white, granulated. Shields of the same colour, concave, with a thick blunt border.

SYN. Lichen Parellus. *Lin. Mant.* 132. *Huds.* 530. *With.* v. 4. 17. *Hull.* 288. *Relb. Suppl.* 1. 23. *Abbot.* 262. *Dicks. H. Sicc. fasc.* 10. 23.

Lichenoides leprosum tinctorium, scutellis lapidum cancri figurâ. *Dill. Musc.* 130. t. 18. f. 10.

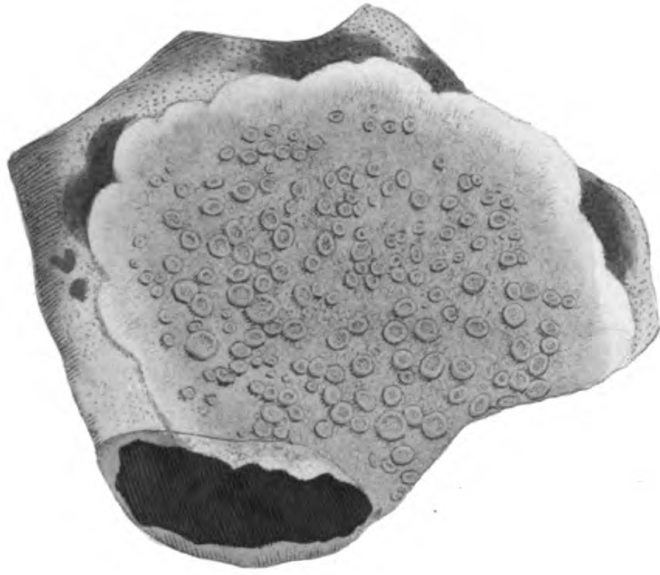
L. crustaceum et leprosum, scutellare, cinereum. *Raii. Syn.* 70.

Patellaria Perella. *Hoffm. Pl. Lich.* v. 1. 60. t. 12. f. 5.

**F**OUND on exposed rocks and stones in mountainous countries, sometimes on walls, sometimes on stones by the sea shore. It forms white very conspicuous round patches, closely adhering to the stone, but easily scraped off, various in thickness, with a granulated, not powdery, surface, and a thin rugged very white spreading border. Shields copious, sessile, but prominent, of the same colour as the crust, rather concave, with a thick elevated smoothish margin. Occasionally their disk becomes convex and warty.

This is the French *Orseille* or *Orchall*, used for dyeing in that country as *L. tartareus*, see our t. 156, is in Scotland, and prepared with volatile alkali in a similar manner, of which a full account is given by Professor Hoffmann from a French work of M. Amoreux of Montpellier, published in 1787 by the Academy of Lyons. The plant is more common in the south of France than with us, and is called *Perelle d'Auvergne*, for so M. Amoreux directs us to spell it, not *Parelle*, which last name belongs to some species of *Rumex*. Tournefort in his *Voyage* mentions it by this name when he describes the *L. Roccella* at the island of Amorgos. The colour furnished by *L. Perellus* has rather more of a violet hue than that of *L. tartareus*, but each is capable of being so modified as to give any tinge of purple or crimson.

127



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LICHEN Turneri.  
*Mealy Flesh-coloured Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leprous, very mealy, greenish-white, Shields flesh-coloured, powdery, with a very thick, rounded, entire, mealy margin, of the colour of the crust.

SYN. . . . .

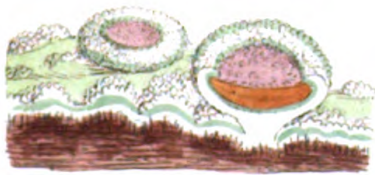
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**W**E have not been able to refer this *Lichen* to any mentioned in Dr. Acharius's classical work; and presuming it therefore to be nondescript, have named it in honour of Mr. Dawson Turner, to whom we are obliged for it, and whose labours in the investigation of the whole genus have well entitled him to such a distinction.

There is reason to believe that the crust is not unfrequent on the barks of old oaks and other trees, forming an unequal, indeterminate, soft, powdery substance, of a grayish white when dry, greenish in a moist state, which may easily be overlooked for *L. fagineus*, and as few species are more rare in fruit, the shields have escaped notice. When they occur, however, they are too elegant and conspicuous to be confounded with any others. They are a little elevated; their disk flat, powdery, flesh coloured, almost orange when young, and at all times of a deeper hue within. They are encompassed by a thick, rounded, prominent, undivided border, of the colour and substance of the crust.

The figure of Wulfen's *L. albo-flavescens*, *Jacq. Coll. v. 3. III. t. 5. f. 1*, bears some resemblance to this plant; but the crust is described as "compact, even, firmly adhering to the bark, set with warty tubercles, smooth and white," all which is foreign to our *L. Turneri*, which is remarkable for its soft mealiness, and which indeed nearer approaches *L. Hæmatomma*\*, *Engl. Bot. t. 486*; but the crust of that is less mealy, whiter, more uniform, and the shields smaller, much more numerous, less prominent, with a perfectly smooth, waxy disk, of a more vivid red.

\* We are now convinced the original *Hæmatomma* of Ehrhart is our *coctineus*, *t. 223*.



March 1. 1831. Published by J. C. Smith, London.

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[ 2010 ]

LICHEN carneo-luteus.  
*Pale Crack-shielded Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust membranous, extremely thin, indeterminate, white, smooth. Shields depressed, minute, flattish, flesh-coloured; when young covered by their white margin, which cracks in the centre.

SYN. *Parmelia carneo-lutea*. *Turn. Tr. of L. Soc. v. 9. 145. t. 12. f. 2.*

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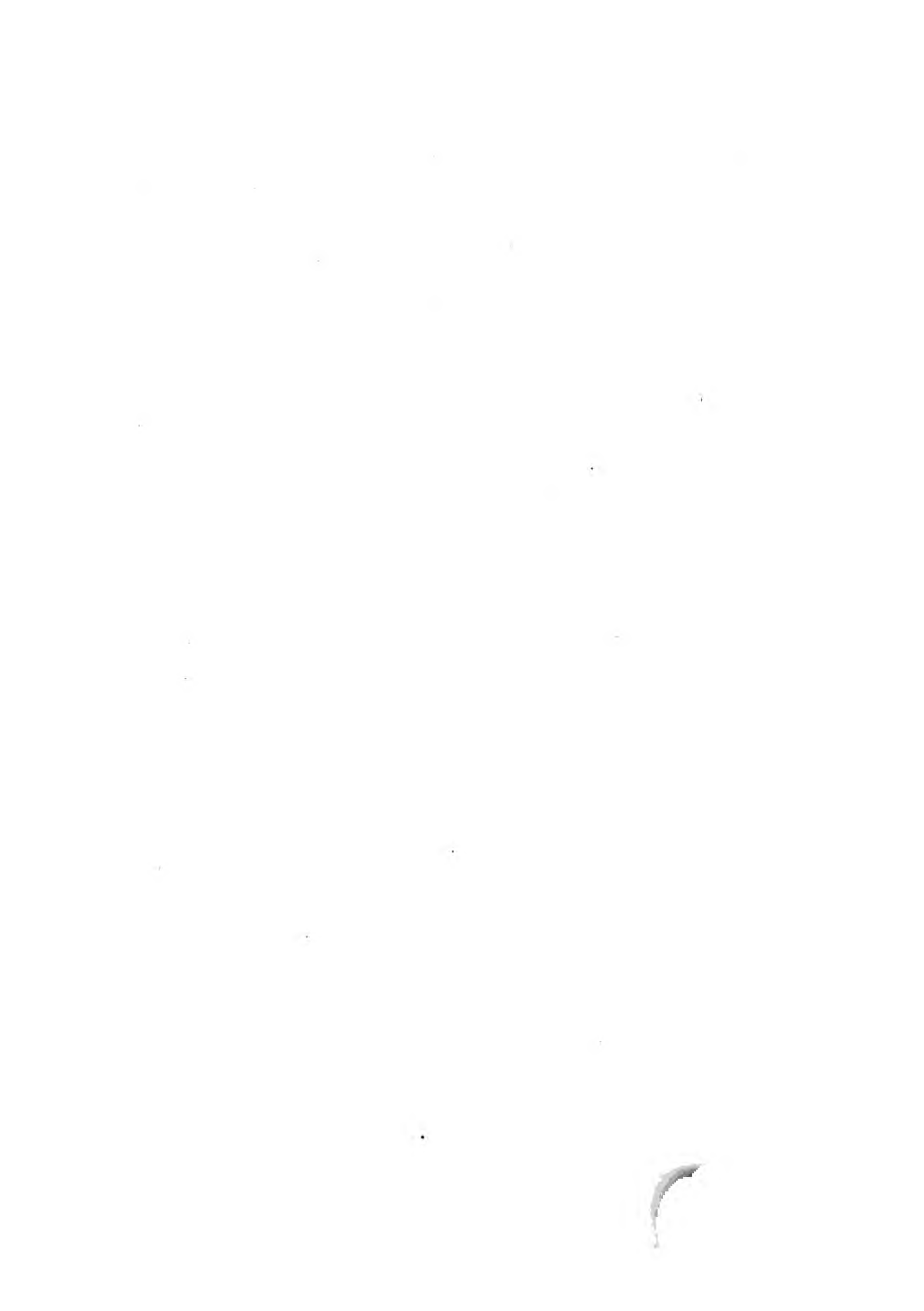
COMMUNICATED by Mr. Borrer from the trunks of elms in Sussex and the Isle of Wight. The crust forms white smooth indeterminate patches, and cannot be separated from the bark. The shields are numerous, minute, sunk or depressed, remarkable for being each covered and concealed when young by its own white border, which afterwards cracks in the centre, in an irregular somewhat star-like manner, and finally becomes almost obliterated. The disk when fully formed is flattish or slightly convex, of a pale yellowish flesh-colour, usually surrounded by some uneven remains of the border,

2010



*April 1 1809 Published by Ja<sup>s</sup> Sowerby London.*

✓



[ 1634 ]

## LICHEN upsaliensis.

*Upsal Lichen.*

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

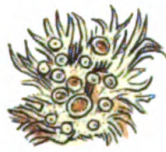
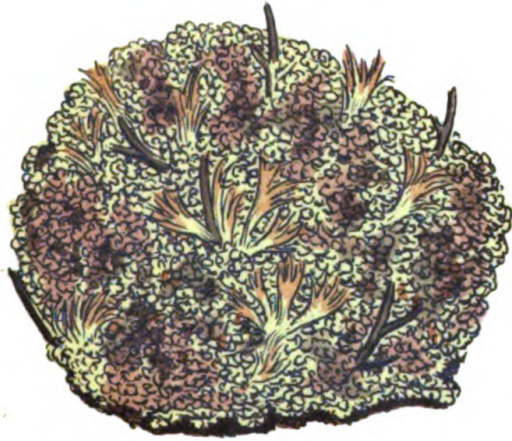
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, polished, glaucous-white, bearing slender awl-shaped bristles. Shields flat, pale, with a thick smooth border.

SYN. Lichen upsaliensis. *Linn. Sp. Pl.* 1609. *Ach. Prod.* 37. *Ehrh. Phytoph. n.* 20. *Dicks. Crypt. fasc.* 1. 12. *t.* 2. *f.* 7. *With. v.* 4. 24. *Hull.* 292. *Patellaria upsaliensis.* *Hoffm. Pl. Lich. v.* 1. 95. *t.* 21. *f.* 2.*Parmelia parella*  $\gamma$ . *Ach. Meth.* 165.

FIRST found in Britain by the late Rev. H. Bryant, (commemorated in the *Trans. of Linn. Soc. v.* 7. 297), who observed it on some barren sandy heaths a few miles north of Norwich about the year 1782. Last winter it was gathered near Sprowston, in the same neighbourhood, by Mr. Turner and the Rev. G. R. Leathes, to the latter of whom we are obliged for specimens.

The crust is very thin, rugged but polished, of a blueish or glaucous white, running over the turfy earth, and investing mosses, leaves of grass, or fragments of decayed plants, in its course. Its greatest singularity consists in the fine slender bristles which it here and there produces, which are in our opinion, and Mr. Turner agrees with us, essential to this species, and quite distinct from those prominences merely caused by leaves of mosses &c. invested with the crust. These last, being confounded with the genuine bristles of the plant, have perhaps induced the learned Dr. Acharius to consider it as only a variety of *L. Perellus*, *t.* 727. The shields are sessile, with a thick smooth border of the colour of the crust; their disk flat, pale buff, redder within. They are but sparingly produced in this country.









## LICHEN tartareus.

*Tartareous Lichen.*CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

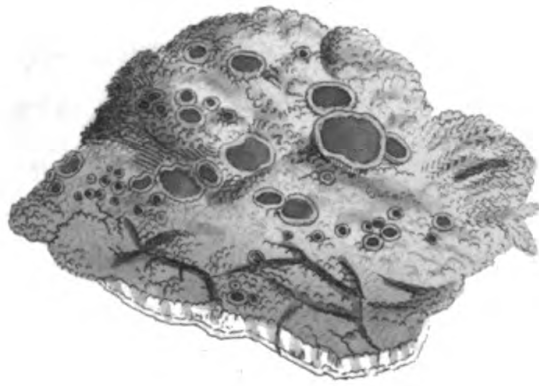
SPEC. CHAR. Crustaceous, whitish. Shields yellow, with a white margin.

SYN. Lichen tartareus. *Linn. Sp. Pl.* 1608. *Huds. Fl. An.* 529. *With. Bot. Arr.* v. 3. 180.

Lichenoides crustaceum et leprosum, acetabulis majoribus luteis, limbis argenteis. *Raii Syn.* 71. *Dill. Musc.* 132. t. 18. f. 13.

**F**REQUENT on rocks in Scotland and the north of England. This is the largest of our crustaceous Lichens. The crust has a tuberculated surface, and is externally of a greyish white, though snow-white within. In thickness it varies from an inseparable film running over mosses and turf, and assuming their form, to a solid substance of full a quarter of an inch or more. Its diameter is often 6, 8 or 10 inches. The shields are from a line to half an inch in breadth, flat, smooth, not shining, of a yellowish buff-colour, with a white elevated, often rugged, margin. These shields prove occasionally proliferous, or aggregate.

Lichen tartareus may be known, even without fructification, by a peculiar pungent alkaline smell when moistened. It is much used in dyeing. The gatherers carefully choose such specimens as are of a firm dense texture, and they never scrape the same rock oftener than once in five years. It is prepared for use with volatile alkali and alum, but the exact process is kept a secret by the manufacturers at Glasgow. When sold to the Dyers, it appears in the form of a purple powder, called *Cudbear* (a corruption of Cuthbert, the name of its inventor). This powder being boiled with woollen yarn, communicates its colour to it, but not to vegetable substances. The colour is far from permanent. See Dr. Smith's *Tour on the Continent*, vol. 1. p. 198.



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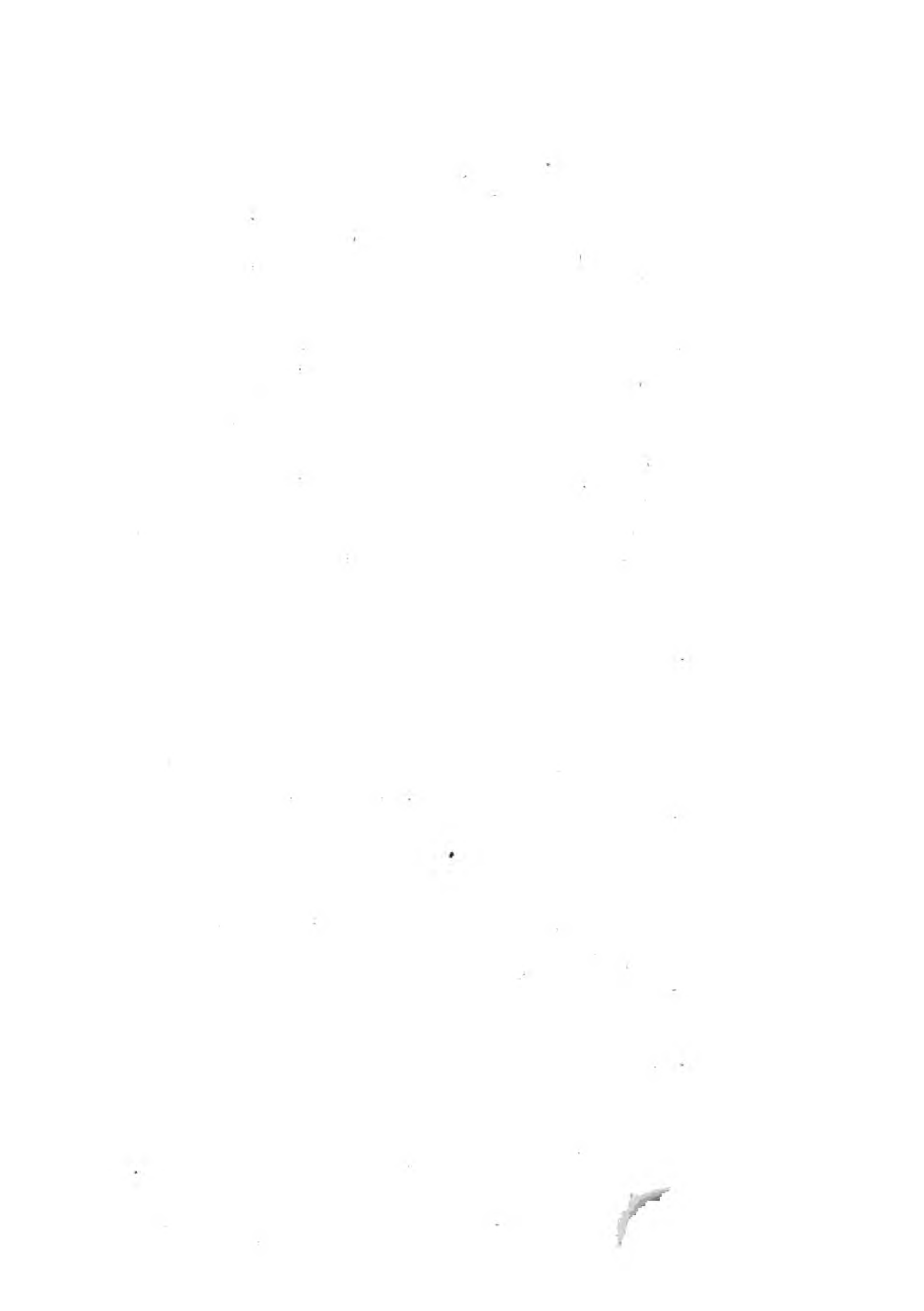
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[ 1879 ]

LICHEN frigidus.  
Thin Tartareous Lichen.

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, smooth, closely adherent, whitish, bearing branched bristles. Shields yellowish flesh-coloured, with a white smooth border.

SYN. Lichen frigidus. Swartz. *Meth. Musc.* 36. t. 2. f. 4.  
*Dicks. Crypt. fasc.* 2. 19. *Dr. Pl. n.* 49. *With.*  
*v.* 4. 22. *Hull.* 290.

*Parmelia tartarea*  $\beta$ . *Ach. Meth.* 166.

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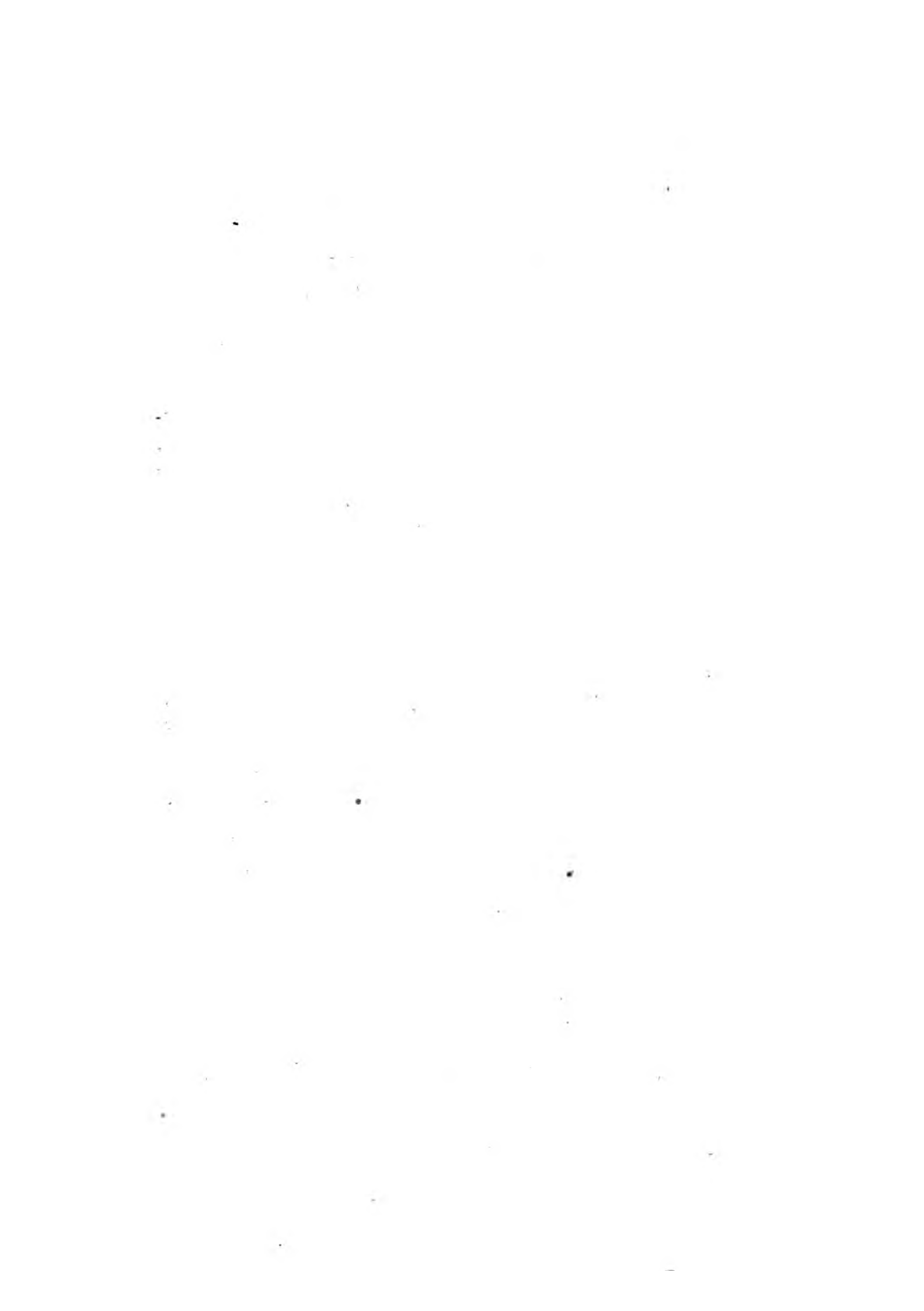
GATHERED by Mr. G. Don and the late Mr. Mackay on the hills above Blair in Athol. It is found upon the highest mountains only, nearly on a level with perpetual snow, growing upon decayed mosses or other small plants, which its thin tenacious crust closely envelops like a stalactitical incrustation, taking all their forms. It frequently throws out slender branching bristles, like *L. upsaliensis*, t. 1634. The whole is of a cream-colour, smooth and shining, the margins of the shields only being less polished, and their disk of a yellowish flesh-colour, but less yellow than in *L. tartareus*, t. 156, neither is the crust thick, tartareous, and warty, like the latter, nor has it (as far as we can discover) the same pungent smell. Dr. Acharius however has reduced it to a variety of *tartareus*, as he has the *upsaliensis* to *perellus*, t. 727, considering the bristles of their crusts as an accident. Some states of indubitable *tartareus*, which I have traced on its native mountains, favour this opinion, and yet still remain different from *frigidus*, whose branched or compound bristles are very peculiar. There being no coloured figure of this rare Lichen extant, we have deemed it essential to our work, even under the doubts just mentioned.

1879



*May 1868. Published by J. & S. G. & Co. London.*

✓





LICHEN *albellus*.  
*Cream-coloured Lichen.*

---

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, thin, continued, cream-coloured, somewhat polished. Shields sessile, whitish-buff, uneven, with a thin, white, wavy border.

SYN. *Lichen albellus*. *Persoon in Ust. Ann. fasc.*  
 11. 18.

*L. umbilicatus*. *Ach. Prod.* 70.

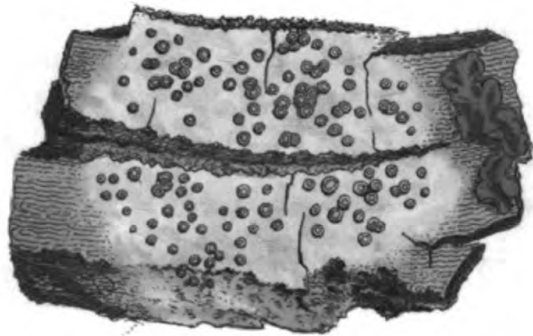
*Parmelia albella*. *Ach. Meth.* 163.

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NOT very uncommon on the smooth barks of young trees. It much resembles *L. rosellus*, t. 1651, except that the colour of the shields is much redder in *rosellus*, and their border, though differently coloured from their disk when young, of the same substance with it, as in *vernalis*, t. 845. We regret that this border is made too much like that of an Acharian *Parmelia* in our t. 1651.

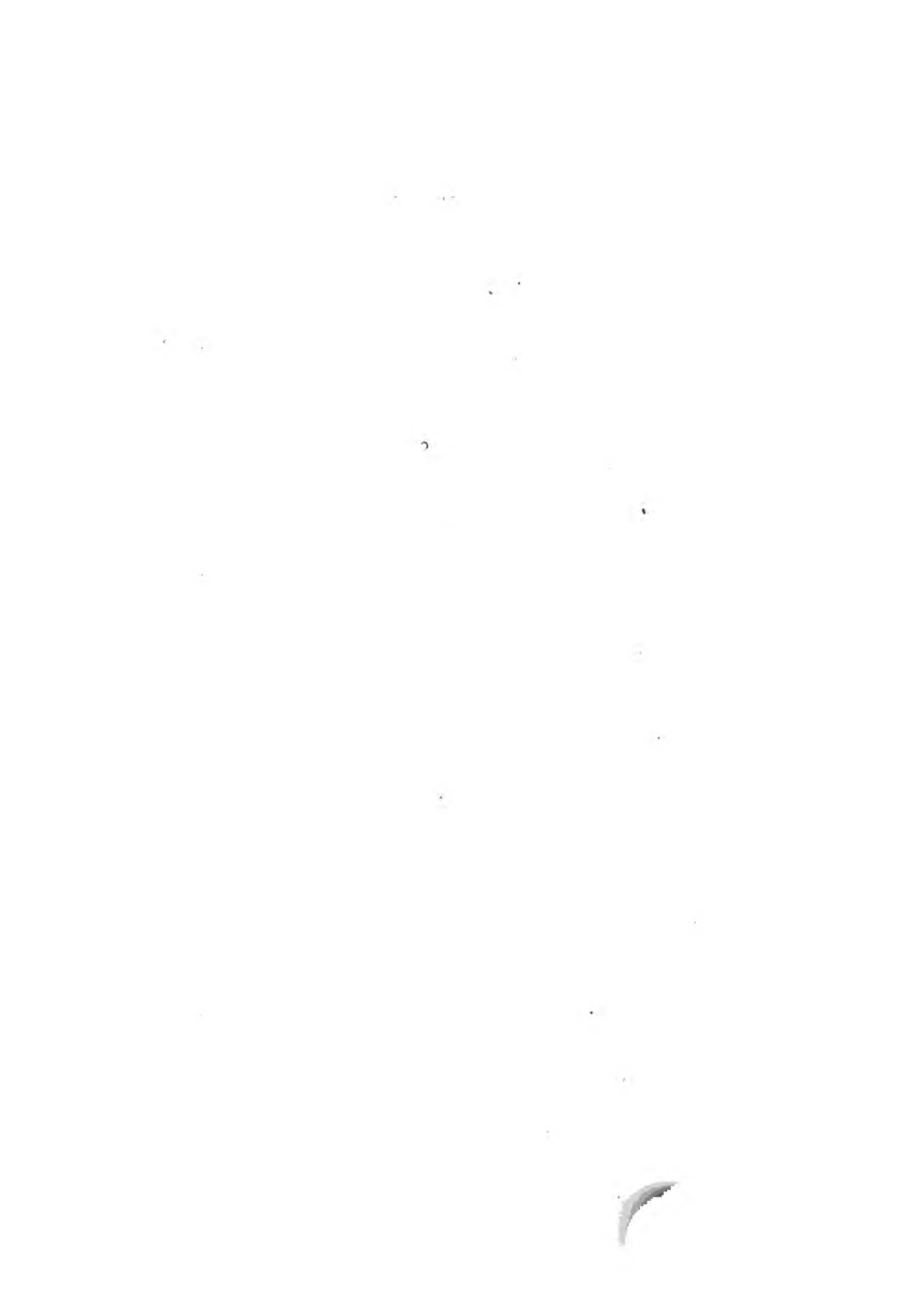
The present is a real *Parmelia*. The crust forms roundish patches inseparable from the bark, of a yellowish white or cream-colour, with a degree of lucid polish, or a silvery gloss. Shields numerous, scattered, very neat and pretty, sessile; their disk uneven, concave or convex, pale buff with a slight mealy aspect, and some tinge of flesh-colour when examined with a glass. Their border is perfectly distinct from the disk, and of the substance of the crust, white, thin, even, at length wavy, and finally overtopped by the swelling disk.

2154.



*May 2, 1877, put. wood by J. S. Sowerby, London*

✓



LICHEN orostheus.  
*Sulphureous Mountain Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, powdery, spreading, pale greenish sulphur-coloured. Shields sessile, pale buff, with a powdery edge; at length convex, rugged, without a border.

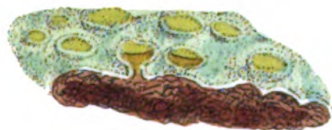
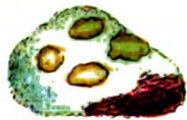
SYN. Lichen orostheus. *Ach. Prod.* 38.

Lecidea orosthea. *Ach. Meth.* 72.

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THIS Lichen has long been known in England under a name given to it by Mr. Dickson, but never published, *virescens*. Mr. Turner has found it on trees and pales in Norfolk, and Mr. W. Brunton on old trees near Rippon, Yorkshire. A specimen sent by Dr. Acharius on a bit of quartz rock, from that situation, as it should seem, has the crust interrupted, with a branched or fibrous appearance. There can, notwithstanding, be no doubt of the identity of his plant and ours.

In Mr. Brunton's specimens here delineated the crust is continued, widely spreading, thin, of an uniform pale sulphur-colour, a little greenish when wet, all over powdery. The shields are numerous, almost immersed in the powder of the crust, when young small, flat, of a very pale buff-colour, with a powdery margin of the colour and texture of the crust; when arrived at maturity the margin is obliterated, and the disk becomes somewhat enlarged, convex, rugged or lobed, with little or no change of colour. In an early state the shields are supported on short stalks, which are scarcely perceptible because of the powdery crust.



*Scutellaria purpurea* L. (Lam.)







[ 1136 ]

## LICHEN Ehrhartianus.

*Ehrhartian Lichen.*

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*CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rugged, granulated, greenish-white, studded with black warts. Shields bordered, yellowish; at length convex, waved, deformed and clustered.

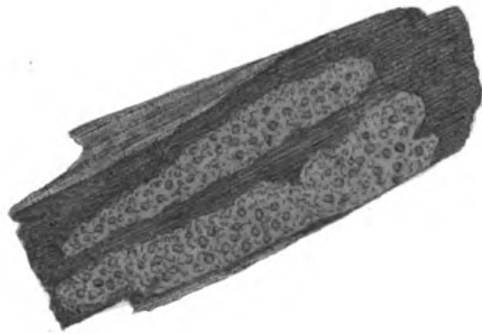
SYN. Lichen Ehrhartianus. *Achar. Prod.* 39. t. 2. f. 1. *Dicks. Crypt. fasc.* 4. 22.

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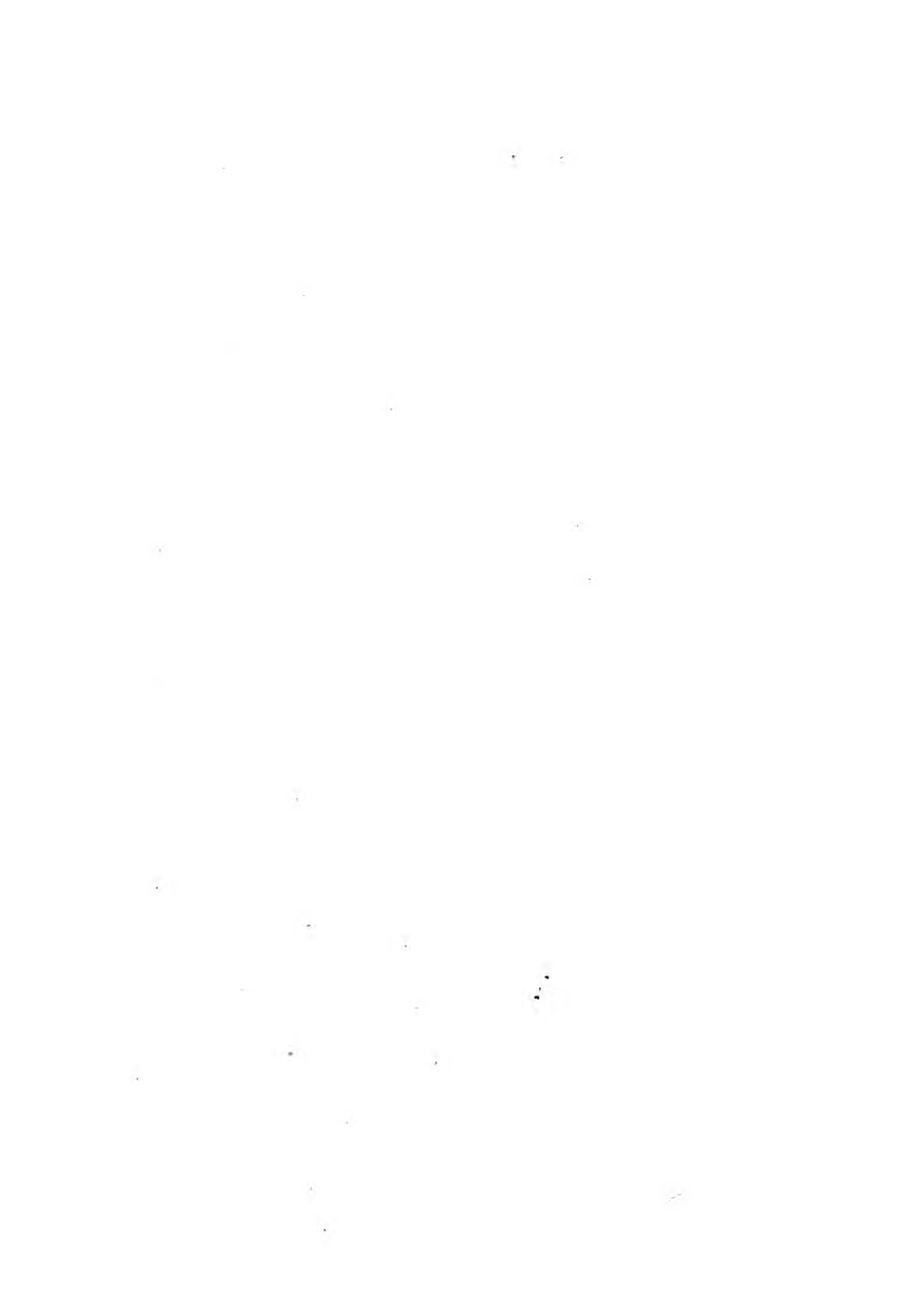
**D**ISCOVERED by Mr. D. Turner at Acle, Norfolk, between the town and the wood, growing in the greatest profusion upon a barn door. Although not very conspicuous to a superficial observer, it proves very distinct when examined, and there is none with which it can be confounded.

The crust covers the wood in broad, level, cracked and granulated patches, and is about a line in thickness, tartareous, greenish-white, not mealy, but composed of uniform smooth roundish little knobs or granulations, many of which bear each a little black wart. These warts might be taken for seed-bearing tubercles, did we not observe also real shields, various in size and figure, of a buff-colour, at first surrounded with a zigzag white narrow border; afterwards convex, variously waved and wrinkled, the border being obliterated.

Dr. Acharius suspects the *L. graniformis* of Hagen may be only the beginning of this species.







LICHEN polytropus.  
*Many-coloured Lichen.*

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust tessellated, smooth, greenish sulphur-coloured, and black. Shields numerous, convex, bordered, angular, yellowish flesh-coloured, turning to olive, dark purple and black.

SYN. Lichen polytropus. *Ehrh. Crypt. 294. Ach. Prod. 72. Dicks. Crypt. v. 4. 22.*

*L. atro-virens. Wulf. in Jacq. Coll. v. 2. 186. t. 14. f. 2.*

*Lecidea polytropa. Ach. Meth. 72.*

*Patellaria polytropa. Hoffm. Pl. Lich. v. 3. 11. t. 58. f. 2.*

THE first observer of this Lichen in Britain was the Rev. Mr. Stuart of Luss, who in 1782 favoured us with specimens on a micaceous stone from the mountains of Breadalbane. In 1784 Mr. Burgess of Kirkmichael found the same abundant on sand-stones on the moors of Dumfries-shire. Mr. Robson and the Rev. Mr. Harriman have since sent it from Durham on various stones of the granite kind. The gentleman last named seems most perfectly acquainted with the many different appearances to which it is liable in the colour of its shields, and which led Ehrhart to give it the name of *polytropus*. The specimen in our plate precisely accords with the authentic one in his *Pl. Crypt. Exsiccatae*.

The crust is inseparable from the stone, hard, formed of very smooth, pale sulphur-coloured, angular portions, various in size, sometimes as minute as the finest sand, all more or less bordered or accompanied by a black substance, which we suspect to be the decayed crust of the preceding year. It is similar to what makes the black lines of *L. geographicus*. Shields very numerous, generally larger than the portions of the crust; when young roundish, concave, of a pale waxy greenish yellow, with a thick smooth border of the same colour. They soon grow very convex, of a buff inclining to flesh-colour, angular and rugged, and the margin is less apparent. By age, or rather by accident, they become olive-green, black, and sometimes, though rarely, of a dark dull purplish brown.

Hoffman's figure expresses their usual form and colour without this variation. In the darkest state, this is *L. intricatus*, *Schrad. Journ. 1801, p. 1. 72.*



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## LICHEN lucidus.

*Lemon-coloured Rock Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, powdery, brittle, pale greenish lemon-coloured. Shields small, sessile, convex, lemon-coloured, without a border.

SYN. Lichen lucidus. *Ach. Prod.* 39.

*Lecidea lucida.* *Ach. Meth.* 74.

THE crust of this Lichen, in scattered powdery patches of a bright light lemon-colour, without shields, attracted my attention on the hard sand-stone rocks in the country about Liverpool 2 years ago, especially at Woolton, Allerton, &c. After long search I met with 2 or 3 shields on the walls of Allerton hall, which determined its genus. Mr. W. Borrer has lately observed the same at Cuckfield, Sussex, as well as about Tunbridge wells, spreading over the perpendicular rocks, and having the appearance of a *Lepraria*. That gentleman has also found shields, and has communicated specimens to Mr. Sowerby. Although not furnished with correspondent ones from Dr. Acharius, I conceive there can be no doubt respecting his synonym.

The crust is more or less scattered, indeterminate, generally very thin, powdery, and easily rubbed off, of a beautiful pale lemon-colour, sometimes inclining to light green, and very obvious at a distance. It is less dense and continued, as well as of a very different hue from *L. orostheus*, of which Dr. Acharius at one time suspected this to be a variety; but he is now satisfied of the contrary. When the crust bears fructification, it is only on the older and more substantial parts. The shields are sessile, rather convex, of a full lemon-colour, without a border; when old, somewhat rugged or lobed.

1550



*Small, dark, irregularly shaped objects, possibly seeds or small stones.*

1



[ 1666 ]

## LICHEN varius.

*Variable-shielded Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, granulated, scattered, pale yellowish green. Shields crowded, flattish, buff or brown; their border waved, irregular, inflexed, coloured like the crust.

SYN. Lichen varius. *Ach. Prod.* 40. *Ehrh. Crypt.* 68. *Dicks. Crypt. fasc.* 4. 22.Parmelia varia. *Ach. Meth.* 178.Patellaria varia. *Hoffm. Pl. Lich. v.* 1. 102. *t.* 23. *f.* 4.

FOUND a few years since by Mr. Turner at Burgh Castle near Yarmouth. We are obliged to that gentleman for specimens, and also to Mr. Dickson for others. The plant grows on old posts and pales, and is perhaps not very uncommon; but its colour and appearance are variable, and there are several species which resemble it.

The crust is of an uniform pale sulphur-colour, smooth, not mealy, when young even and uninterrupted, but soon becoming cracked, scattered, and sometimes granulated. The shields are small, numerous, and generally so crowded as to become angular and deformed. Their disk is nearly flat, generally pale brown or inclining to buff, but they are often red brown or blackish. Their margin is of the colour of the crust, thick, smooth and even when young; waved, zigzag and notched when old.

In some states this species may hastily be confounded with *L. orostheus*, in others with *subfuscus*; but the texture of the former, and the white uninterrupted crust of the latter, will always distinguish them.

1666.



*Nov. 1866. Published by J. & Sowerby, London.*

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LICHEN chloroleucus.

*Green and white Lichen.*

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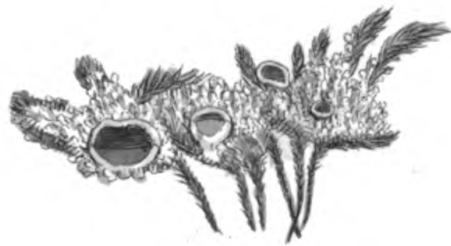
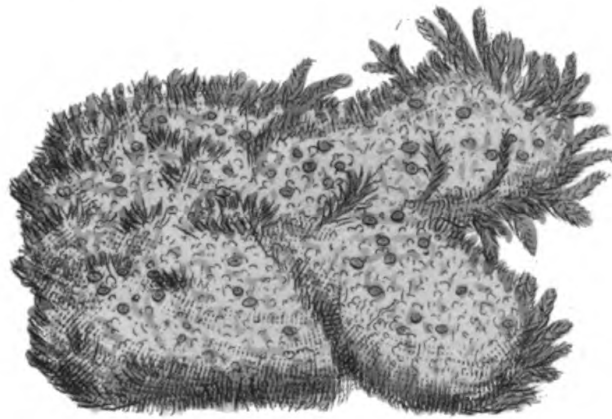
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.  
Female, smooth shields or tubercles, in which the seeds are imbedded.

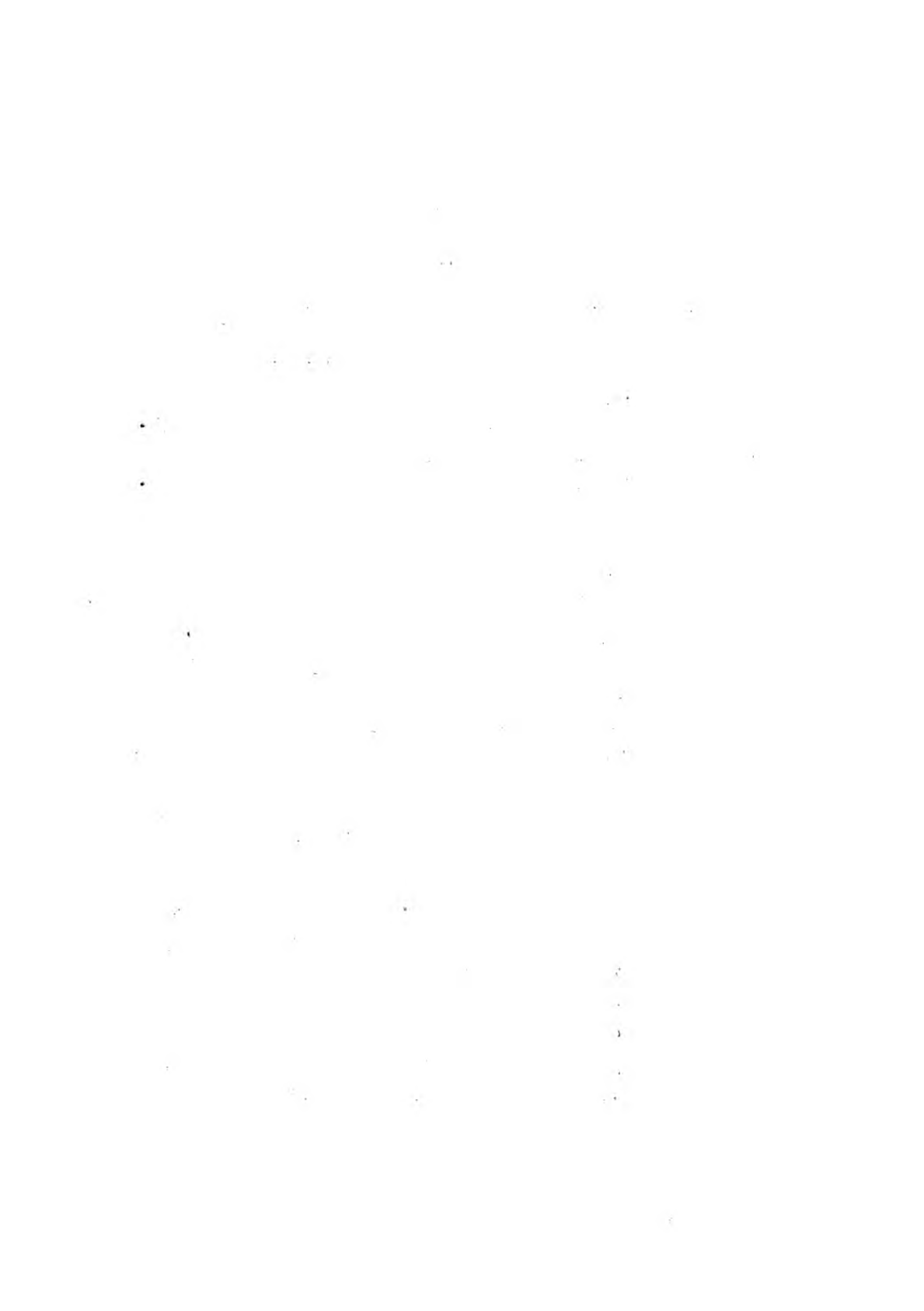
SPEC. CHAR. Crust white, leprous, very thin. Shields crowded, elevated, flat, olive-green; the margin white, undulated.

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WE received specimens of this Lichen (gathered in the county of Durham) so long ago as January 1799, from the Rev. Mr. Harriman and Mr. Oliver, and we are told of the same having been found even before that time by Mr. Dickson. We have hesitated to describe it, from a suspicion of its being possibly a variety of *L. cerinus*, v. 9. t. 627: but it deserves at any rate to be known; and Mr. Harriman, who is not at all inclined to multiply the species of this tribe on slight grounds, has no doubt of its being distinct. He informs us that “this is an alpine plant, and is found upon limestone only, its immediate support being moss or earth, or sometimes partly earth and partly limestone. The disk of the shields is at first yellowish green, or rather perhaps greenish yellow, and at length becomes bottle-green. *L. cerinus* is by no means an alpine Lichen.”—The crust appears also to differ, being whiter, more leprous, and very thin. The granulations scattered over it Mr. Harriman finds to be young or abortive shields. The perfect shields are numerous and often much crowded, elevated, white externally, with a white undulated border, much elevated, crenate and leprous when young. The disk is flat; and the tendency of that part to turn more green instead of yellow, as it advances in age, seems a strong proof of the distinctness of the species.



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## L I C H E N    cerinus.

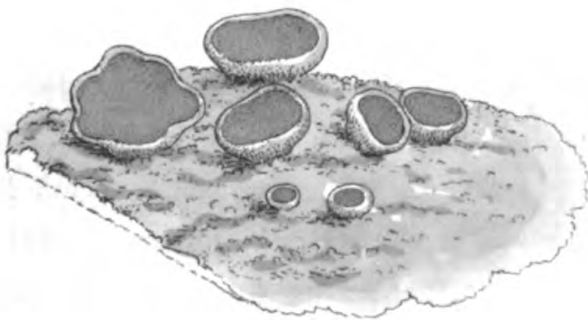
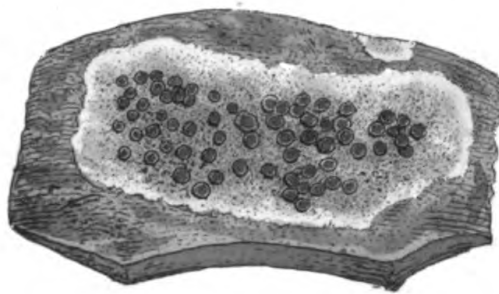
*Waxy Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

**SPEC. CHAR.** Crustaceous, greyish-white. Shields scattered, elevated, flat, yellow, waxy; the margin and under side white.**SYN.** Lichen cerinus. *Dicks. Crypt. fasc. 3. 14. With. v. 4. 24. Hull. 291.*Patellaria cerina. *Hoffm. Pl. Lich. t. 33. f. 1.*

**MR. DICKSON** first published this as an English Lichen. Our specimens were gathered at Coltishall in Norfolk, by Mr. D. Turner, and on the trunks of felled oaks lying at Lambeth, by Mr. Sowerby. It is to be found on the bark of trees at all seasons; and has probably been often confounded with *L. subfuscus*, from which however it is truly distinct, though in decay the colour of the shields fades to a brownish hue.

The crust is very thin, but rugged, scarcely mealy, greyish-white, and spreads concentrically with a very white edge. The shields are more or less scattered, a little elevated; their disk flat, or rather concave, of the colour of yellow bees-wax, greener when moistened; their margin rounded, entire, broad, white and smooth, in old shields often undulated.



*Handwritten text, likely a species name or description, oriented upside down.*

1





[ 1792 ]

## L I C H E N vitellinus.

*Yolk of Egg Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, indeterminate, bright greenish yellow. Shields clustered, sessile, flat, tawny yellow, at length convex and brownish. Border elevated, crenate, the colour of the crust.

SYN. Lichen vitellinus. *Ehrh. Crypt. 155. Ach. Prod. 41. Relh. Cant. 450.**L. candelarius. Huds. 528. With. v. 4. 27. Hull. 292. Sibth. 323. Lightf. 811, α.**Patellaria vitellina. Hoffm. Pl. Lich. v. 2. 5. t. 26. f. 1. t. 27. f. 2.**Parmelia vitellina. Ach. Meth. 176.*

VERY common on garden pales, rails, and other wrought wood, especially deal, when long exposed to the weather; but scarcely, if at all, on the bark of trees. It is most perfect in the wet wintry months. Sometimes it occurs on brick walls.

The crust spreads in oblong patches, frequently conforming to the grain of the wood, and consists of minute granulations, more or less scattered, of a very conspicuous yellow colour inclining to green, looking as if the boards had been besmeared with yolk of egg. Shields not very abundant, but crowded when they occur, sessile and flat, of a more dull and tawny yellow than the crust, but surrounded with an elevated, crenate, or granulated, very conspicuous border, very like it. By age the disk of the shields becomes somewhat convex, as well as olive or brownish.

Our British writers have, not without apparent reason, taken this for the Linnæan *L. candelarius*, and much misconception and confusion have arisen from its being confounded by Dillenius and others with *L. murorum* of Acharius. Ehrhart first determined it, and we gladly retain his expressive name. What the real *candelarius* is will appear at *t. 1794*.

1792



*Sept. 11807. Published by Jas. Sowerby London.*

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## LICHEN luteus.

*Yellow-shielded Crustaceous Lichen.*


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 CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust powdery, pale ash-coloured. Shields flattish, deep yellow, with a yellow border.

SYN. Lichen luteus. *Dicks. Crypt. fasc. 1. 11. t. 2. f. 6. Ach. Prod. 42. With. v. 4. 25. Hull. 292.*  
*Parmelia lutea. Ach. Meth. 179.*

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THIS is a rare and little-known species. It was collected by Mr. Turner in a wood near Bangor. Mr. Dickson, its first describer, has observed it on the mossy trunks of trees. In Mr. Turner's specimens it grows on the bark itself.

The crust is mealy, sometimes very thin and scattered; sometimes more dense, and in that case green within. Its colour externally is a pale grey or ash-colour. The shields are numerous, rather small, sessile, with a flattish smooth disk of a full yellow, more verging towards the orange than the lemon. Their border elevated, more or less deeply coloured like the disk.

Dr. Acharius in his new *Methodus Lichenum* observes, that he does not doubt his plant being right, though he finds the shields smaller than in Mr. Dickson's figure. Our specimens confirm the accuracy of his remark; but we can also speak to the correctness of that figure, the shields being, as we apprehend, larger in proportion as the crust is more dispersed, from growing on moss instead of bark.



J





## LICHEN luteo-albus.

*White and yellow Crustaceous Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, white, very thin and even.

Shields orange-coloured; when young flattish, with a border of their own colour; at length convex, without a border.

SYN. Lichen luteo-albus. *Turner in Trans. of Linn. Soc. v. 7. 92. t. 8. f. 3.*

IT is remarkable that this pretty species should have remained so long undescribed. That it is not very uncommon in England is certain. We have had it from various friends, as Dr. Abbot, Mr. W. Brunton junior, Mr. Turner, the Rev. Mr. Walford of Long Stratton, and the Rev. Mr. Harriman. Neither is it difficult to discover. It grows on old trees, either on their cracked bark or in their decayed cavities, apparently not thriving on live wood. The crust is thin, even, finely leprous, very white (at least when dry), bearing prodigious abundance of little bright orange-coloured shields, generally crowded together in parcels or rows. When young they are flat, with a border coloured like the disk; but by age they grow very convex and lose their border.

There is a little yellow *Peziza* found on cow-dung, which seems confounded with the *scutellata*, and another on rotten wood, *P. aurea*, *Sowerby t. 150*, which being very common, and somewhat resembling this Lichen, may have caused it to be passed over by many observers.

1426



March 1. 1805 Published by J. Sowerby, London

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## LICHEN calvus.

*Bald Lichen.*

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*CRYPTOGAMIA Alga.*

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust grayish-white, pitted, very hard. Tubercles hemispherical, smooth, scattered, of a tawny red, without any border.

SYN. Lichen calvus. *Dicks. Crypt. fasc. 2. 18. t. 6. f. 4.* *Achar. Prod. 72.* *With. v. 4. 14.* *Hull, 288.*

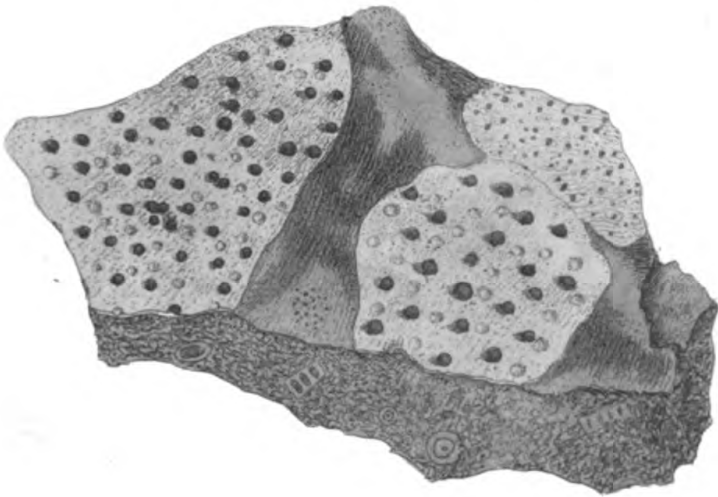
*L. rupestris. Achar. Prod. 43 ?*

**D**ISCOVERED by Mr. Dickson on calcareous rocks in the highlands of Scotland, nor have we seen it on any other kind of stone. Mr. Griffith has favoured us with Welch specimens,

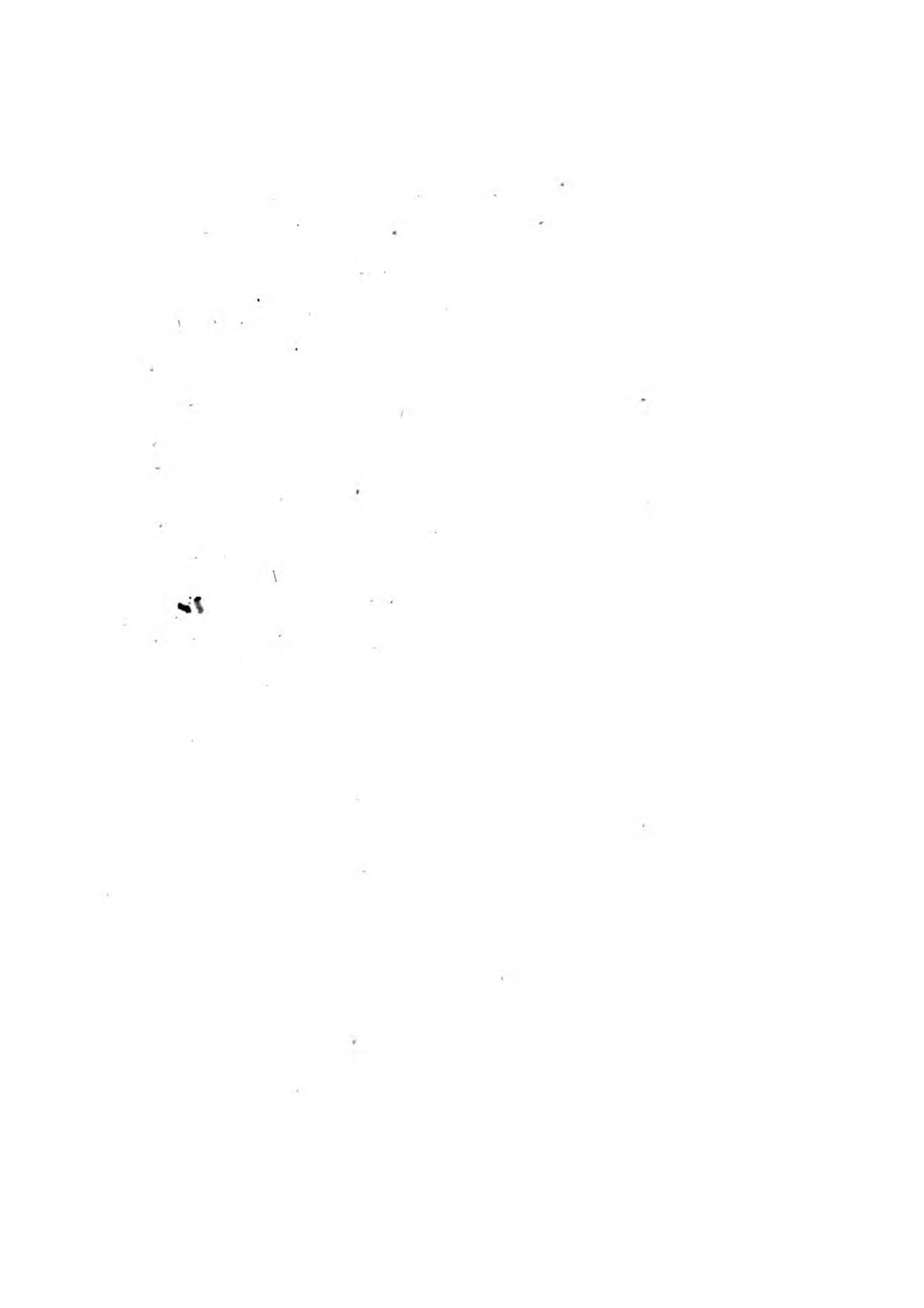
The crust is hard, and inseparable from the stone, conforming to all its inequalities, but not otherwise rugged, except that it abounds with little round depressions, left by the tubercles when they fall off. Its colour is a pale grayish or brownish white; its surface smooth, not at all mealy or granulated. Sometimes it is overrun by *L. niger* or some other minute black species. The tubercles are quite sessile, hemispherical, hard, of a dull orange-colour more or less deep, quite destitute of any border, their surface generally quite smooth even and rather polished, but sometimes a little rugged or uneven. Their internal part is a white core half immersed in the crust.

Mr. Turner, on the authority of Hoffmann's synonym, (*Verrucaria rufescens, Pl. Lich. t. 17. f. 1.*) has suggested the probability that the *L. rupestris* of Acharius, Scopoli, &c. is the same with this. If so, we cannot but prefer *calvus* as the most expressive name.

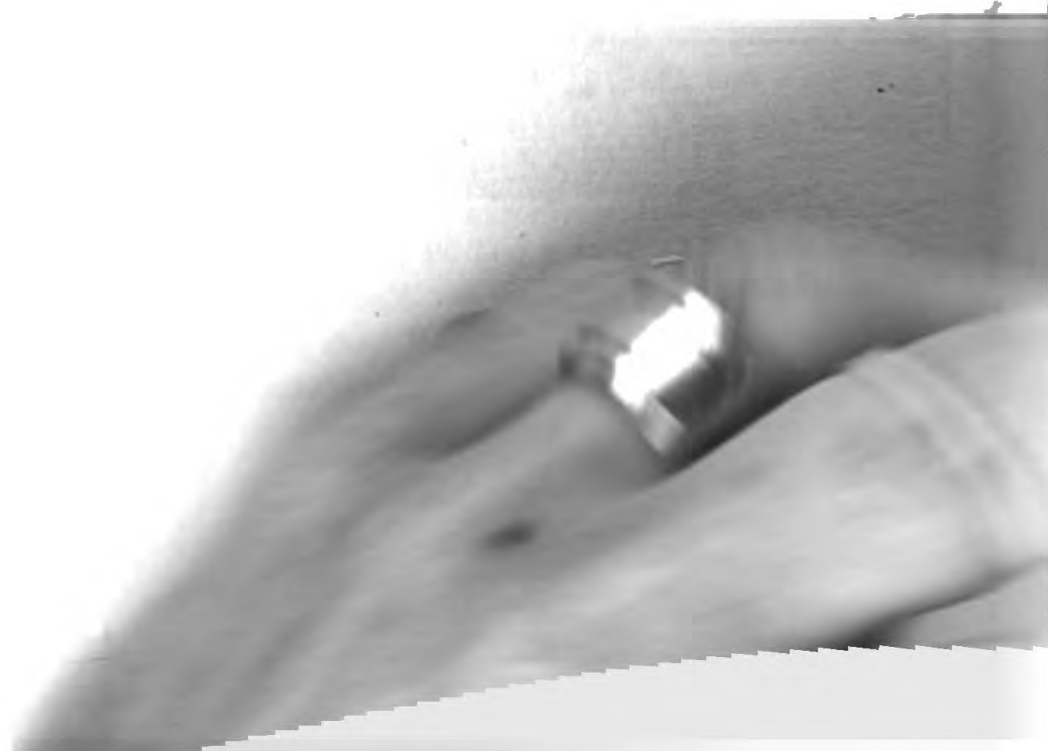
140



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LICHEN rupestris.  
Orange Rock Lichen.

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, dispersed, greenish grey. Shields sunk, flat, bordered; at length convex, smooth, deprived of their border, reddish orange-coloured.

SYN. Lichen rupestris. *Ach. Prod.* 43.

*Lecidea rupestris.* *Ach. Meth.* 70. *Winch. v.* 2. 39.

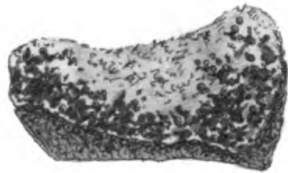
*Verrucaria rufescens.* *Hoffm. Pl. Lich. v.* 1. 80. t. 17. f. 1.

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COMMUNICATED from walls at Beamish, Durham, by Mr. Winch, who assures us his specimen has been compared with some from Dr. Acharius. If the greenish or greyish interrupted and often evanescent crust, drawn in our plate, really belongs to the shields, which from Hoffmann's own specimen, as well as his and Acharius's description, we dare not deny, this species is abundantly distinct from *L. calvus*, t. 948, whose crust is white, continued, hard and firm; but we have specimens of the latter overrun with something exactly similar to Hoffmann's plant at least, and we scarcely know where to draw the line. Certainly, however, in the plant before us there is no trace of the proper crust of *calvus*. The shields when young are sessile or immersed, nearly flat, of a deep orange, with a border of the same colour, which disappears by age, and the disk becomes almost globular, exactly like the advanced state of *calvus*, t. 948, but of rather a more vivid hue; whereas the young shields of the latter are depressed, pitted, and irregular, with scarcely any proper border, and of a paler orange than in *rupestris*.

Scopoli's *rupestris* is by far too vague and comprehensive to be hazarded as a synonym, and the figure in *Fl. Dan.* t. 825, f. 2, has very little likeness to any thing with which we are acquainted.

2215



*Johns Hopkins University, Baltimore.*

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[ 1993 ]

LICHEN erythrellus.  
Orange Stone Lichen.

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust lemon-coloured, thin, dispersed, in minute, angular, smooth fragments. Shields sessile, deep orange, with a lighter border; at length becoming nearly globose, and the border obliterated.

SYN. Lichen erythrellus. *Ach. Prod.* 43.

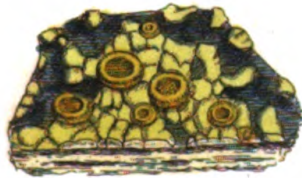
*Parmelia erythrella.* *Ach. Meth.* 174.

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DETECTED by Mr. Hooker and Mr. Borrer on walls in Glen Orchy about Loch Tay, and elsewhere in the Highlands last summer. Their specimens, drawn in our plate, agree precisely with the authentic one sent by Dr. Acharius.

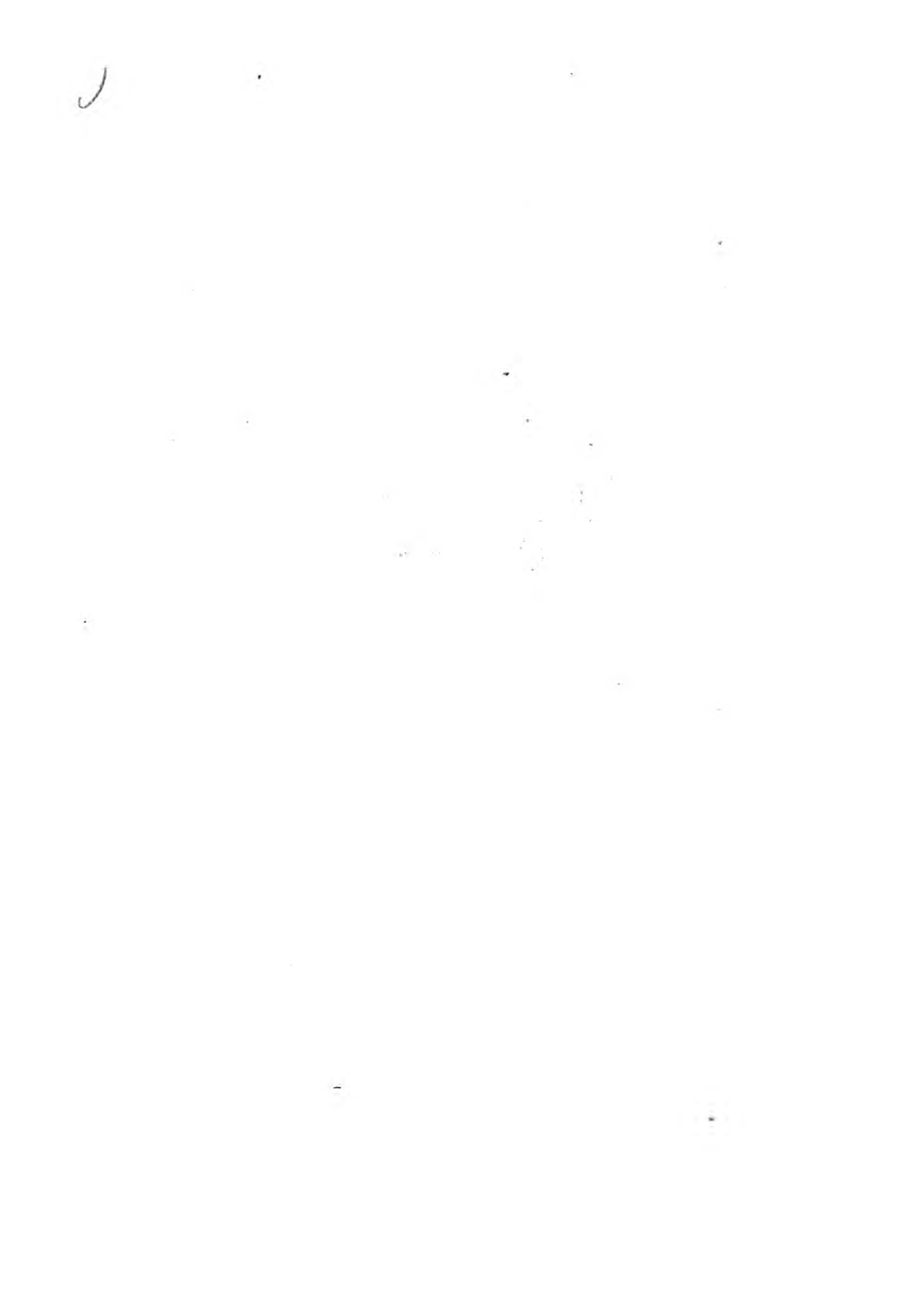
This is a minute species, but very distinct. Its original describer suggests its affinity to *L. salicinus*, *t.* 1305, but they surely cannot be confounded. The crust of this before us consists of very minute, dispersed, angular, smooth, lemon-coloured fragments, inseparable from the hard stone on which it grows, and quite unlike in nature from the continued, somewhat orbicular, crust of *t.* 1305. The diminutive shields, larger however than the portions of the crust, are scattered, sessile, of a deep reddish orange, with a thick, smooth, paler border. In process of time the disk is said by Dr. Acharius to become so convex that the border disappears. We have not seen the shields in this state.

1993



*May 1 1893. Published by J. A. Sowerby London.*







[ 1793 ]

## LICHEN citrinus.

*Lemon-coloured Wall Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

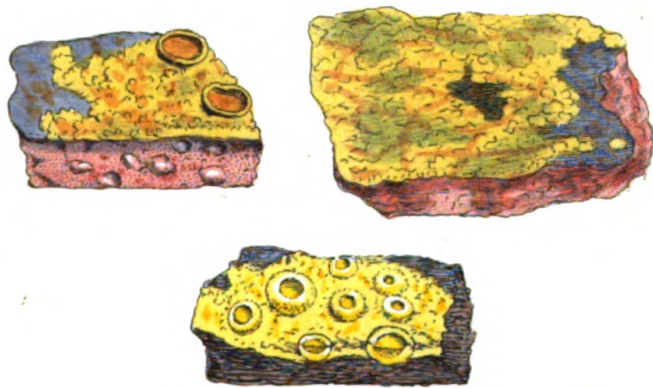
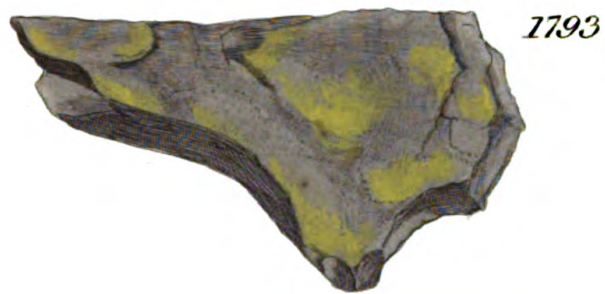
SPEC. CHAR. Crust leprous, powdery, indeterminate, bright lemon-coloured. Shields scattered, sessile, minute, orange-coloured, with a pale yellow, powdery border.

SYN. Lichen citrinus. *Ach. Prod.* 73.L. candelarius. *Abbot.* 262?Lichenoides. *Dill. Musc.* 136. t. 18. f. 18. B?Parmelia citrina. *Ach. Meth.* 179.Verrucaria citrina. *Hoffm. Fl. Germ. v. 2.* 198.

IT appears from the works of Acharius that he had never seen specimens of this plant, but adopted it from Hoffmann, who seems however, by his *Flora*, to have confounded it with *vitellinus*, t. 1792. Most botanists have done the same, and we are obliged to Mr. Turner for first explaining the species to us, since which we have found no difficulty in distinguishing it at any time.

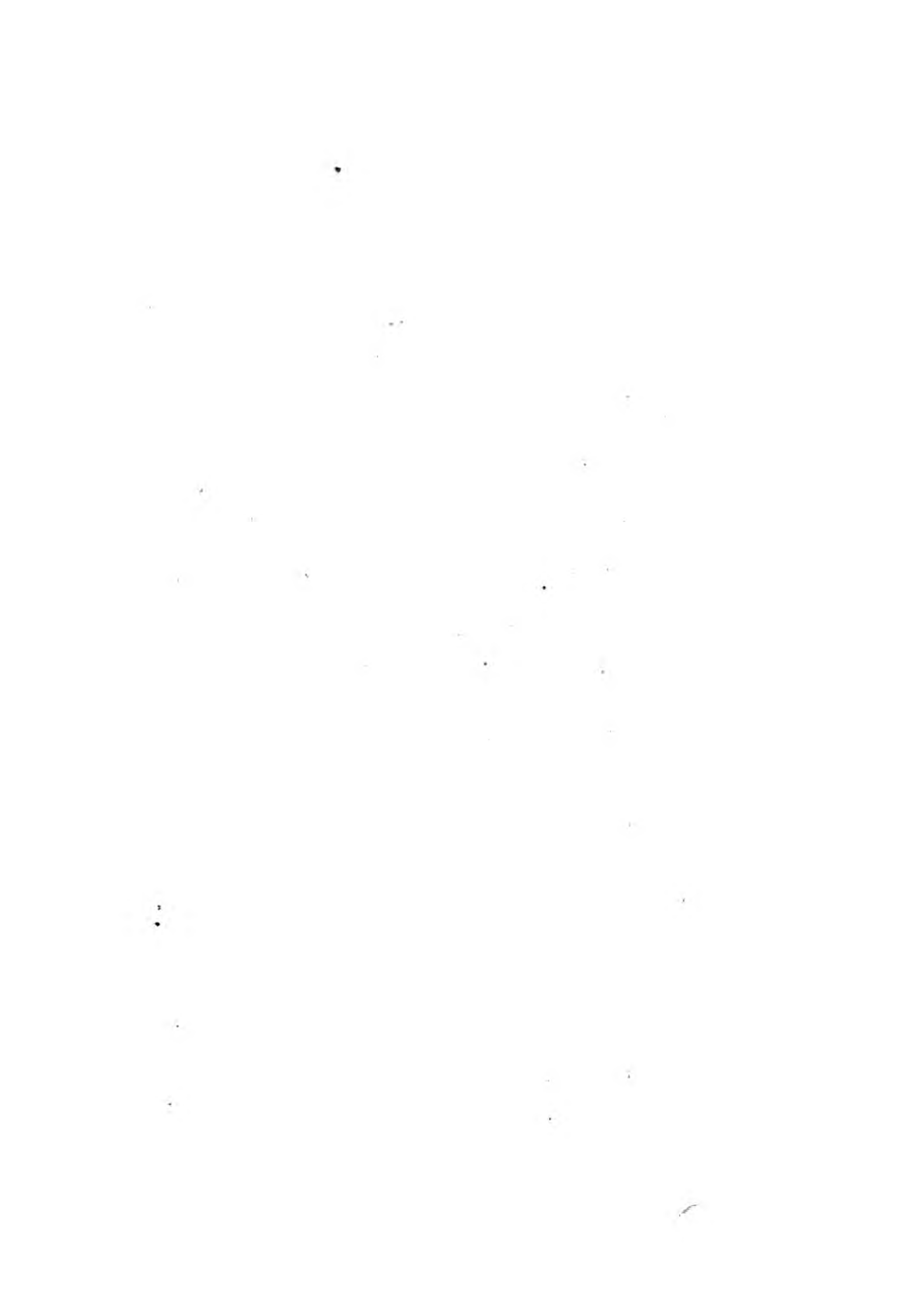
This species is very common, and, in the wet months of the early spring, very conspicuous and brilliant, on brick or flint walls in Norfolk, and probably other places. Mr. Hailstone has sent it on wood, from Yorkshire. The crust is moderately thick, friable, powdery, cracked when dry, of no determinate figure, and often irregularly dispersed, of a fine lemon-colour. Shields not very copious, scattered, minute, sessile and imbedded in the powder of the crust; their disk flat, deep yellow or palish orange-coloured; their border thick, elevated, powdery and paler like the crust.

We are convinced of this being distinct from our *Lepraria flava*, t. 1350, as well as from *L. vitellinus*, t. 1792, the texture of the crust being very different from both. Concerning another suggestion of the learned Acharius, whether this species may ever become his *L. candelarius*, t. 1794, we speak with more diffidence, but we think it very improbable, that being in every stage truly leafy or frondose, its fronds bearing the shields.



*Sept. 1 1807. Published by J. Sowerby London.*

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[ 1305 ]

## LICHEN salicinus.

*Saffron-coloured Willow Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust granulated, whitish lemon-coloured.

Shields sessile, rather convex, orange-coloured, with a yellow waved border.

SYN. Lichen salicinus. *Schrad. Spicil.* 82. *Achar. Prod.* 43.*Lecidea aurantiaca.* *Achar. Meth.* 69.*Patellaria salicina.* *Hoffm. Pl. Lich. t.* 61. *f.* 3—9.

OUR oldest specimens of this Lichen were gathered on trees about Edinburgh in 1782. Mr. Sowerby finds it abundantly on willows at Kennington; Mr. Borrer on ash trees in Sussex; and Mr. Turner, to whom we are obliged for specimens, on the same kind of tree at Haddiscoe, Suffolk. Indeed we believe it to be not very rare.

The crust is thin, granulated, and cracked, easily discernible by its colour, which looks as if it had, though originally white or greyish, been stained with lemon peel, or a weak tincture of saffron. The whole plant when moist smells strongly of saffron, even after it has long been kept in a herbarium; by which it is easily recognized. The shields are pretty numerous, mostly small, sessile, with a deep orange-coloured flattish disk, at length a little convex, and a thickish, tolerably even, not waved, border of a lemon hue.

All the above synonyms we have determined by original specimens from the authors themselves. This Lichen has been taken for the *aurantiacus* of Lightfoot, whose description, however, much better agrees with *ferrugineus* of Hudson. It does not seem exactly the *aurantiacus* of Ehrhart, *Crypt.* 28. It may be *flavo-rubescens* of Hudson, but that cannot easily be determined. In this confusion we have preferred the name of one faithful writer at least, though we should rather have called it *crocinus*.



May 1. 1804. Published by J. Sowerby, London.



✓



[ 1007 ]

## LICHEN fufco-luteus.

*Brownifh-yellow Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, fattered warts.

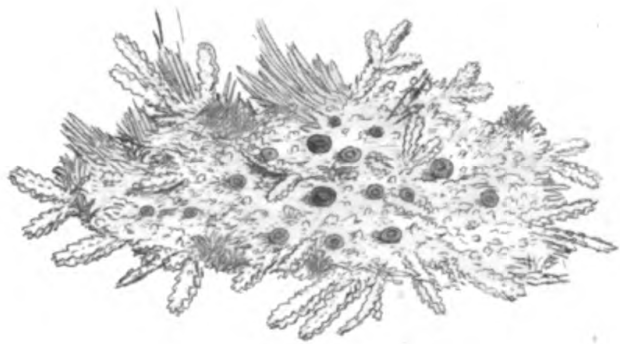
Female, fmoth fhields or tubercles, in which the feeds are imbedded.

**SPEC. CHAR.** Cruft thin, continued, even, very white and fmoth. Shields elevated, flat, dull-yellow, mealy, with a border of the fame colour.**SYN.** Lichen fufco-luteus. *Dickf. Crypt. fasc. 2. 18. t. 6. f. 2. H. Sicc. fasc. 4. 25. With. v. 4. 24. Hull. 291. Achar. Prod. 72.*

**W**E firft became acquainted with this Lichen in the year 1782, by means of fpecimens from the Rev. Mr. Stuart, who gathered them on the Highland mountains of Breadalbane. Mr. Dickfon has alfo found it on Ben Lawers and other mountains. Foreign botanifts feem quite unacquainted with it.

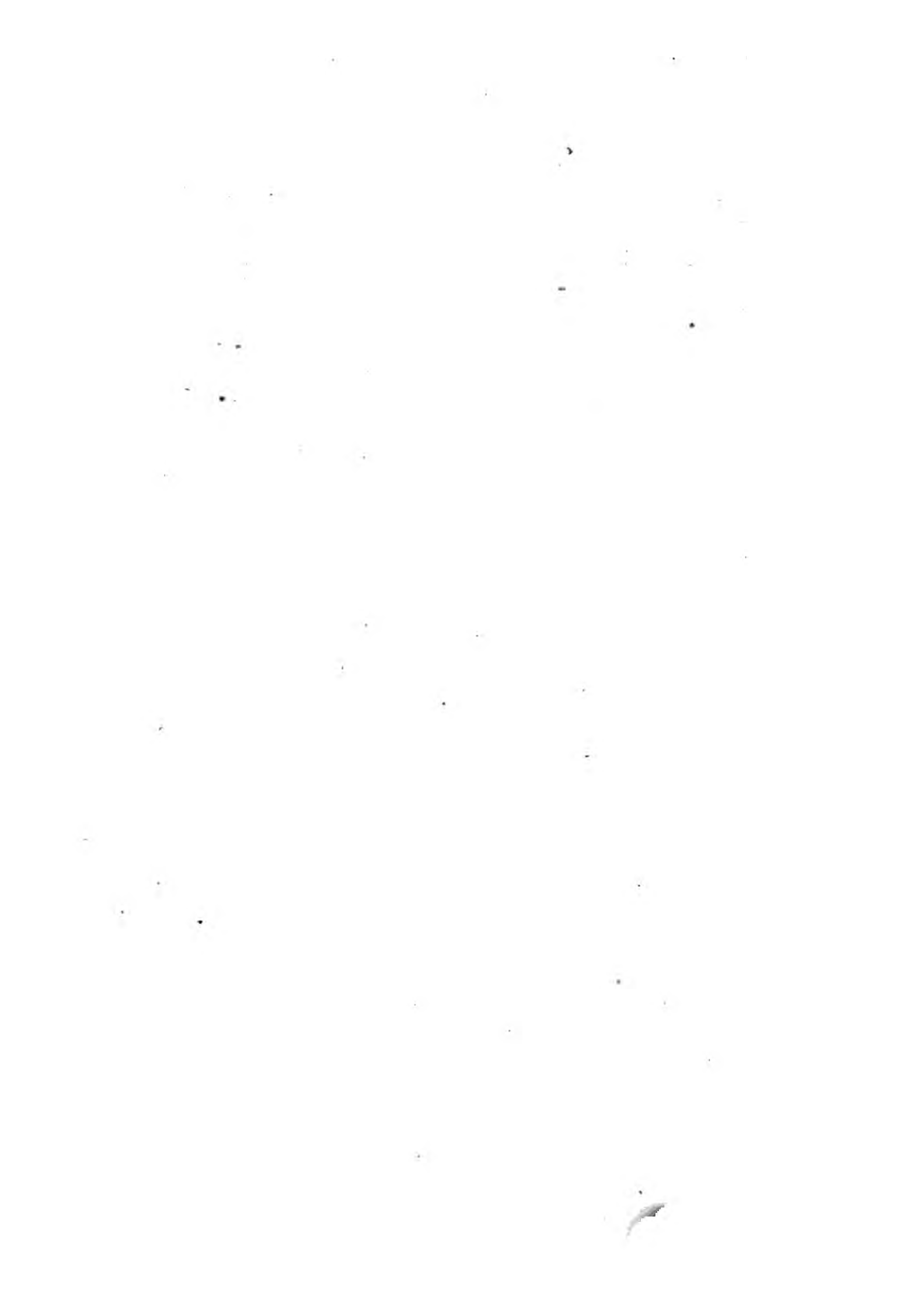
The cruft fpreads widely over decayed moffes, fprigs of Heath, and other fmall plants, clofely enveloping them fo as to affume a branched or shrubby appearance (fee Mr. Dickfon's figure), which happens in like manner to *L. ufaliensis* and a few others. This cruft when feparately examined is found to be very thin, even and delicate, almoft membranous, very white and fomewhat polished. The fhields grow either cluftered or fattered. When young they are of the fize of a moderate pin's head, roundifh, with a thick inflexed border, all over of a dull yellow, being clothed with ochrey powder which is eafily rubbed off. When full grown they are about 2 lines in diameter, elevated on a fhort thick ftalk, their difk flat, their margin waved and narrower, though always vifible enough, their colour ftill more dull and brownifh; indeed the difk when deprived of its powdery covering appears quite brown or fuff-coloured.

1667



*1. 1807. Pappus (C. la. Swartz. Tab. 1*

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LICHEN atro-flavus.  
*Black and yellow Stone Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust indeterminate, membranous, thin, somewhat granulated, black. Shields numerous, small, flattish, full-yellow, with an entire, elevated, somewhat paler border.

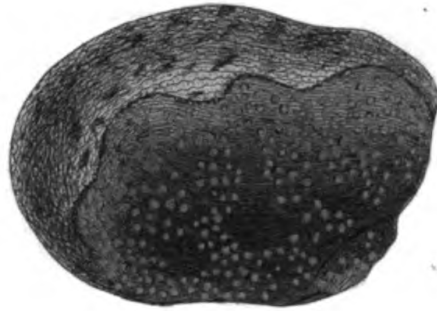
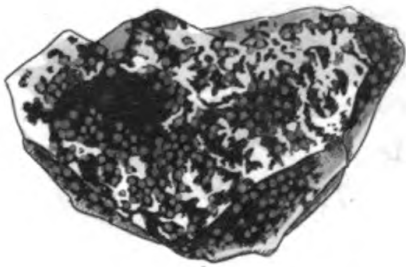
SYN. *Lecidea atro-flava.* *Turn. Tr. of L. Soc. v. 9. 142. t. 11. f. 2.*

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THIS elegant little Lichen remained undescribed till Mr. Turner made it known in one of his excellent papers published in the 9th vol. of the Linnæan Society's Transactions. It was first noticed by Mr. Borrer on the downs of Sussex, growing on loose exposed flints, which when white serve greatly to set off the crust. The Rev. G. R. Leathes observed the same near Bury.

Crust always black and unpolished, very thin, adhering closely to the stone, at first forming roundish blotches, which, according to Mr. Turner, have sometimes a fine fibrous edge, but usually splitting into scattered indeterminate fragments, and becoming granulated by age. The shields are numerous, small, of a full yellow or orange hue, flat, somewhat concave when young; their border thick, elevated, smooth, entire, rather paler than the disk. These shields are so conspicuous that we believe the plant would not have been so long undescribed, had the crust been thought to belong to them.

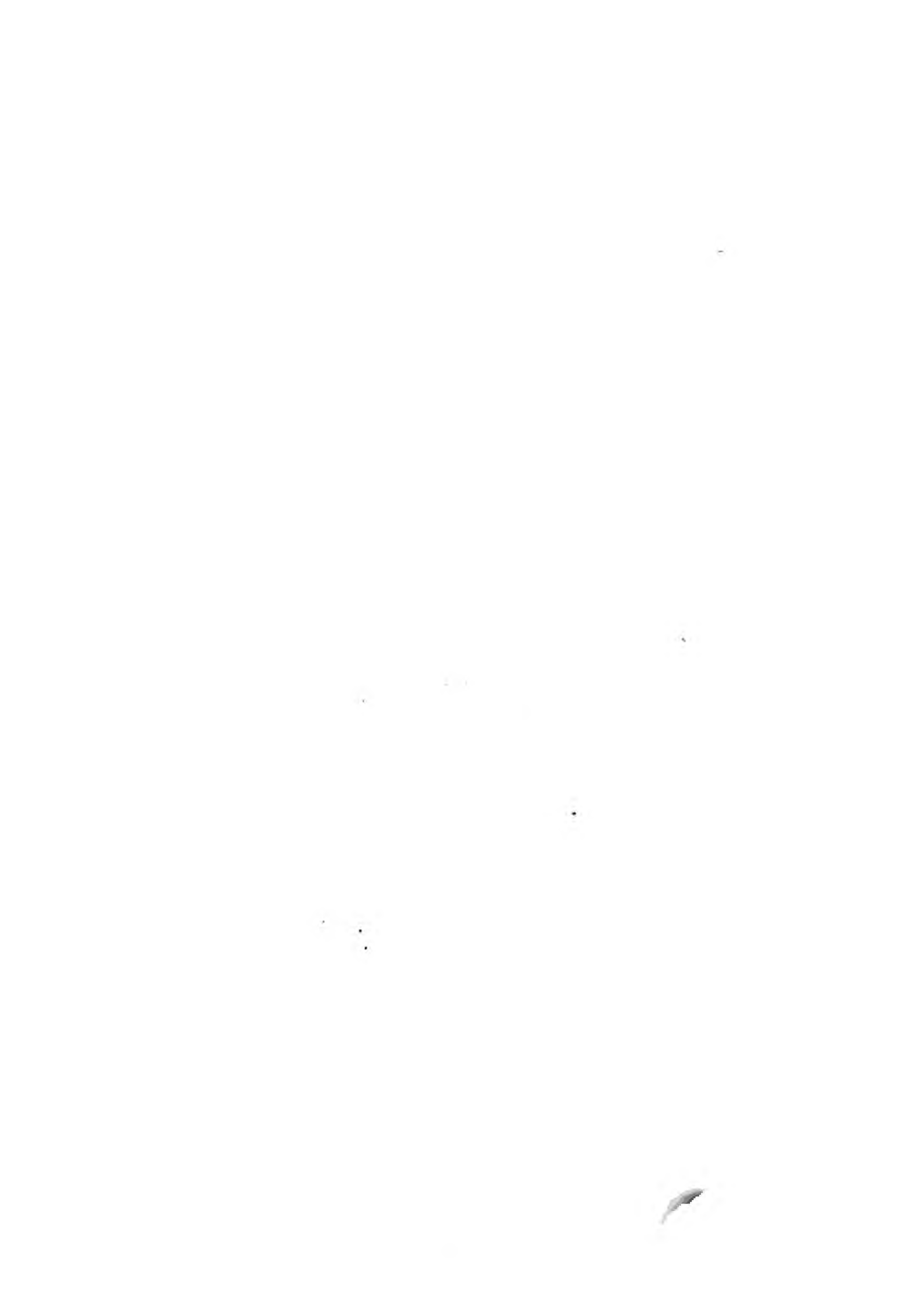
2009



*April 1 1869 Published by Jas Sowerby London*







[ 1650 ]

LICHEN ferrugineus.  
*Rusty-shielded Lichen.*

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CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust cracked, rugged, greyish white. Shields rusty orange, at length convex, with a waved notched margin of the same colour.

SYN. Lichen ferrugineus. *Huds.* 526.

*L. aurantiacus.* *Lightf.* 810.

*L. crenularius.* *With.* v. 4. 22. t. 31. f. 5. *Hull.* 291.

*L. cæσιο-rufus.* *Schrad. Spicil.* 80. *Ach. Prod.* 45.

*Patellaria cinereo-fusca.* *Hoffm. Pl. Lich. t.* 12. f. 1.

*P. ferruginea.* *Hoffm. Pl. Lich. t.* 35. f. 1.

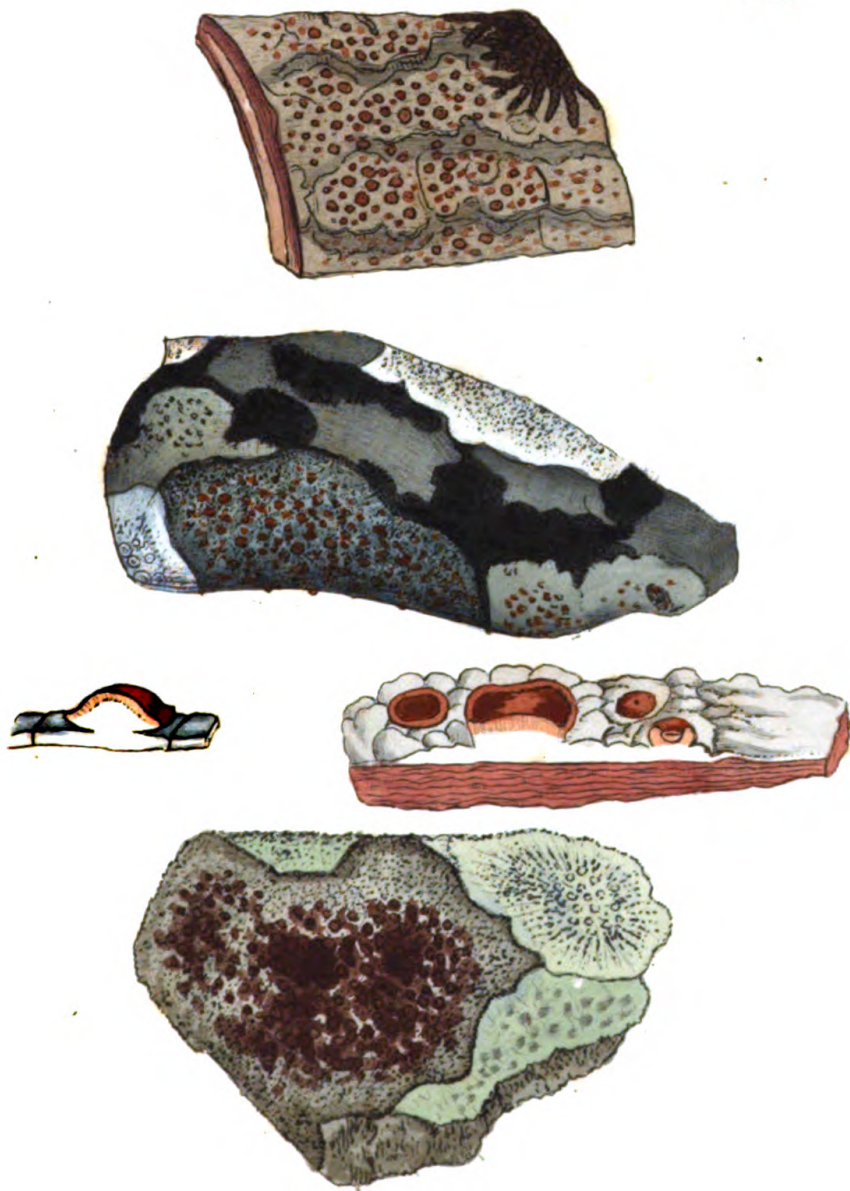
*Verrucaria ferruginea.* *Hoffm. Fl. Germ. v.* 2. 177.

*Lecidea cæσιο-rufa.* *Ach. Meth.* 71.

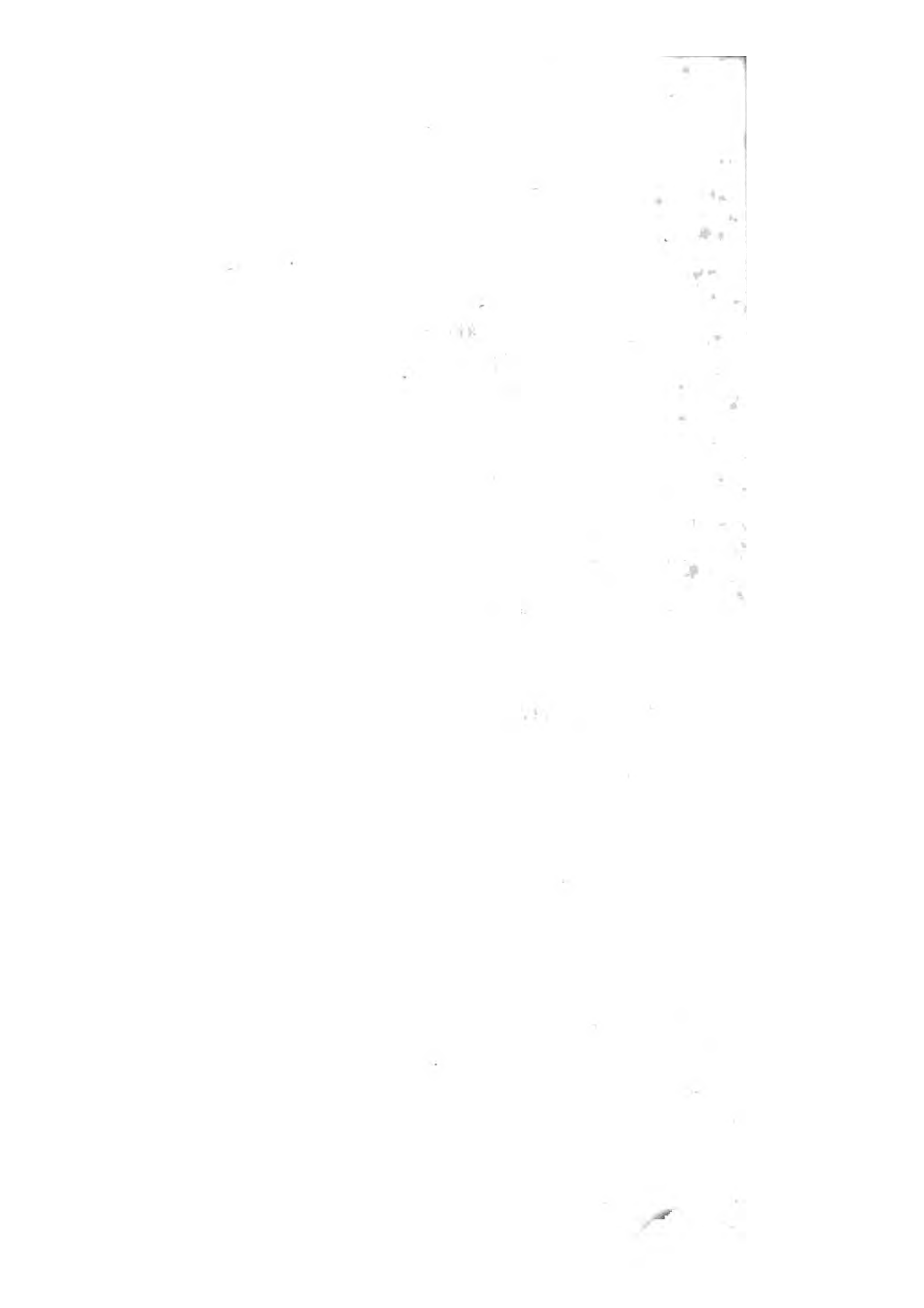
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BRITISH authors have been extremely confused about this Lichen, nor have foreigners well understood it. We are persuaded that the above synonyms are correct, and we think Mr. Hudson's original name by far preferable to the rest. His quotations of Linnæus and of Dillenius are indeed altogether erroneous. We have already alluded to the species before us at t. 845 and t. 1040 of this work.

*L. ferrugineus* grows on rocks and stones, as well as on the bark of trees, in various places. Its crust varies in thickness, but is more or less cracked and rugged, never mealy, of a greyish white. Sometimes it assumes a kind of lead-colour, and has a blackish edge. The shields are readily known by their rusty orange hue, always uniform in the same specimen, though specimens on sand-stones often have them of a dark brown orange. Their disks are flat when young, mostly convex when old. The margin is elevated, but not thick, soon becoming elegantly waved and crenate, of the same colour as the disk, or slightly brighter. The shields, being numerous, often crowd one another into an angular figure.







LICHEN *cæsi*-rufus.*Grey and red Lichen.*CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

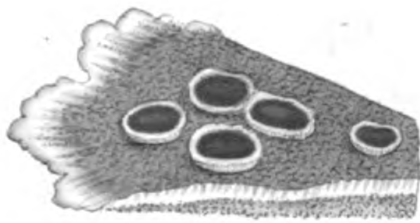
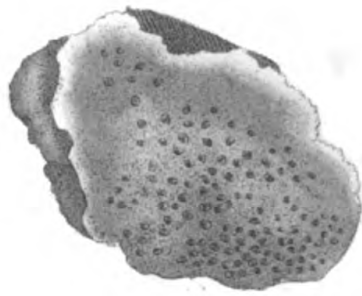
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust granulated, lobed, pale grey. Shields tawny red, flattish, with a thick, white, undulated border.

SYN. Lichen *cæsi*-rufus. *Schrad. Spicil.* 80.*L. craspedius.* *Achar. Prodr.* 45.*L. arenarius.* *Dicks. Crypt. fasc.* 4. 23. t. 12. f. 2.*Verrucaria cæsi*-rufa. *Hoffm. Fl. Germ. v.* 2. 178.

THE first specimen of this Lichen ever noticed in England I gathered in 1783, on a wall at Strumpshaw, the most elevated spot in Norfolk. It has since been found at Wisbeach by Mr. W. Skrimshire, and sent to Mr. Sowerby. It grows on bricks, sand-stone, or lime-stone, in roundish patches of a whitish grey, granulated, rather thin crust, whose edge is paler, smoother, dilated, crenate, and somewhat lobed. The shields are irregularly scattered, small, sessile, flattish; their disk of a deep orange or tawny red, occasionally more or less vivid, by age becoming almost brown; their border is conspicuous, white, crenate and waved. Within the proper border the thickened edge of the disk, somewhat paler than the central part, is remarkable, seeming, in young shields, to stain the white part with orange.

We are assured of the correctness of the above synonyms from the best authority, and it appears therefore that Dr. Acharius misquotes *L. cæsi*-rufus of Schrader as a synonym to his own, which we know from his specimens to be the *ferugineus* of Hudson. We retain for our plant the most original, expressive, and certain name. We should not hesitate to quote *Patellaria arenaria* of Hoffmann as the same, were it not expressly mentioned in his *Fl. Germ.* as distinct.





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## LICHEN Hæmatomma.

*Bloody-specked Lichen.*

## CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, white, mealy, with a fibrous border. Shields imbedded, scarlet, concave; when old, convex; their margin thick, white, elevated, mealy.

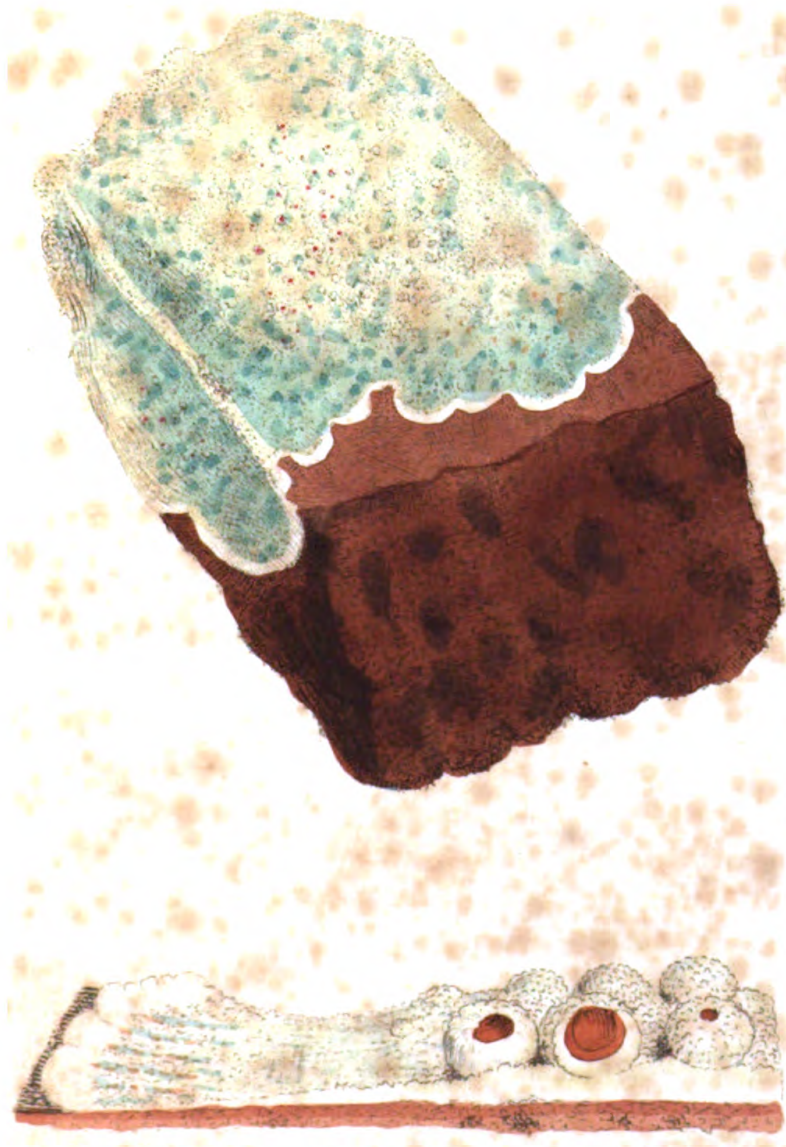
SYN. Lichen Hæmatomma. *Erb. Beiträge fasc. 2. 157. Gmel. Syst. Nat. Linn. v. 2. 1361.*

Verrucaria Hæmatomma. *Hoffm. Pl. Lich. t. 11. f. 1.*

**F**OUND, for the first time in this island, by Robert Stone and D. Turner, Esqrs. on brick walls, at Gorleston, near Yarmouth, in considerable plenty.

The crust is of a greyish white, mealy, or minutely granulated, greenish within, spreading to a considerable extent, scarcely half a line in thickness, its border when young as white as snow, and composed of very fine parallel fibres. The shields are minute, imbedded in the crust, of a paleish vermilion hue, concave, enclosed in a very prominent thick overhanging margin, which is of the same colour and mealy substance as the crust. In process of time they become more elevated, and of a darker hue.

At first sight this *Lichen* appears like a powdery *Byffus*, through whose substance minute points of the brick on which it grows, had, by accidental attrition, become visible; but those red points are on examination found to be beautiful little shields. We think there can be no doubt of its being the plant to which we have referred in Prof. Hoffman's exquisite work, though the crust is there delineated more cracked and browner, with shields less regular, and more dark coloured than ours, being farther advanced in age. The description, like all of this author, is accurate and characteristic.



*Fig. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.*

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