

Edinburgh University Prize Dissertation
for the degree of M.D., 1858.



Monograph
on the
British Parmeliaceae

by

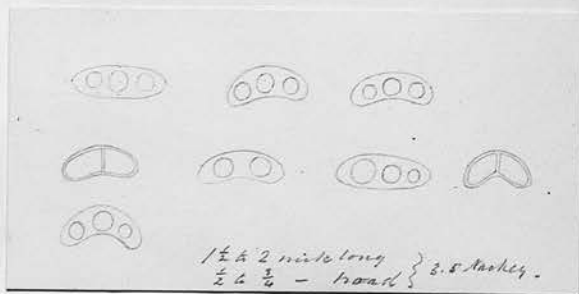
Alexander. C. Mainwaring.

March. 1858.

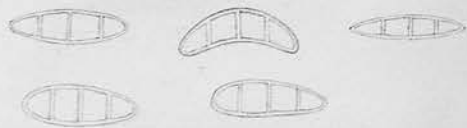
Drawings.



Ramalina calicaris. Fris
Var. *d. fraxinea*. Linn



Rocella tinctoria. Ach.



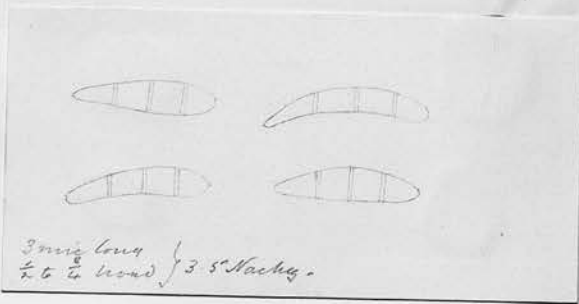
Spores from cups of *Rocella tinctoria* in herb. Soc. Bot. Garden.
Guis. Conn. Aug. 18. 1840

2 1/2 micra long

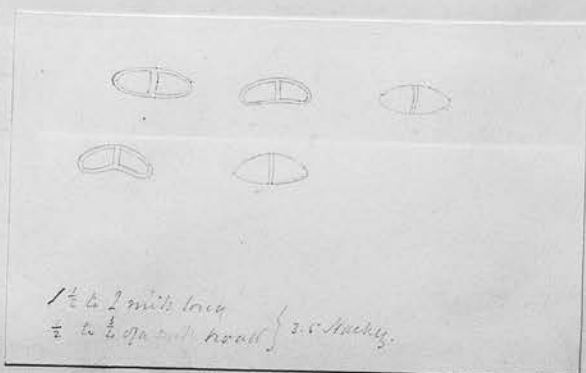
2 1/2 micra broad } 2.5 Naches-

Rocella fuciiformis. Linn

conspicua Linn

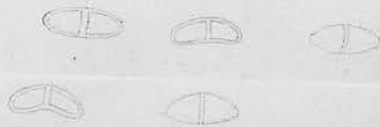


Ramalina calicaris. Fries
c. canaliculata. Giessem.



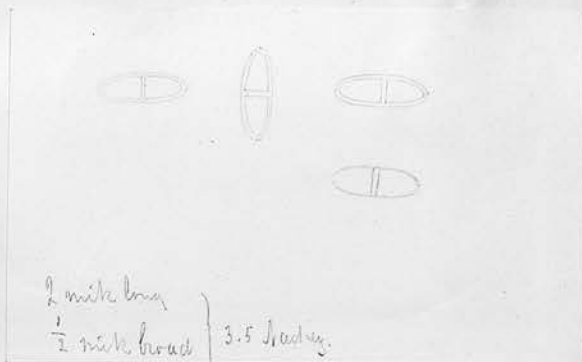
$1\frac{1}{2}$ to 2 mils long
 $\frac{1}{2}$ to $\frac{1}{4}$ of an inch broad } 2.5. Study.

Ramalina calicaris. Fries
c. canaliculata. Giessem.

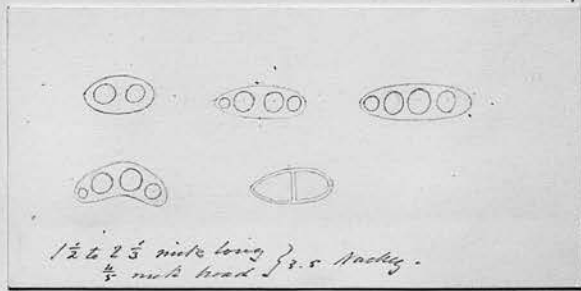


$1\frac{1}{2}$ to 2 mils. long
 $\frac{1}{2}$ to $\frac{1}{3}$ of an inch broad } 2. v. Anchy.

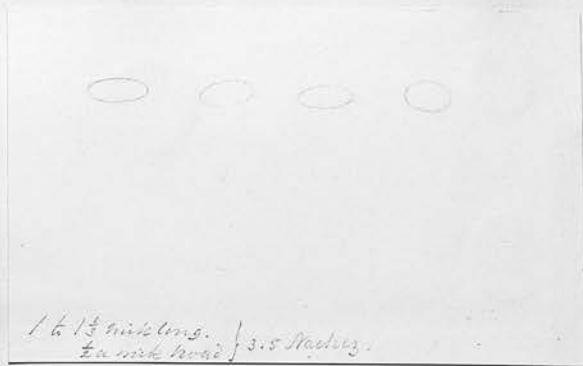
Ramalina polymorpha. Ach.



Hamulina scopulorum. Kütz.



Cetraria glauca. Linn



Drawn from a specimen in fruit ex herb. Mr. Wm. Mudd.

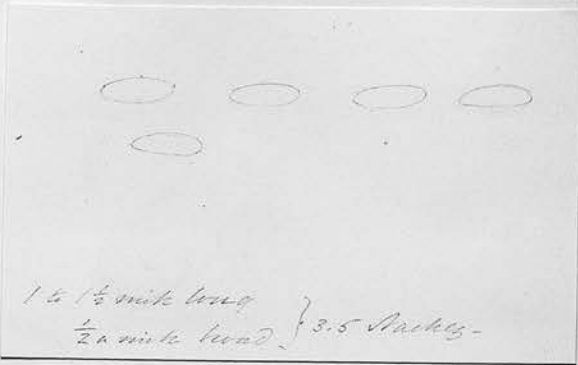
Cetraria sepumicola. Ehrh.

Drawn from the authentic specimens in
Schwartz. L. H. Ess. n. 297 !!

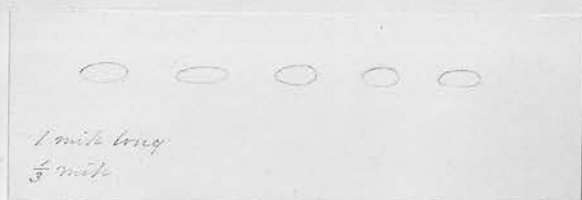
1 inch long }
 $\frac{4}{5}$ inch broad } 3-5. N. A. D. G.

Celtaria juniperina. Linn.

Cetraria Islandica. Linn



Cetraria nivalis. Linn



Comnicularia jibata . a. bicolor. Ehrh.

Comiularia pitata. B. chalybeiformis. Linn

Conicularia jubata. y implexa. Fries

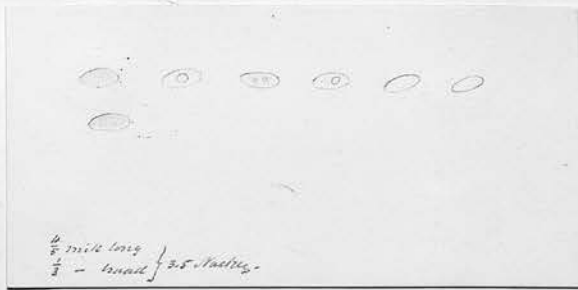
Comicularia jubata, *S. setacea*. Ach.

Comicularia ochroleuca. & rigida. Fries

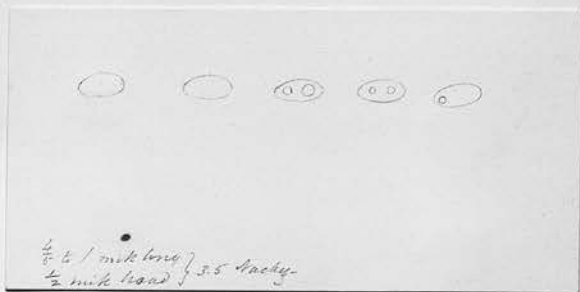
Corticium ochroleuca. s. concinnata. Fries

Conicularia ochroleuca. C. samentosa. Ach

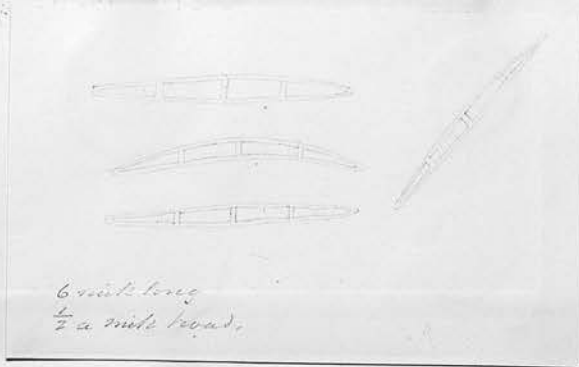
Comicularia aculeata. Ehrh.



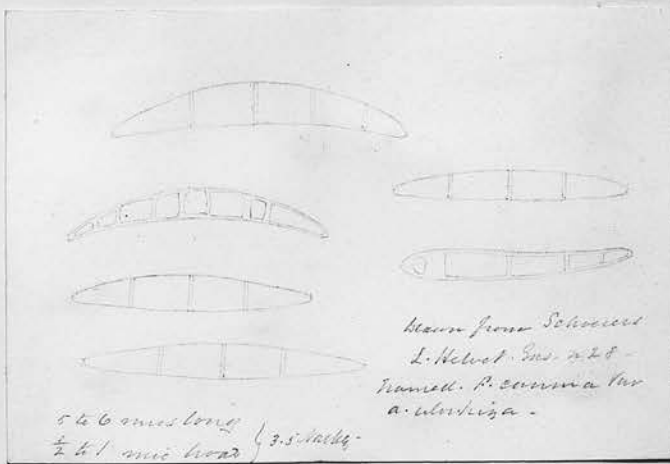
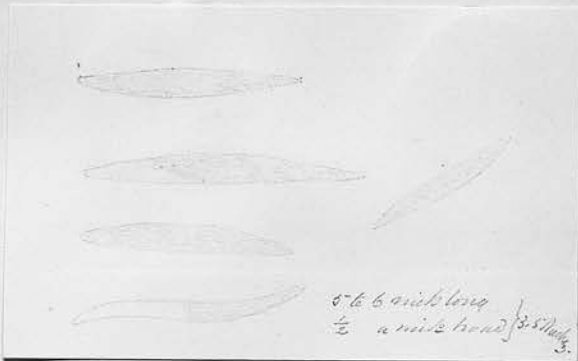
Comicularia tristis. Web.



Peltigera aphosa. Linn.



Pelligera canina. Linn.



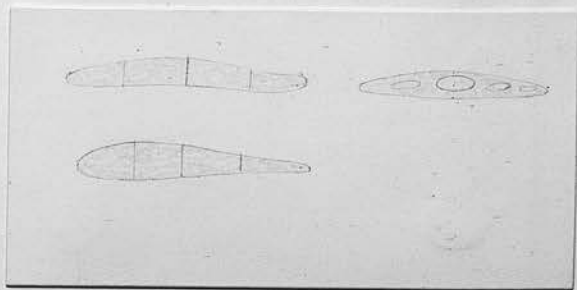
Heltigera rufescens. Neck.
Eng. Bot. tab 2300.

Peltigera polydactyla, Necker.



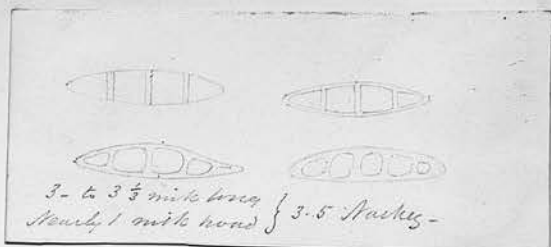
6 1/2 miles long } 3-5 Sacks.
1/2 a mile broad

Peltigera scutata. Linn.

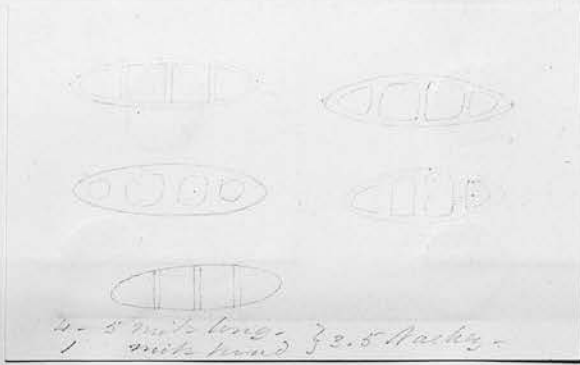


Copied from the figure in Flepp. Flecht. Europa. n. 51!! -

Peltigera horizontalis. Linn.



Peltigera venosa. Linn.



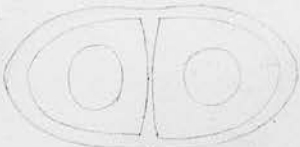
Helligera resuspinata
var.



2 mm long
1/2 mm diam } 3-5 seeds

Solenia saccata. Linn.

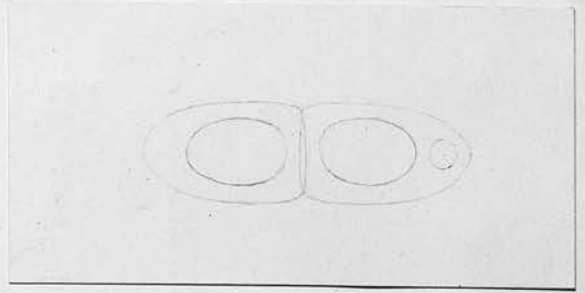
S. saccata -



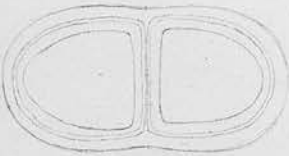
6 mic x 3 (3.5 Mackay)

Drawn from a specimen naturally slightly paler than the rest without the use of any chemical agent

Fig 2



S. saccata -

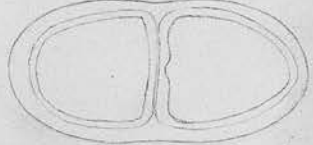


Drawn from a specimen decolorized by the action of Sol of Chloride of Lime -

Fig 4

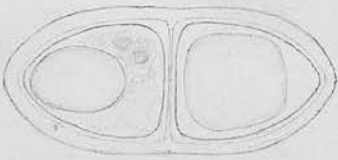
S. saccata -

6 mic x 3 broad (3.5 Mackay)



Drawn from a specimen decolorized by the action of Chloride of Lime solution -

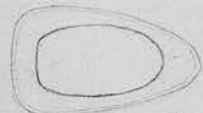
S. saccata -



Drawn from a specimen decolorized by the action of Sol of Chloride of Lime -

Fig 6

S. saccata

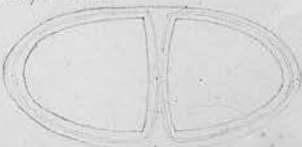


6 mic x 2.5 mic (3.5 Mackay)

Single lobe as seen from the Spore membrane and showing very well its own proper movement

770 S. saccata

Drawn from a spore decolorized by the action of Sol of Chloride of Lime -

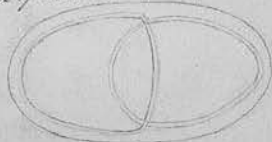


The same spore after slight compression and seen horizontally - to the field of the microscope -

Fig 8.

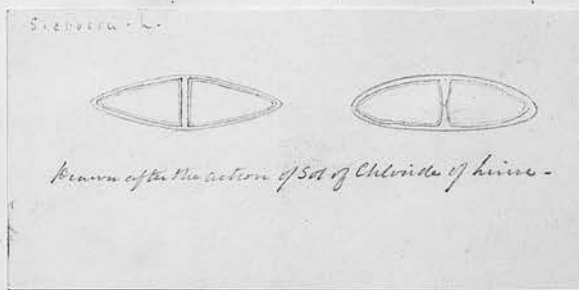
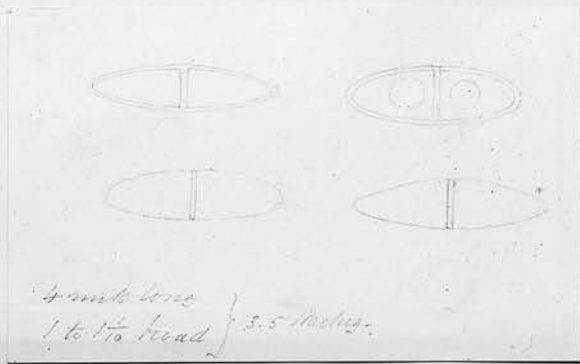
770 S. saccata

Drawn from a specimen decolorized by the action of Sol of Chloride of Lime



The spore locules slightly overlapping the other the whole spore seen obliquely thus - giving rise to the appearance represented -

Sporina crocea, Linn.



Evernia punastri.



Evernia 1/16 to 1/8 inch long } 1-5 Naevy.
2/3 to 4/5 inch broad.

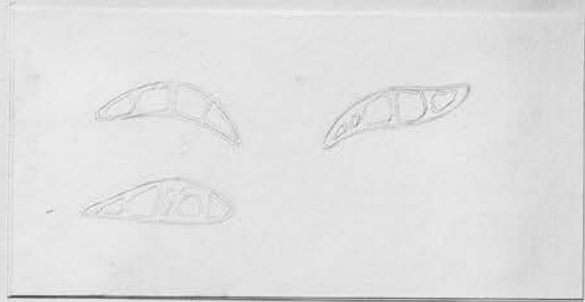
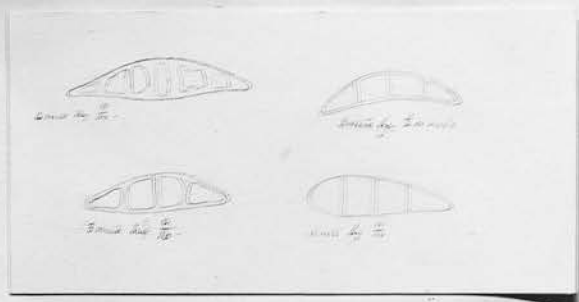
Evernia purpuracea. Linn.



Drawn from the authentic specimens in *Woodward's*
Methodes Vesp. in Fozes 263.

$\frac{1}{2}$ to $\frac{1}{4}$ inch long } 5.5. Mackay.
 $\frac{1}{2}$ - $\frac{3}{4}$ - broad

Sticta curvata. Smith.



Drawn from specimens communicated by Professor Balfour, ex
Herb. Soc. Bot. Edinensis, coll. at the Organ Mountains,
Brazil.

Sitta crocata. Linn

Sticta macrophylla. Fee.

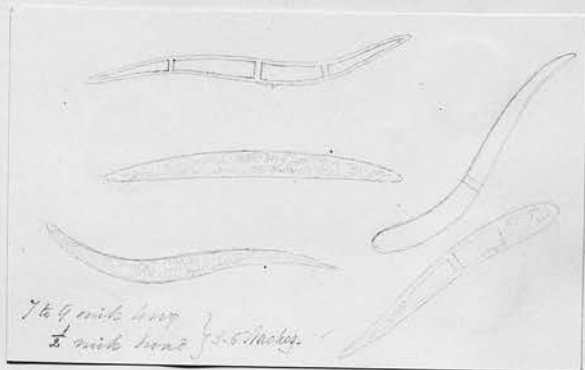
Sticta fimbriata. Taylor!! MSS.
Sticta Dufourii. Delise.

Sticta limbata. Smitt

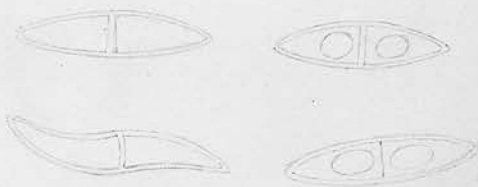
Sticta fuliginosa. Dickes.

Sicla sylvatica. Linn

Sticta scrobiculata. Scop.

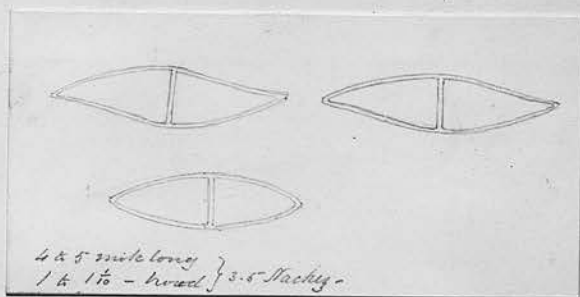


Sticta pulmonarea. Linn.



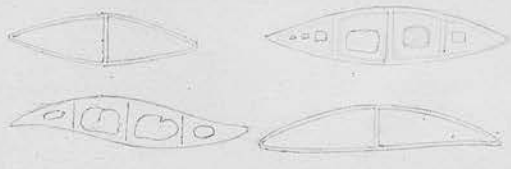
3.5 x 1.5 mic long }
1.5 mic head } 3.5 mic long.

Sticta glomulifera. Light.

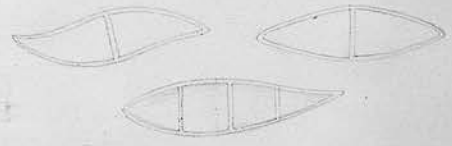


Drawn from specimens in fruit; coll by the Rev Mr Harri-
man in Teesdale, Durham. (Herb. meo).

Sticta herbacea Hudson.



5 to 8 mils long
1/2 to 1 to - broad } 3.5 thick.



Ambucaria perforata. Jacq.

Amblicaria perlata. Linn.

Imbricaria levigata. Smith

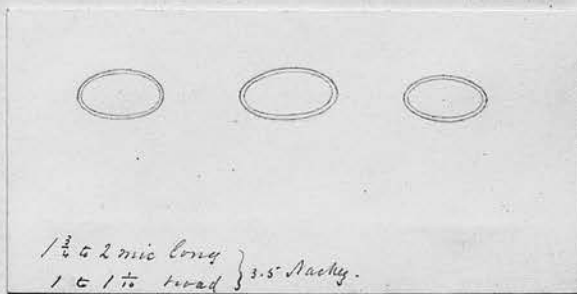
Ambucaria sinuosa. Smith

Imbricaria tiliacea. Ehrh.



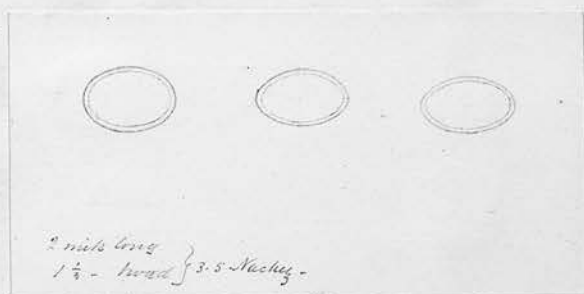
1 to 1 1/2 mic long
1/2 - 4/5 - broad } s. s. Mackey -

Imbricaria Borreri. Turner.

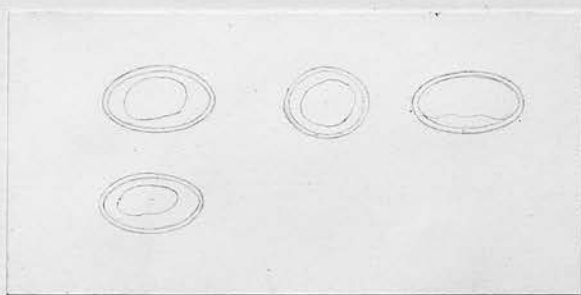


specimens coll at Passana Demesne w/ Miklow (in herb meo).

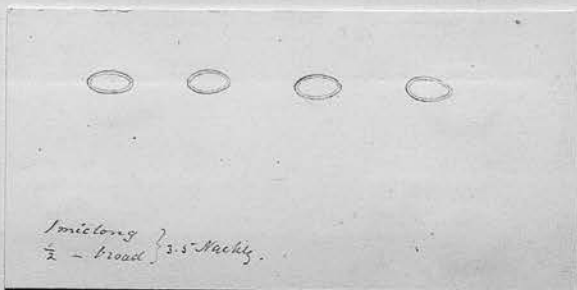
Imbricaria saxatilis. Linn.



Imbricaria saxatilis. Linn
Var β . *omphalodes*. Eisdem



Imbricaria aleurites. Ah



1 mic long }
1/2 - broad } 3.5 thick.

Imbricaria hyperopta, Ach.

Imbricaria hyperopta, Ach.

Sambucaria pertusa, Ach.

Imbricaria physodes. hinn.



Drawn from specimens ex herb. Rev. J. Dalton
"Coll. on rocks, Kibbuck, Cumberland" by the
Rev. J. Harrison.

1 inch long } 3. 5. Mackay.
 $\frac{1}{2}$ - " " }

Imbricaria incausta. Smith.



drawn from the authentic specimen in *Imbricaria*
of Walter's *Stapf*. G. Vogel. n. 353 !!! -

1 mil long } s. s. Macky
 $\frac{1}{2}$ - broad

Ambricaria acutabulum. Neck.



Drawn from specimens in
herb. Brunton

$1\frac{1}{2}$ to 2 mic long }
1 mic broad } 3.5. Natchez.

Imbricaria olivacea. Linn

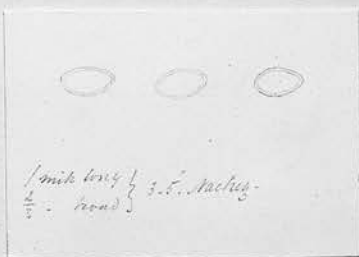


1 to 1 1/2 mic long }
1 - 1 1/2 - broad } *see sketch*

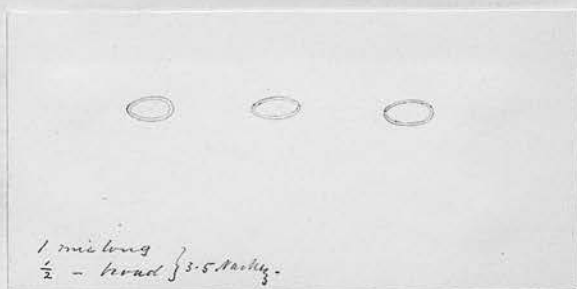
Imbricaria stygia. Linn



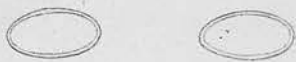
Ambucaria stygia. Linn.
Var. *Fahlurensis*. Eiusdem.



Imbricaria Stygia Him
Var γ . *lanata*. Gussd.



Ambricaria capitata. Linn.



Drawn from a spec. in fruit !! coll. in Wales
In herb. Rev. J. Dalton -
2 mil long, 1 - broad $\frac{1}{3}$ 5 Michx.

Imbricaria conspersa. Ehrh.



Drawn from specimens in herb. Rev. J. Dalton
Collected by the Rev. J. Hamman in Kesdale.

1 mi. N. of } 2-5 N. of }
1/2 - road } 1/2 - road }

Sambucaria incurva. Persoon



8/ 1/2 - 1/4 } 3.5 microns.

Drawn from authentic specimens in herb. J. G. Baker
coll. by the Rev. J. Hamman on rocks. Epistoma -
Buchanan

I am uncertain as to the perfect correctness of
the above figures as the specimens at my
disposal were poor & long in the herbarium -

Imbricaria diffusa. Web.

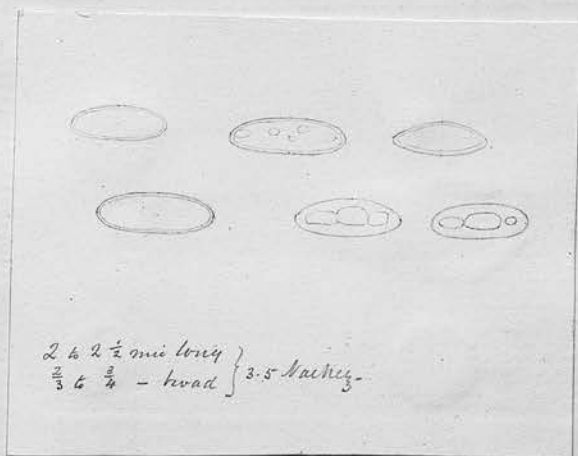


Drawn from the authentic specimen in Herpest's of No. 100's Co.
Lentz, Vosges. 12 Aug 11 of *Imbricaria diffusa*. Web.

$\frac{2}{3}$ - mile long } 3.5 inches
 $\frac{1}{4}$ - - - - - }
 $\frac{1}{4}$ - - - - - }

U

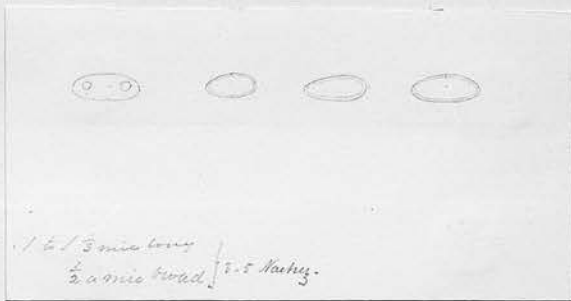
(Parmelia) *Imbricaria plumbea*. Light -



Imbricaria saxicola, Pollich.



Imbricaria saxicola. Pollich
Var β . *diffractum*. Ach.



Imbricaria saxicola. Pollich
Var *A. γ. compactum*. Koerber.

Imbricaria saxicola. Pollich
Var *S. ursicolor*. Persoon.

Sinbricaria candidans. Dicks.



Drawn from the authentic specimen in Nylander's *Icones* No 117 !! of *Macrod. candidans* Dub.

$\frac{1}{2}$ of an inch long } 3.5 microns -
 $\frac{1}{3}$ - - - - - broad

Imbricaria circinata. Purson
Var *a. radiosum*. Hoffm.



Drawn from the authentic specimens of
Pandora a. circinata, Solvar, in Schiner
Licht. tabul. Fasc. 520. 11

1/6 to 1/8 inch long }
2/6 1 - broad } 25. 1849



Drawn from a specimen coll. by the
Rev. J. Hamman on "rocks by the sea
near Burnard Castle" —

Ambucaria circinata. Persoon
Var *B. myrtilina*. Ach

Ambucaria crassa. Hudson.



1.5 to 2 mic long
 $\frac{1}{2}$ broad } 3. 6. Natchez.
mushrooms in scale next object.

Imbricaria lentigera. Weber.



Drawn from an authentic specimen
from the Dawson Turner !!! in herb. Acad.
J. Dalton -

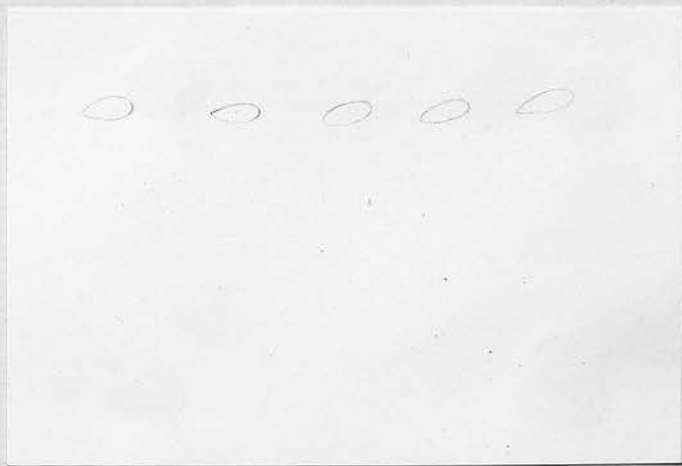
Drawn from an authentic specimen coll. by Mr. D. Turner.



Drawn from specimens coll. near Trust. Pier.
point. Substa. by John Hemminge.

$1\frac{1}{2}$ to 2 mic long }
 $\frac{1}{2}$ mic broad } 3.8 Huby.

Amblicaria ostreata. Hoffm.



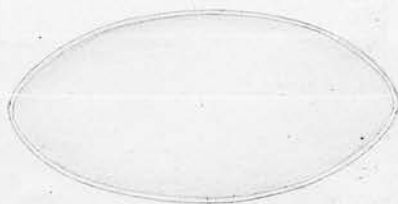
two diameters. Natchez.

Sambicaria carnosa Dicks -

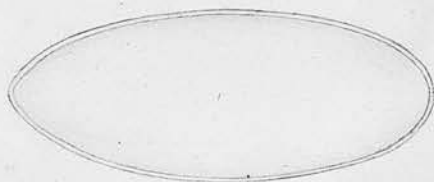
Ambricaria Hookeri. Smith.



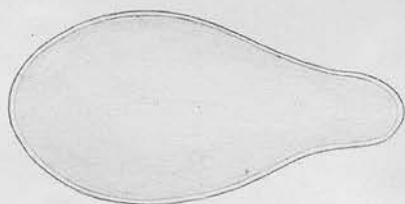
Imbricaria pallidus. Linn.



8 mils long } 2-5 Stages
4 - broad

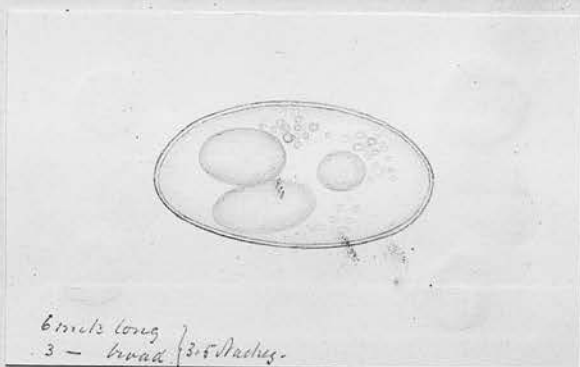


9 mils long } 3-5 Stages
3 1/2 - broad



8 mils long } 2-5 Stages
4 - broad

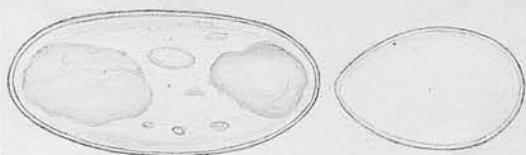
Ambucaria tartarea. Linn.
Var. *A. tartarea*. Eisd.



Ambricaria tatarica, Linn
Var *B. frigida*, Linn.



$7\frac{1}{2}$ mik long } 3. 5. Nucleus
3 - head

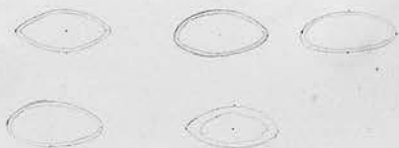


5 to $6\frac{1}{2}$ mik long } 3. 5. Nucleus
 $2\frac{1}{2}$ to 3 - head

Sambucaria triptophylla. Ach.

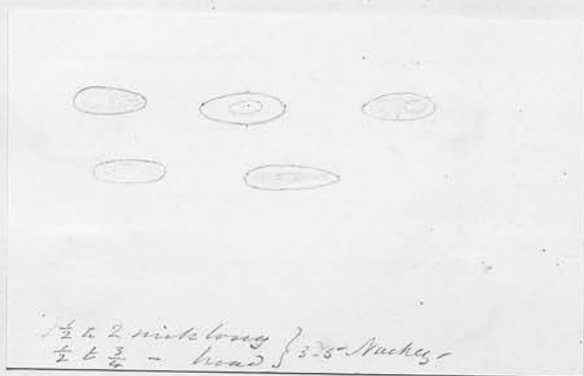


2 mm long (1.5 inches)
brown in color of 1/3 of an inch



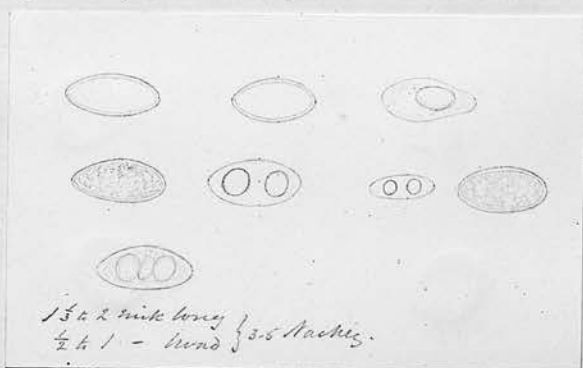
2 mm long } 3.5 inches
1 - broad

Imbricaria pustulosa, Dicks
Var *a. insulata*, Hammond.



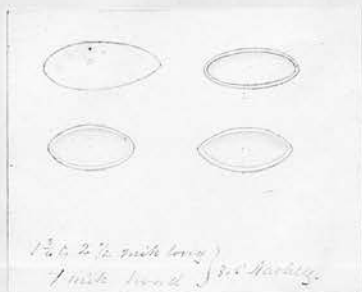
Anticaria fucustulosa. Dicks
Var *B. niodes*. Spreng.

Ambricaria subfusca. Linn.



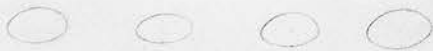
Lichen crumulatus. Dickson.

Imbricaria suffusca. Linn.
Var γ . *musciola*. Schær !!



Drawn from the authentic spec in Schær. Lich. Helvet. Pars. n. 311 !!

Imbricaria pallida. Schreb
Var *a. albella*. Persoon.



Drawn from the authentic *Urtica* in
Schreb's *Herb. Mus.* no 315!!

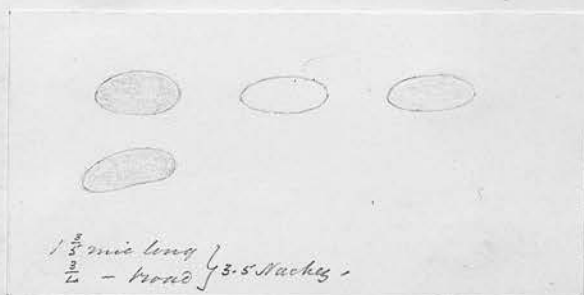
$1\frac{1}{2}$ to 1 $\frac{1}{2}$ mil long } 2-8 each
 $\frac{1}{2}$ to $\frac{1}{4}$ - broad }

Imbricaria pallida. Schreb
Var β . *angulosa*. Schreb.

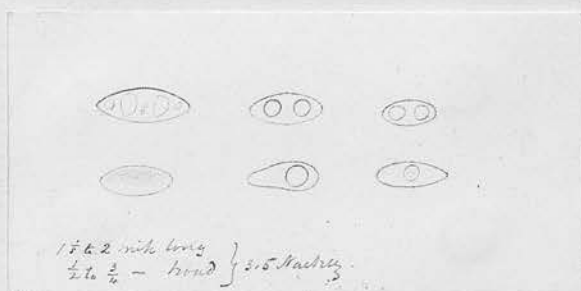


$\frac{1}{2}$ mit wenig } 3. 5. Macky-
1 - beinahe }

Imbricaria galactina. Ach.



Imbricaria varia. Psh -



Imbricaria varia Ehrh.

Var *maculiformis* Hoffm.

Lichen crustaceus Smith. Eng. Bot. t. 1549 (non Ach)



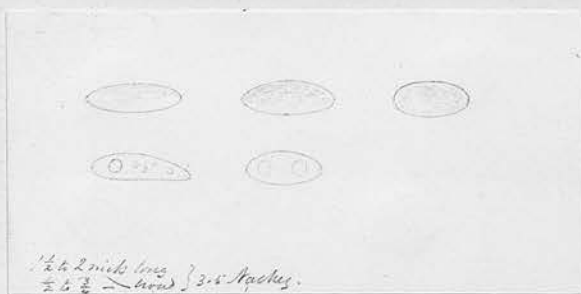
Lichen crustaceus Eng. Bot. t. 1549 not of Ach. Pinck. or
Fries. L. Europ. over Kuntze Syst. L. Genus p. 136

$1\frac{1}{2}$ to $1\frac{3}{4}$ long }
 $\frac{1}{2}$ wide broad } 5-8 Apices

Lichen polytrichus. Hook -
Biatora



Lichen sulphureus. Smith.



Imbricaria sordida, Ord.
 Var α . *glaucoma*, Ach -



From from the authentic spec in Scherer, L. H. Ins. n. 304 !!

$\frac{1}{2}$ to $1\frac{1}{2}$ mils long } 3-5 Stages.
 $\frac{1}{2}$ to $\frac{1}{4}$ - broad.



$1\frac{1}{2}$ to 2 mils long } 3-5 Stages.
 1-mil. broad.

Imbricaria sordida. Ped.
Var β . Swartzii. Sch -

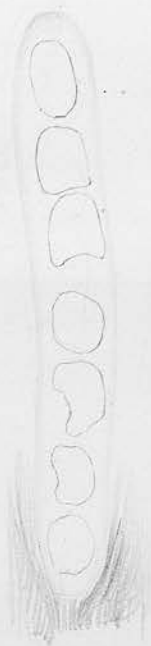
Amblycampa sordida. Ed.

Var γ . *subcanea*. Westring -

Ambucaria involuta. Taylor. in Fl. Hib.

Imbricaria coarctata. Ach.
Var *d. genuina*. Kbr.

(Parmelia) *Imbricaria constrictata*. Ach.
 Var β . *contigua*. Flotow.



Ascus containing collapsed and imperfect
 spores -



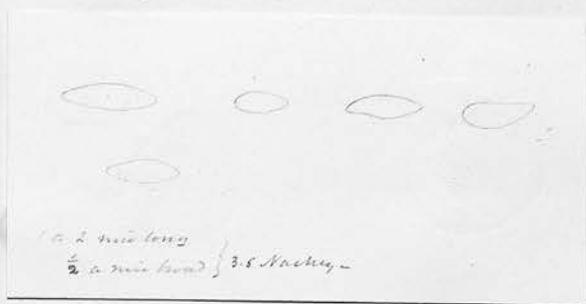
"*Lichen constrictus*. Ing Bot"
 Drawn from an authentic specimen!!
 coll by Mr Dawson Turner!!! in
 Norfolk and communicated
 by him to the Rev. J. Harwood.



2 3 to 2 with long - } 3. 5. 10. 13.
 7 - with long }



Ambricaria badia. Passon
Var *A. vulgaris*. Kbr.

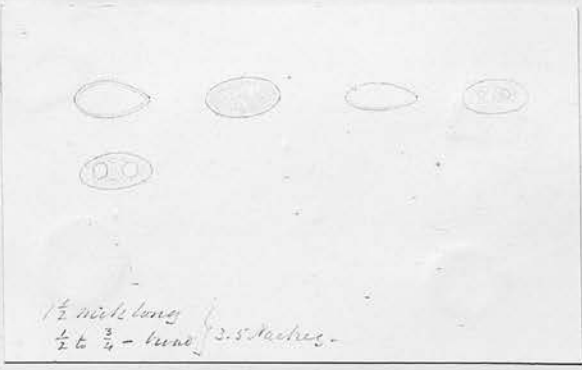


(*Panicum*) *Andropogon badius*. Persoon.
Var *B. milvina*. Wahl.

Imbricaria badia, Pearson
Var γ . *pallida*, Holow.

Amblycarya badeia. Person
Var δ . *commolita*. Friis.

Ambucaria atra. Hudson.



$\frac{1}{2}$ inch long
 $\frac{1}{2}$ to $\frac{3}{4}$ - line } 2-5. Packed.

Lichen tuberosus. Boer in Eng. Bot. Sup.

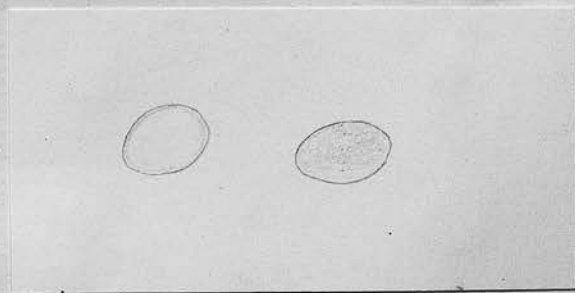
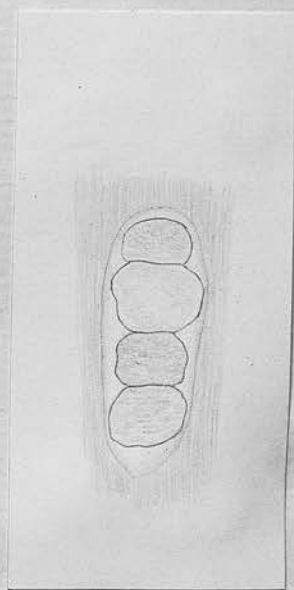
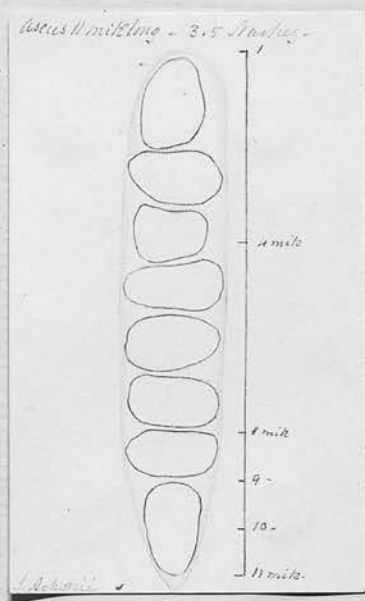
Lecanora aspersa. Bonar.

Imbricaria cinereo-fulvescens. Ach.



Spores from the earliest specimen in Schrad's
Hist. Nat. Guss. n. 130!!
Spores Pinus pale yellowish.

Imbricaria epulotica. Ach.



Drawn from recent specimens
U. Scharii coll on moist
Moss. Habbes how. Pentland
Hills near Edinburgh. July. 1857.

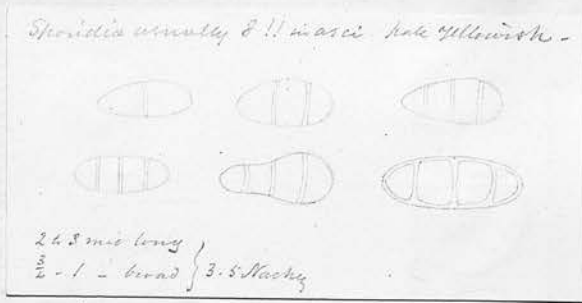
Drawn from a specimen !! labelled
"Gyalista epulotica. Swartz
in herb. Harriman"
"Eglistone. Durkass"

Imbricaria melanostoma. Fries.



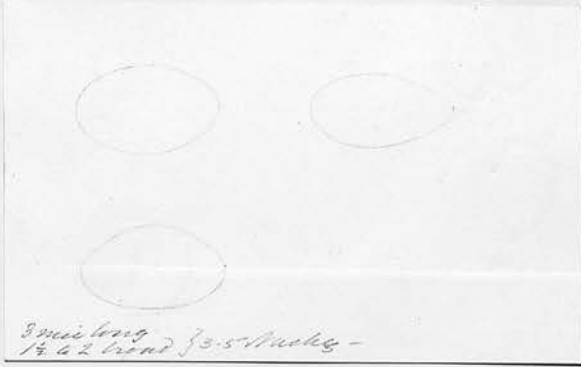
Spores from the authentic specimens in
Saccardo's *Herb. Palomb. Int. n. 128* !!
Imbricaria Andarsi $1\frac{1}{2}$ to $1\frac{1}{2}$ mic long by $\frac{1}{2}$ to 1 mic
broad (C. S. Saccardo) -

Lecidea Oederi. Ach.



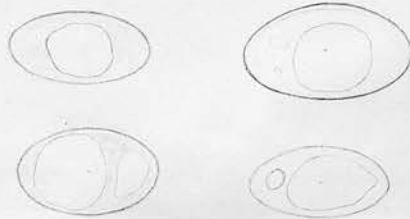
Drawn from one of a set of specimens of the plant forwarded by the
Rev W. A. Leighton to Dr Nylander - Paris and named by
him "the true *Lecidea Oederi* of Ach" (non Eng 1307) -

Imbricaria cinerea. *hinn*



3 mm long } 3-5 weeks -
1/4 to 2/3 wide

Imbricaria cinerea Linn.
Var *B. atro-cinerea* Schar !!!



3 x 3 1/2 mic long }
1 1/2 to 2 - head } E. G. Hachy-

Imbricaria cinerea, Linn

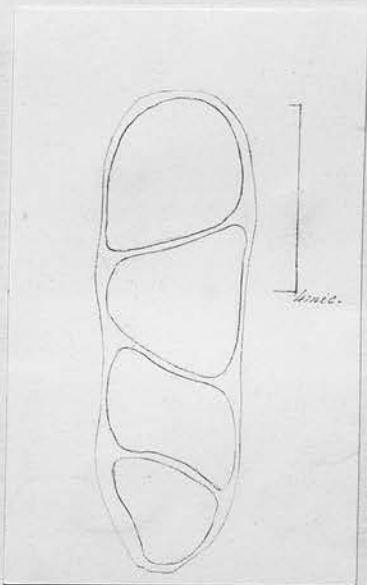
Var γ . *lavata*, Ach.

vibrucum Schum & Scriver Mus.



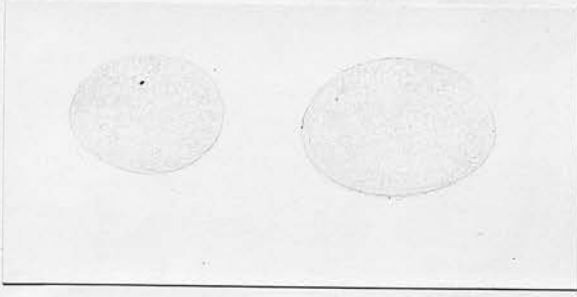
Sporeidia abund. singly in asc.

$1\frac{2}{3}$ to 2 mic long } 3-5 thick.
1 - with head

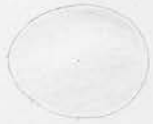


drawn from a specimen in heat mes cell on the Sussex Downs
by the late Mr John Kemmings, Sussex Pierpoint, and com
Mr Wm Mudd. Cleveland. Yorkshire.

Ambricaria calcarea. Linn
Var a

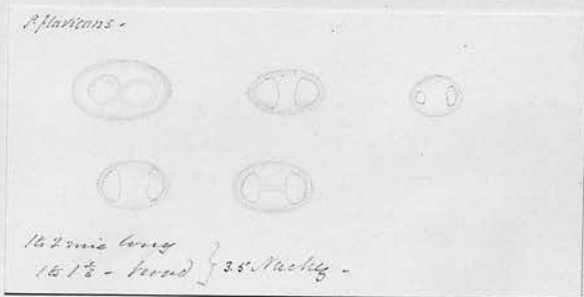


Amblicaria calcarea. Linn
Var β . *contorta*. Floerke.



$\frac{3}{4}$ to $\frac{1}{2}$ inch long }
 $\frac{2}{3}$ to 3 - broad } 3.5 Stripes.

Nannetia flavicans. Swartz.



Drawn from specimen in fruit in herb. Bot. Soc. Edinensis,
coll in Cornwall by Mr John Kalfs.

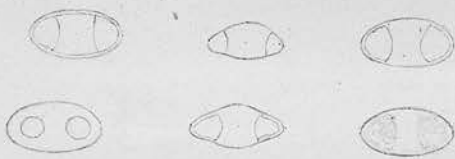
Parmelia chrysoptalma. Linn.

Drawn from the original
Specimens in Schwarts's Herb.
Museum. See p. 309.



1/2 to 1 unit long } 3.5 inches.
to 1 unit broad

Parmelia parviteria. Linn.
Var α . *platyphylla*. F. H. Steud.



1/2 & 2 mit long }
2/3 & 1 mit, broad } 2.5 Nachig

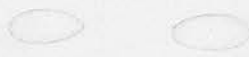
Pannellia parviteria - Linn
Var β . *microphylla*. Holm.



$1\frac{1}{2}$ & 2 mil long } 3.5 microns
1 - with head

Parmelia parietina. Linn
Var γ . *Candelaria*. Urb.

Rammelia fulgens Swartz.



Drawn from the authentic specimens in
Schreber's Lich. Helvet. Ins. n. 339!!

$\frac{1}{3}$ wide long }
 $\frac{2}{3}$ to $\frac{1}{2}$ broad } J. S. Saccus.



Drawn from the authentic
Spec. in Schreber's L. H. Ins
n. 339!!

Nannelia gelida, Linn. -



$1\frac{1}{2}$ to 2 miles long } 0.6 thick -
 $\frac{3}{4}$ to 1 - - - - - broad

Drawn from specimens in herb. S. G. Baker
coll. by the Rev. J. Hamman "near Eglistone"
in Leedsdale, Durham -

Pannelia murorum. Hoffm.



1/2 inch long
1/2 in diam.
3-5 cells.



1/2 inch long
1/2 in diam.
3-5 cells.



1/2 inch long
1/2 in diam.
3-5 cells.



1/2 inch long
1/2 in diam.
3-5 cells.



1/2 inch long
1/2 in diam.
3-5 cells.



1/2 inch long
1/2 in diam.
3-5 cells.

Drawn from the authentic specimens in Schobers,
Lich. Helvet. Mus. n. 479!! of P. murorum, a. Schob.

Parmelia murorum. Hoffm
Var β . *miniaturum*. Gussone.
Parmelia elegans. hints.



15 mil lens —
1/4 - wood
3.5 inches



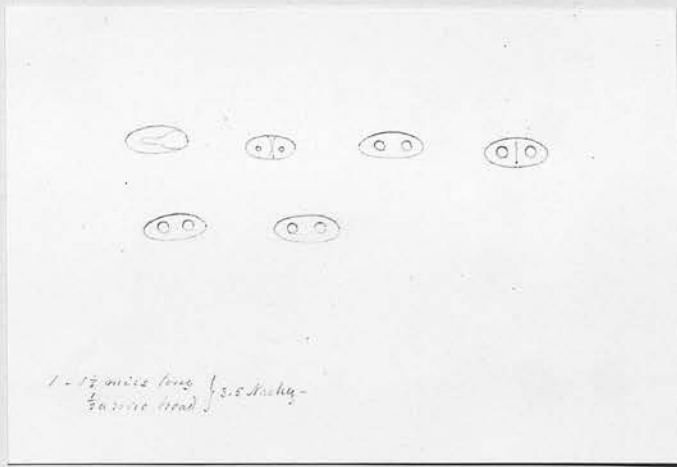
15 mil lens
1/4 - wood
3.5 inches

Parmelia murorum. Hoffm.
Var. *s. citrina*. Ach.



1/2 to 2 mm long } 3-5 diameters -
1/2 to 1 - broad

Parmelia murorum. Ach.
. Varieties.



Var. *crustacea*. nobis.

Parmelia callopisma Ach.
Parm. murorum var. β .



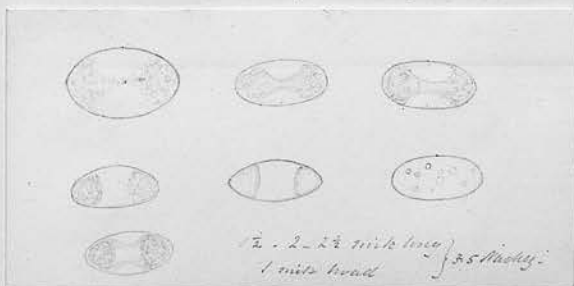
American } 35. 1844.
1 - head }



London } 33. 1844.
2 - head } Kilmuir 1844.

Drawn from the authentic specimens in
Schimper's *Herb. Helvet.* no. 3341!

Parmelia aurantiaca. Lightf.
Var. α . *salicina*. Schrad.



Parmelia aurantiaca. Light.
Var. *P. flavo-viscens*. Hoffm.

13 or 2. with long
1 with broad 3.5 Hochy.



Specimen from the authentic specimen in Schaeffer's
L. Helvet. Sus. n. 223!! -

Parmelia aurantiaca. Lightf.
Var γ . *rubescens*. Schorr. Ins. 224!!



Parmelia aurantiaca. Lightf.
Var δ . *holocarpa*. Uv. 2.

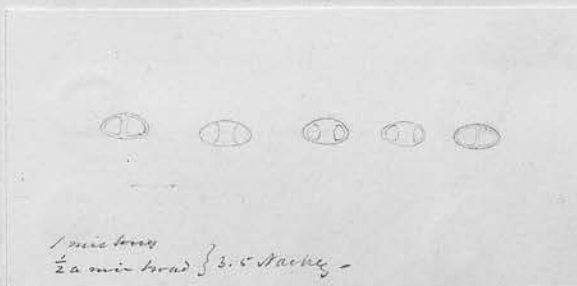
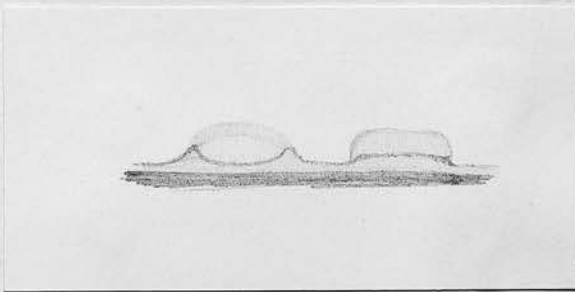


Parmelia lutes-alba. Turn
Var *a. aurantiaca*. Ehrh. non Lightfoot



From the authentic specimen in
Schweiz. L. H. No. 476!! of *P. lutes-*
alba v. *Personiana* -
 $1\frac{2}{3}$ mic long } 3.5 mic long.
1 mic broad }

Parmelia lutes-alba. Turn.
Var *B. ulmicola*. Smith.



1 mic long
2 a mic broad } 3.5 diam -

Narmelia cerina. Ehrh.
Var α . Ehrharti: Scherer.



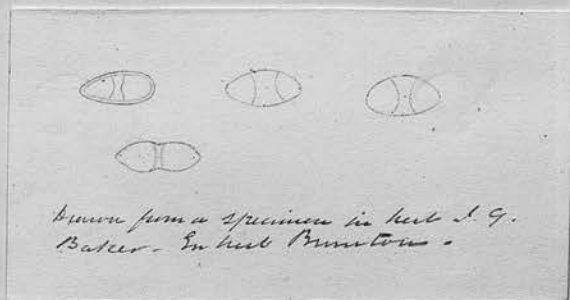
$1\frac{1}{2}$ inch long }
 $\frac{3}{4}$ - broad } 3. v. Narkus.

Parmelia cerina. Ehrh.
Var β . *stellucidiorum*. Rd.



$\frac{1}{2}$ mic long. } 2.5 mic long.
 $\frac{1}{2}$ mic wide

Kamnelia erythrocarpa. Purson



Drawn from a spec communicated by M^r D. Turner (?)

Parmelia ferruginea. Hudson.
 Var. *a. genuina*. Kbr.

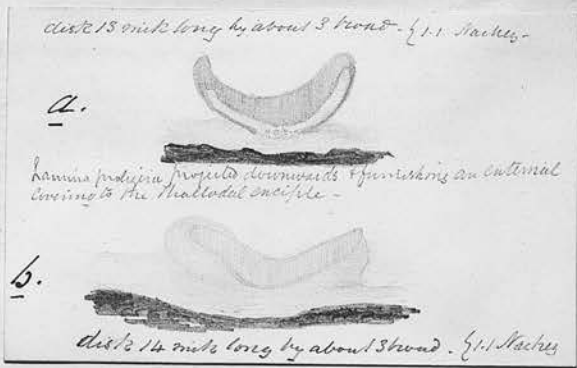


Fig 1.

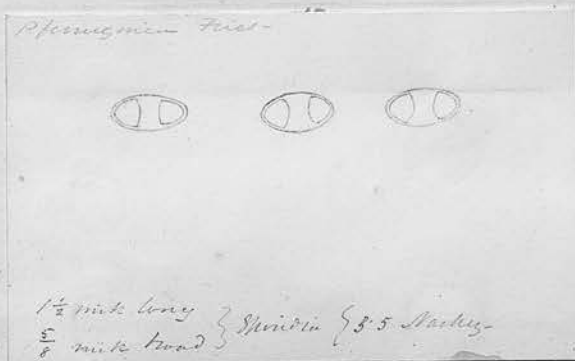
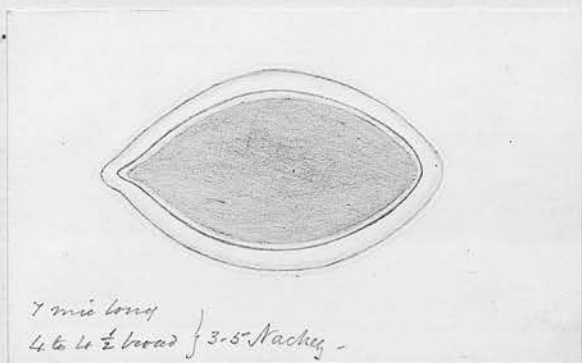
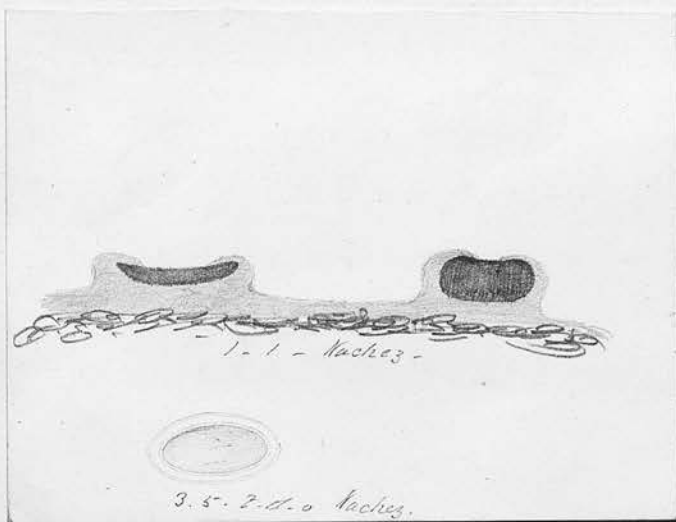


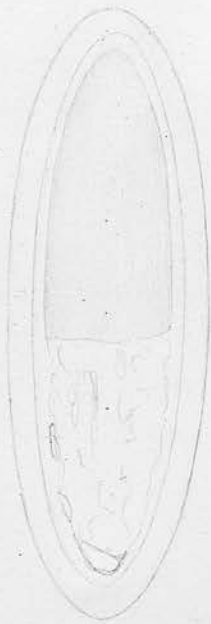
Fig 2.

Parmelia ferruginea, Huds.
Var *B. festiva*, Ach -

Parmelia verrucosa, Ach.
Verrucosa polymorpha, Mainingay.

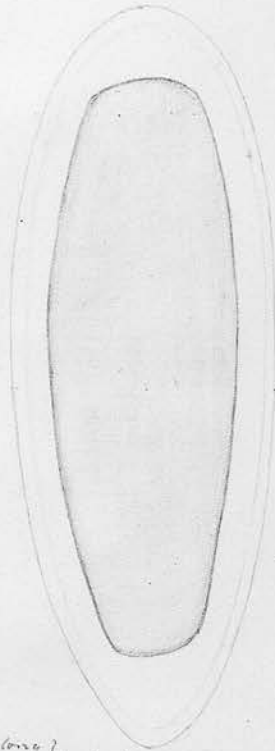


(Nannelia) verrucosa. Ach.
 Var β . glomerata. Schleich.



13 mic long
 4 - broad } 3.5 thick.

Fig 1



15 mic long
 5 1/2 - broad } 3.5 thick.

Fig 2

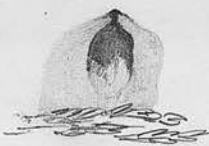
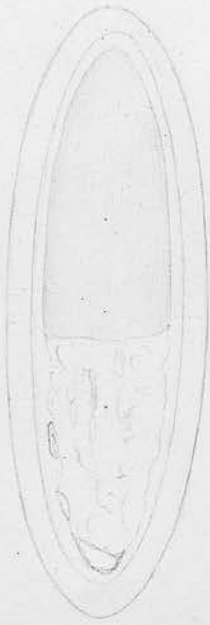


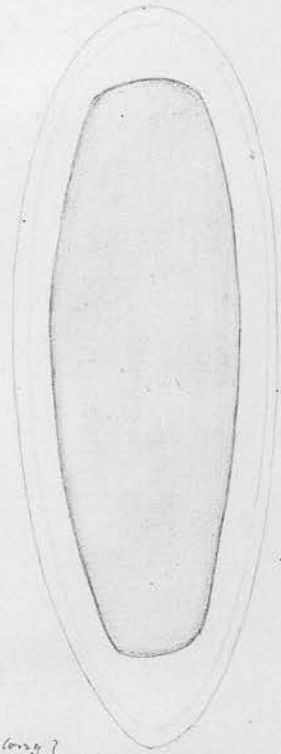
Fig 3

Var *B. glomerata* Schlecht.



13 mic long
4 - broad } 3.5 - 4.5

Fig 1



15 1/2 mic long }
5 1/2 - broad } 3.5 - 4.5

Fig 2

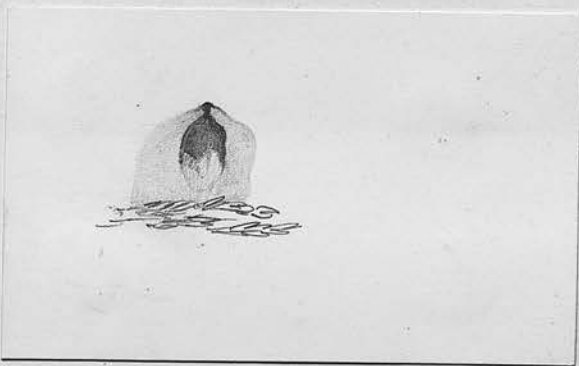


Fig 3

For remaining drawings see Appendix.

Pertusaria mutabilis. Ach.

Lichen oculatus. Dickson.

Amphuloma rubiginosa, Thunb.
Var *A. affinis*, Dicks



$1\frac{1}{2}$ to 2 mic long
 $\frac{1}{2}$ to 1 - broad $\frac{1}{2}$ to 5 thick -

Ampeloma rubiginosa. Thunb.
Var b. *conoplea*. Ach -

Amphitoma hypocaustum. Dicks.

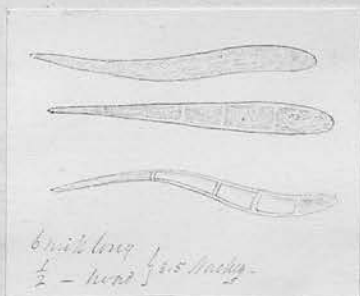


Drawn from perfectly recent specimens coll.
at Klogg's wood, Brighton, Cleveland. Dec. 29, 1867.

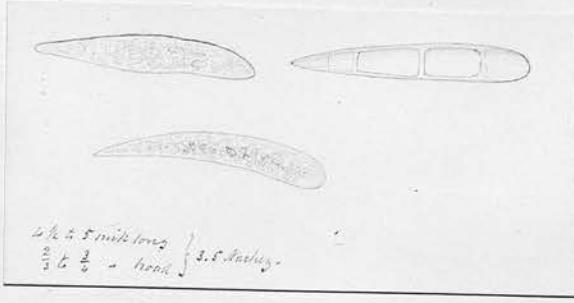
3 mic long
 $\frac{1}{2}$ - broad } 3-5 Stacks.

Amphiboloma? lanuginosa. Ach.

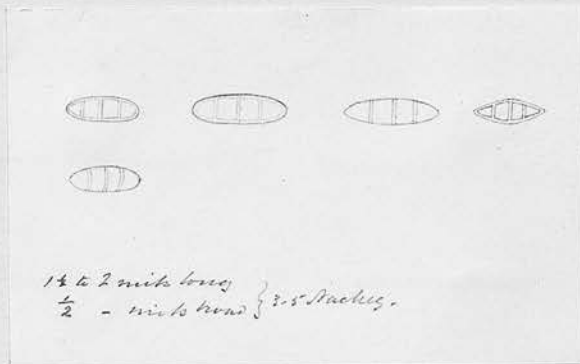
Hamatommata ventosa. Linn -



Nematomma coccinea. Persoon.

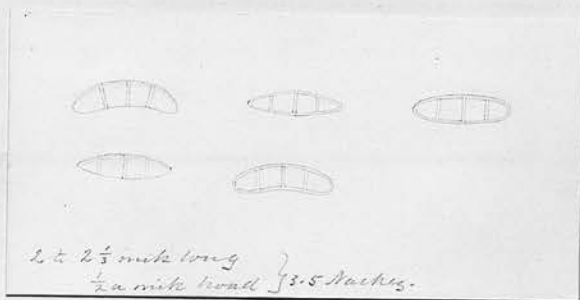


Natellaria carnea. lutea. Turm.



Drawn from authentic specimens communicated by the
Rev. W. A. Highton, Lucifelle near Shrewsbury -

Patellaria caerulea, Midd. et Mainway. nov. species.

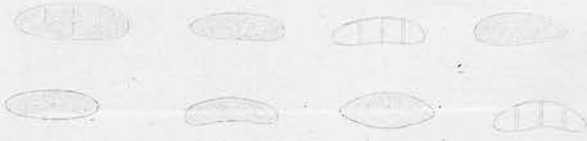


to $2\frac{1}{2}$ inch long
 $\frac{1}{2}$ inch broad } 3-5 thick.

from specimens collected on the sand stone wall facing
Mr Joseph Pease's house at Marston near Redcar. Yorkshire. N.R.

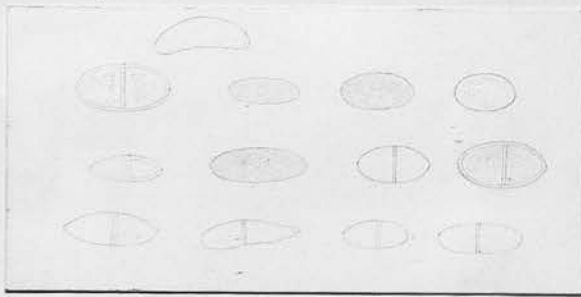
Satellaria fuscella. Hepp.

S. fuscella. Hepp.



2 to 2 1/2 mic long
1/2 to 3/4 mic head } 3.8 Mackey -

Patellaria Rhabenhorstii. Flepp !!
Vanity with large spores.



Drawn from specimens coll near Ardglass. Co Down
on maritime rocks. Oct. 1857. A.C.M.

Patellaria Rhabenhorstii. Hepp!!

P. Rhabenhorstii. Hepp.



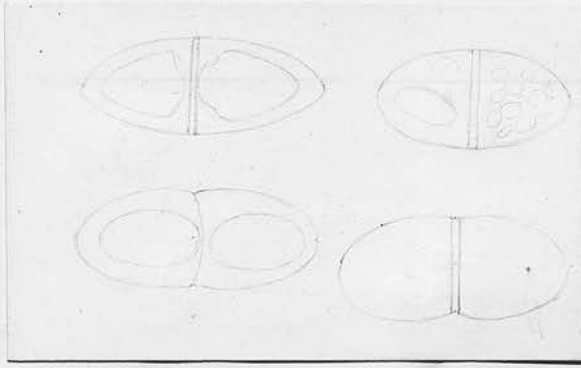
$\frac{1}{3}$ to $\frac{1}{2}$ mm long.
 $\frac{1}{2}$ to $\frac{1}{4}$ mm broad } 1-6-streig.

Pleopsidium fusco-luteum. Deeks -



The above drawn from specimens coll on Ben Lueves.
Perthshire, one of the original English Botany
Nations. Distinct from *Placodium fusco-luteum* Hoffm. Sm.

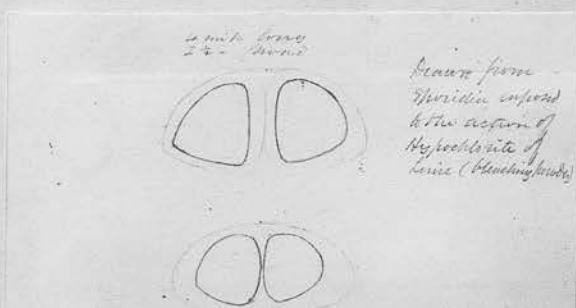
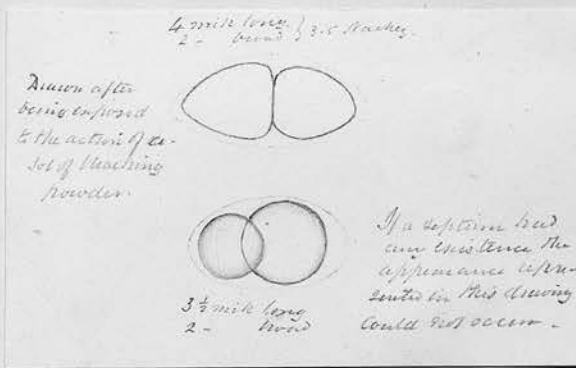
Physcia ciliaris, Kunt.



Drawn without the use of any Chemical reagent.



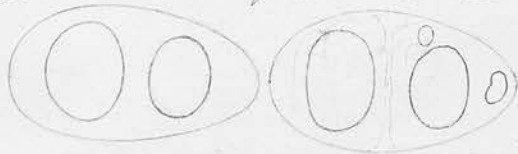
Drawn without the use of any Chemical reagent.



For remainder of drawings see Appendix.

Physcia leucomela. *hinn.*

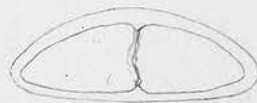
P. leucomela.
Drawn without the use of any chemical reagent.



Drawn from Devonshire specimens in herb. Soc. Bot. Edinburgh -
Length 5 mic. Breadth 3 - dark slit brown -

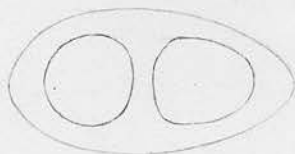
Fig 3

P. leucomela. Drawn without any chemical reagent being used.



5 mic x 2 - (3.5. inches)

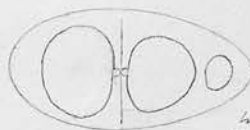
P. leucomela



6 mic x 3 mic - (3.5. inches)

Drawn without the use of any chemical reagent -

Fig 4



Drawn without the action of any very faint, alkaline line
chemical reagent.

In this specimen being ex-
posed to the action of solution
of chloride of lime, the dark
central line became fainter and
in the specimen being pressed
under the microscope disappeared
entirely its place being taken by a

Drawn from Devonshire specimens in herb. Soc. Bot. Edinburgh.

Physcia aquila, Ach.

Diagram from the infundibulum to the cluster of big ascus of
functioning sporidia -

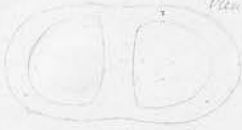
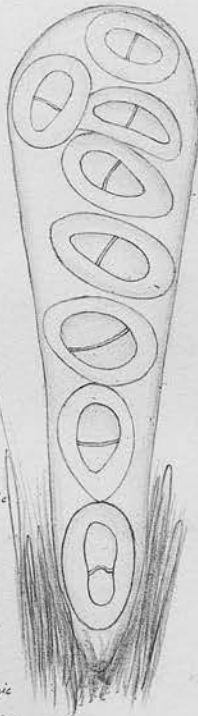


Fig 14



Fig 6



4 mic

1 mic

3.5 Sackey -

Drawings from the compound to the anterior by means of
Heating mouth -

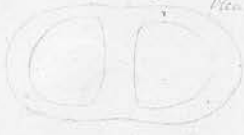
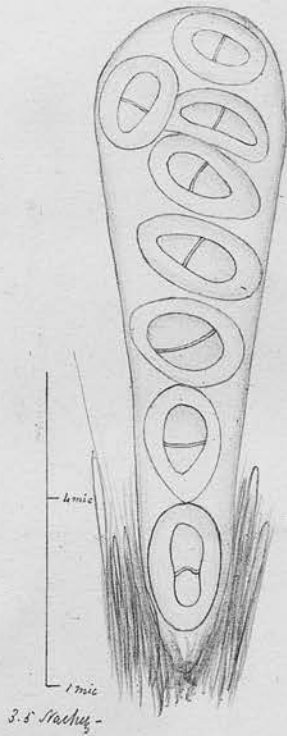


Fig 114



Fig 6



For the remaining drawings see Appendix.

Physcia pulverulenta. Schreb
 Var *A. vulgaris*. Kbr.

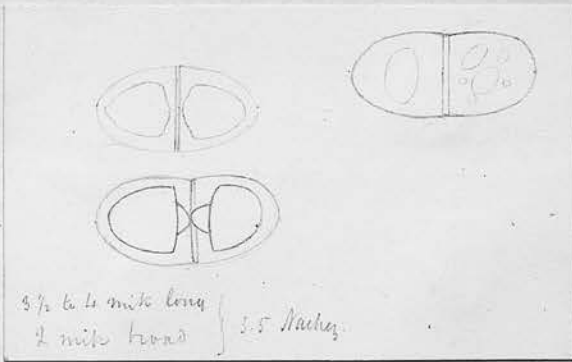


Fig 1

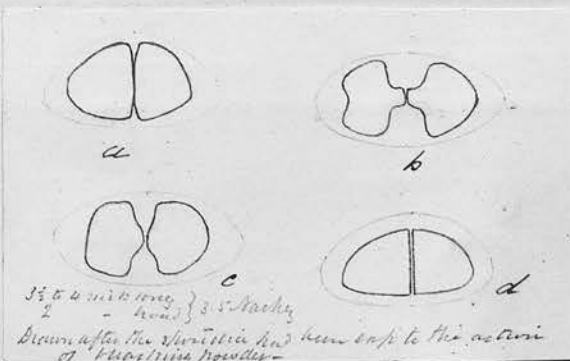


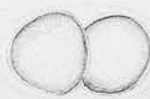
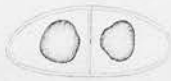
Fig 2

Physcia pulcherrima. Schreb.
Var *B. angustata*. Hoffm.

3-54 ⁴⁴⁻⁵ lines
12-2 ^{lines} } S.S. Nashy



Drawn from specimens partially decolorized by Sord. Cell of *Hypochlorella glauca*.



Drawn from specimens decolorized by the action of the above reagent.

Physcia obscura. Ehrh.
 Var *a. orbicularis*. Necker



Stain from *Sporidia* exposed to the action of
 Hypochlorite of lime

Sporidia dark olive -

2 1/2 to 3 mic long by 1 mic 3-5 Nacby.

1 broad

No septum visible in the *Sporidia* being decolorized by Hypochlorite of lime

Physcia var **chloantha*



2 3/4 mic long by 1 mic 3-5 Nacby.

Sporidia partly eaten on by Sol of Chloride of lime.

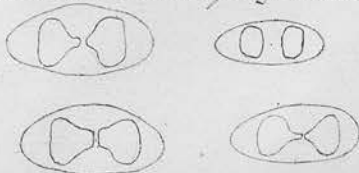
Physcia
 var **chloantha*



Keen from a specimen partly decolorized by the action
 of Sol of Hypochlorite of Chloride of lime showing
 well the appearance of a septum due mainly to the
 abutting against one another of the two loculi
 of the *Sporidium*

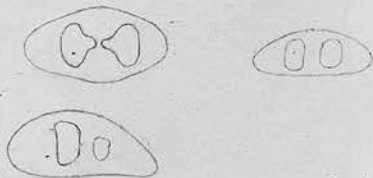
Physcia obscura. Thunb.
 Var β . *cyclosetis*. Ach.

Spores from the authentic specimen of *P. obscura* Ach. in Mougoulet-Petli's No. 22
 4 to 8 - without the use of any chemical reagent.



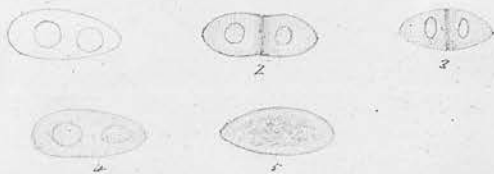
2 3 to 3 mic long, } 3-5 thick
 1 to 1 1/2 - 1000

Pulethia Ach. Spores from the authentic specimen in
 Mougoulet-Petli's No. 22 4 to 11.



Spores after the action of bleaching fluid (chloride of lime)

Physcia obscura. Urbk.
 Var γ . *ascendens*. Holow.



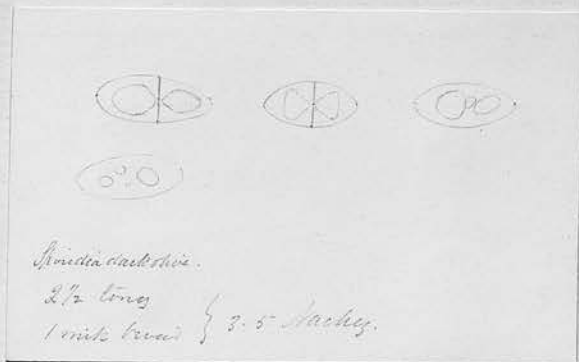
Lin. 2 $\frac{1}{2}$ - *ascendens* figs. 5 - *Stachy*

Known without the use of any chemical reagent
 but stained in figs 2 & 3 to show the differ-
 ence presented by the *Pseudo-Septima*

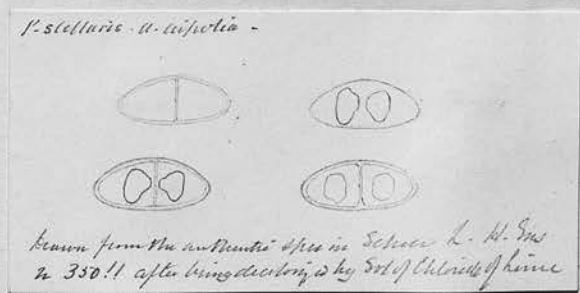
known from specimens of the *Parmelia viridula* (Ach.) Lichen
viridula. Smith. Eng Bot.

Physcia obscura. Ehrh.
Var *P. adglutinata*. Flike!

Physcia stellaris. Fries.
 Var. *a. aipolia*. Ehrh.

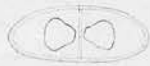


Drawn without the use of any decolorizing agent.



Physcia stellaris. Fuës (Linn)
Var β . *ambigua*. Thob.

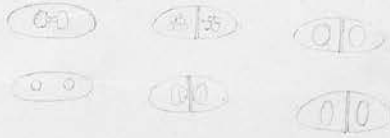
Physcia stellaris



Drawn from the authentic specimens in
Sepovic's L. H. Mus. n. 257.!! (rest of hand) spec.

Drawn after the dissolving action of Sol of
shards of lime.

Physcia stellaris (Linn.) Fries -
Var γ . *ascendens*. Stotow.



Lens 10x
1 - head } 3-4. Stotow.

Physcia cusia. Hoffm.
Var. a.

drawn without the use of any chemical reagent.



2.2 $\frac{1}{2}$ mic long }
1 - broad } 3.5 thick

Physcia caesia. Hoffm
Var β . *atrocinerea*. Schaer !!

Nannelia cusia. Hoffm.
Var γ . *adscendens*. Holw.

Sporidia $1\frac{1}{2}$ to 2 mic long
1 mic broad } 3-5 Nuclei.



3 mic long by 1 mic broad (3-5 Nuclei E. G. Holw.)

Drawn from the culture of *Phaeosporium* in
Schweizer L. H. Ges. 349/11.

It comes from *Uromyces* slightly active culture
by selection of Chloride of lime.

V

Physcia astroides. Clement.

2x microscope
1 - lens 3.5 N.A. 1/2



Drawn from a spore which was not exposed to the
action of the bleaching powder



Figure of the same spore which after
being exposed to the action of the
bleaching powder, the author having
watched the gradual decolorization of the
spore

Fig 1



Drawn from the authentic specimens in
L. N. 205. 11

2x microscope
1 - lens 3.5 N.A. 1/2

Fig 2

Physcia tibacia. Ach.
Var. α.

Lichen enigma. Ach.

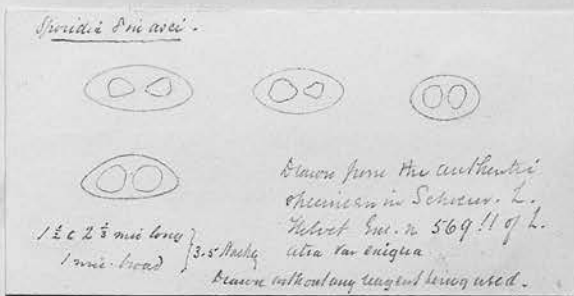
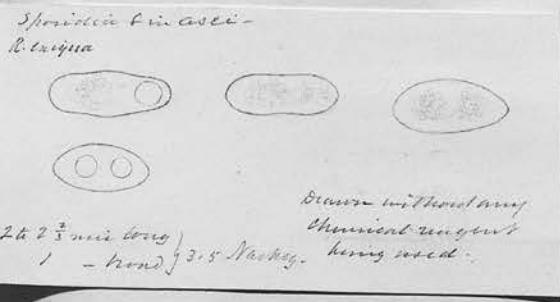


Fig 1



2 to 2 1/2 mic long }
1 - broad } 3.5 Mackay.

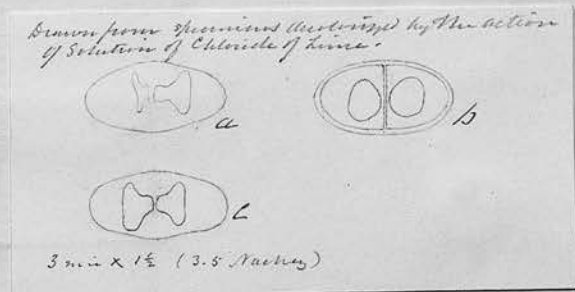


Fig 3

Physcia costodes. Ach.

Physcia *8. in ascis*



1 to 1 1/2 mic long x 1/2 to 3/4 mic broad (2-8 stalks).

Brown without the use of any chemical reagent



From young specimens decolored by the action of 5% of Chloride of Lime.

Var *β. octospora.* Tranigay.

Spores more than eight in ascis.
Brown without the use of any reagent.



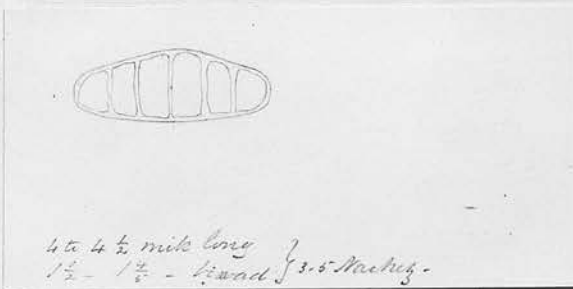
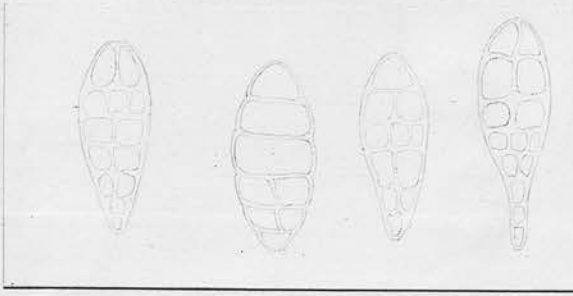
Drawn from the authentic specimen in
Schweizer. Arch. Bot. Ges. 24 314 !! left hand
three mic only.
1 1/2 to 1 3/4 mic long by 1/2 to 1 mic broad 5-8 stalks -

Var *γ. costodes.* Cost. Emend

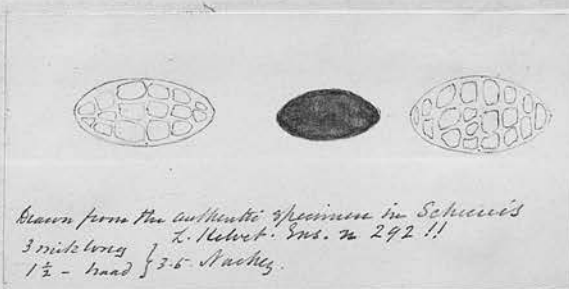
Lichon poliophaea. Wahl.

Lichen crispus Wahl.

Urcularia serripes. Linn
 Var α . vulgaris. Schær !!



Drawn from the authentic spec in Schær's L. Helvet
 Ins. n 292 !! sub nomine *U. serripes* Var γ . Hochstetteri.



Drawn from Schær's L. Helvet. Ins. n 292 !! ut supra.

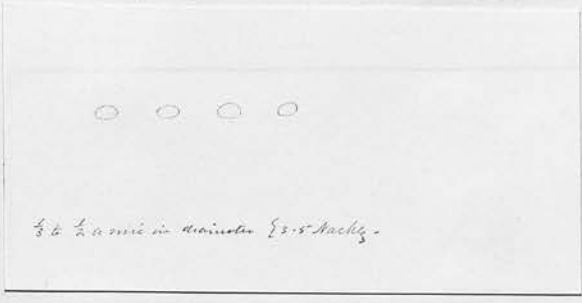
Uredinia sericeosa - Kuntze
Var β . *hydropfila* - Thuret.

$2\frac{1}{2}$ - $3\frac{1}{2}$ mils long
 $1\frac{1}{2}$ - broad



Brought from the authentic specimen in the Schimper's
Lich. Helvet. Eur. n. 290!! -

Myriophora rufa-virescens. Turf.
Var d



Myriophora ruf-virescens. Taylor
Var *B. castanea*. Schær !!

Spores 4a mic long
5/8 of a mic broad 1/30 thick

Numerous in each ascus -

o o o o o

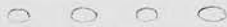
Drawn from the authentic *Microascus* in
Schær's - L. 14 - Gms. n 341 !!

Myriophora rufo-virescens. Taylor
Var γ . *simplicia*. Wahl.



$\frac{1}{3}$ to $\frac{1}{2}$ a mil in diameter. } 3.5 Machy.

Myriasporea rufo-erisecus. Taylor
Var *f. pallida*. Nobis.

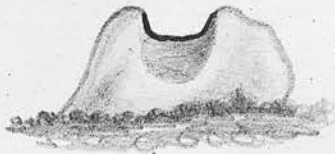


30. 2a mic 10 diameters (2.5 diameters)

Myriospora frivigna. Ach.



3.5.



40 diameters. Natchez.

Drawn from an original specimen in herb. D. G. Baltes
Coll by the Rev. J. Harrisonth on white sand stone
near Replstone, Durham.



Spore in diameter 40. Natchez.

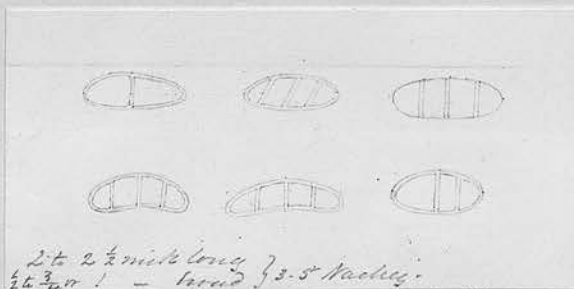
Drawn from recent specimens collected at
Great Britain, Cleveland. Fortschue.

Myriostoma rufescens. Bonni

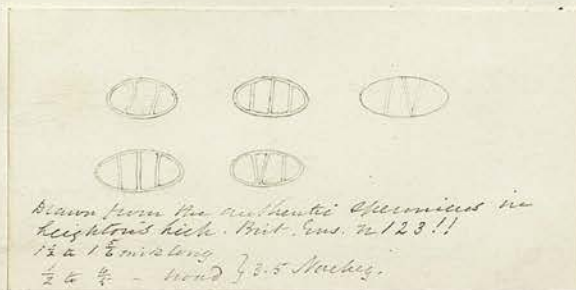


$\frac{1}{3}$ of a millimeter diameter {0.5 lines}.

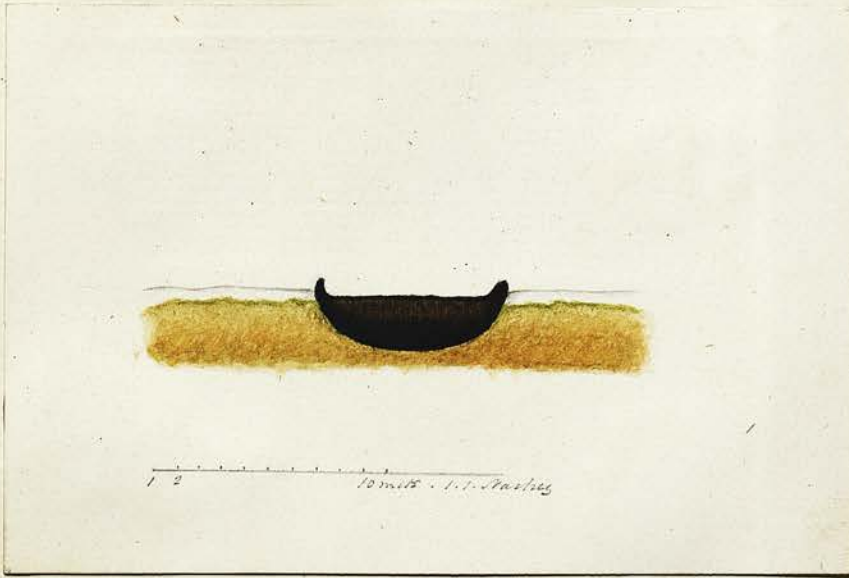
Patellaria rubra. Ach.



Gyalecta Wahlbergiana. Ach.



Diplotomma periclea. Ach.

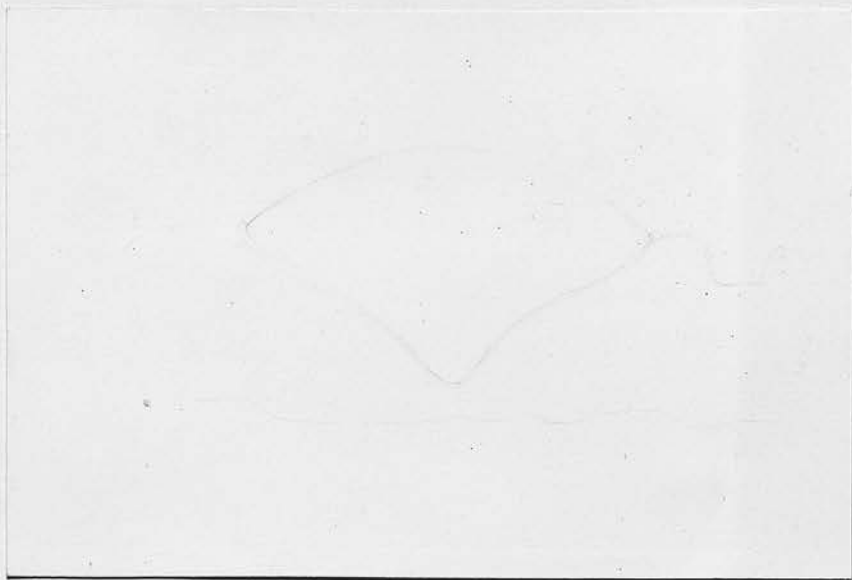


Drawn from a Specimen communicated by the Rev W. A. Lighton sub nomine "*hecamosa periclea*, Ach."



Drawn from the same specimen as the above.

Ambricaria microphylla. Swartz.
kikuu Eschawildes. Smith. ³⁸Eng. Bot.



Lonicis longi
 $\frac{3}{4}$ - 1 mm. long G. S. Harley.

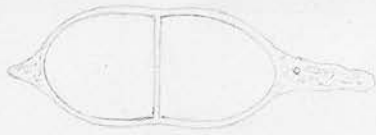


Drawn from the authentic specimen in
Linnæus. Lich. Kelock. Mus. n. 161!!

Physcia ciliaris. Linn.

Appendix.

P. ciliaris.



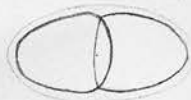
Known from three heights, decolorized by Sol of Chlorine showing the commencement of gemmation.

Spore showing the commencement of gemmation.

P. ciliaris

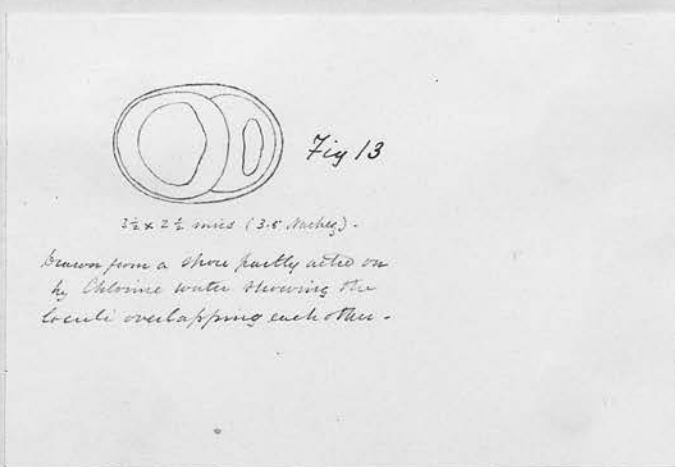
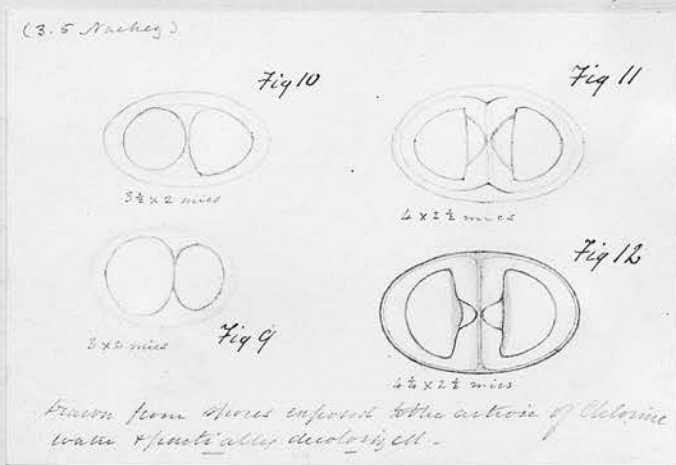
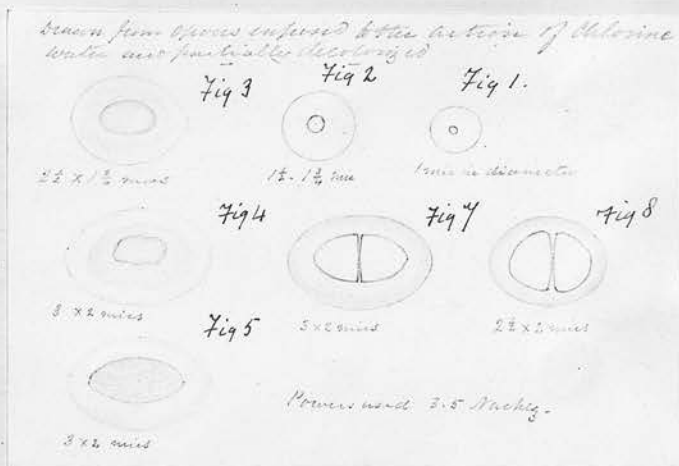


Known from a spore decolorized by Chlorine water.



The loculi overlapping one another

Physcia aquila. Ach. Appendix.



Verrucosa polymorpha. nobis
 Var *B. glomerata*. Ach.
 Appendix.

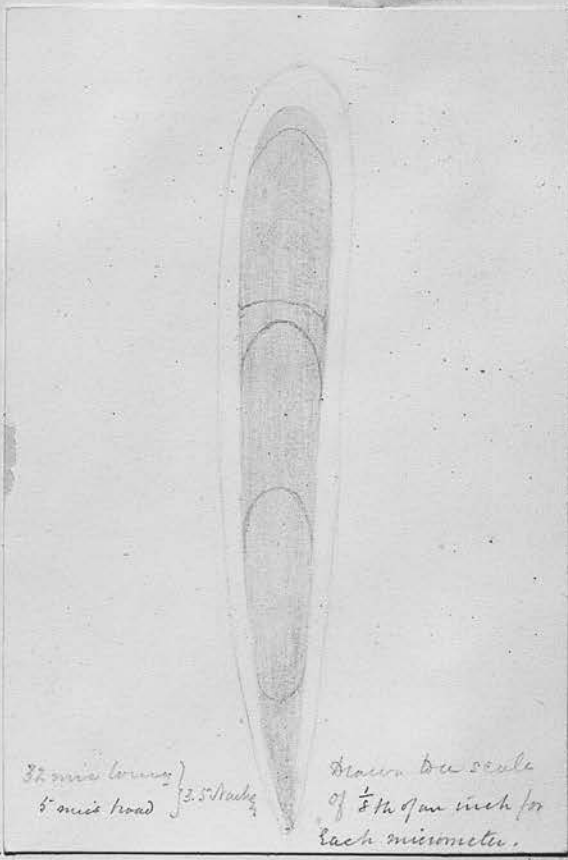
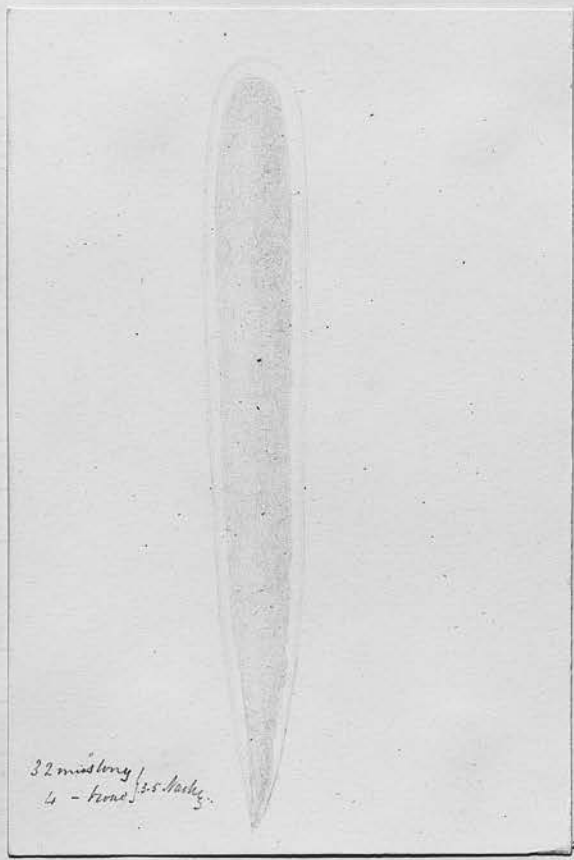


Fig 4

Fig 5

Show previous to cleavage
 of the Blastema.

Show showing cleavage of
 the Blastema into the future
 Sporidia -