

SYNOPTICAL VIEW of the LICHENS growing in the vicinity of  
the City of New-York. By ABRAHAM HALSEY. Read be-  
fore the Lyceum, June 16, 1823.

NOTWITHSTANDING the great progress which the science of botany has made in this country, the cryptogamic branch of it still suffers under the most unmerited neglect. Of the several tribes which compose this interesting department, the Ferns and Mosses have received some share of attention ; and the Fungi have lately been ably illustrated by Mr. De Schweinitz, in his valuable work on the Fungi of North Carolina ; but the Algæ and Lichens appear to have been but little regarded ; the Catalogue of Muhlenberg comprising such as were observed chiefly in his immediate neighbourhood, and the brief enumeration in the New-York Catalogue, being the only sources of information from whence the little we have on these subjects is derived. The difficulty with which the student of cryptogamy has to contend, is greatly enhanced by the scarcity of books with enlarged descriptions and figures, and the rarity of well-authenticated specimens ; a very few of which are occasionally to be found in private collections. The Synopsis of Acharius is almost the only work on the Lichens to which access can be had in this place ; and the extreme difficulty of determining, with his definitions, our native species, diversified as they are by difference of soil and climate, is very apt to deter botanists from the study of Lichenology. We look, therefore, with eagerness, to our own cryptogamists, who describe from indigenous specimens ; and in particular the long-promised work of Mr. De Schweinitz, would constitute an important era in the history of this science, in rendering the treasures of our cryptogamy as accessible as those of the elder and more favoured branch of botany.

In the mean time, under the persuasion that the smallest contribution will be acceptable, I offer, for the consideration



of the Lyceum, a catalogue of the Lichens, which I have collected in the neighbourhood of this city, and within a circuit of fifty miles; a few are added, of which specimens were received from correspondents in the northern part of this State and in Massachusetts. To supply, in some measure, the barrenness of a bare enumeration, I have added the leading characteristics of the different species; not with the hope, however, of having always succeeded in defining them with precision. The difficulty of seizing a single prominent feature, which shall be invariable in all cases, will be acknowledged by those who have studied this microscopic and polymorphous family. Specimens of a number of species, of which I could find no descriptions, were sent to Mr. De Schweinitz, the highest authority on this subject in this country, for his opinion; and I have retained the names which were returned by that gentleman: I should add, however, that for the imperfect descriptions attempted of them, I alone am responsible. I have only to express the hope, that this sketch may call the attention of our botanists to this interesting family of plants, so remarkable for their beauty and variety, and the important part they perform in the vegetable economy.

## I. Class. IDIOTHALAMI.

1. Order. HOMOGENEI. Apothecia simple, wholly formed from a uniform pulverulent or cartilaginous substance.

† *Apothecia without a raised margin.*

### 1. SPILOMA.

1. *melaleucum*. Ach. Syn. p. 2. Common on rough bark of trees.

2. *roseum*. Nov. spec. nobis. Rare. On bark of Juglans.  
S. crusta tenui, granulosa, rosea; apotheciis solitariis, punctiformibus, pulveraceis, saturate roseis. Fig. 1.

This pretty little Lichen, found on the rough bark of Hickory, for the present I refer to this genus, with which it appears to have greater affinity than with any other. It is readily dis-



tinguishable by its light lake or rose-coloured crust, which is very thin and rough. The apothecia are oval, minute, scattered, and of a deeper colour than the crust.

2. ARTHONIA.

1. *punctiformis*. Ach. p. 4. On smooth bark. Crust white; apothecia small, subimmersed.
2. *Swartziana*. Id. p. 5. On old trunks of trees. Crust white; apothecia broad and confluent.
3. *astroidea*. Id. p. 6. On smooth bark. Crust ashy and glaucous; apothecia flat, stellate, and shapeless.
4. *obscura*. Id. p. 6. Ibid. Crust olivaceous; apothecia small, oval, uniform, subimmersed.

†† *Apothecia with a raised margin.*

3. LECIDEA.

§ *Fronde crustaceous, uniform.*

\* *Apothecia constantly black.*

1. *atro alba*. Id. p. 11. Common on rocks. Areolæ of the crust black and white.
2. *fumosa*. Id. p. 12. Ibid. Crust dull smoky colour; apothecia sunk into the crust, grayish within.
3. *pantosticta*. Id. p. 13. Ibid. Apothecia minute; immersed in the crust upon the areolæ.
4. *lapicida*. Id. p. 13. Ibid. Apothecia mostly between the areolæ.
5. *petræa*. Id. p. 15. Ibid. Distinguishable by the concentric tendency of the apothecia.
6. *confluens*. Id. p. 16. Ibid. To the naked eye like No. 1 and 4; crust dirty white; apothecia irregular and aggregated.
7. *premnea*. Id. p. 17. Trees and fences. Apothecia with a whitish stratum under the disk.
8. *parasema*. Id. p. 17. Bark. Crust generally bordered by a black line; apothecia blackish within.
9. *enteroleuca*. Id. p. 19. Trunks. Apothecia internally white.



10. *dolosa*. Ach. Syn. p. 19. Trunks and fences. Crust pulverulent; rusty gray; apothecia convex.
11. *sanguinaria*. Id. p. 19. Ibid. Rare. Apothecia internally blood-red.
12. *sabuletorum*  $\beta$ . *geochroa*. Id. p. 20. Encrusting mosses in woods. Crust effuse, granulated, ashy.
13. *citrinella*? Id. p. 25. Old stone fences. Rare. Crust green; apothecia small, black.
- \*\* *Apothecia black; when moistened, brownish.*
14. *immersa*. Id. p. 27. Common on hard rocks. Apothecia sunk into the surface of the stone upon which the crust resides.
- \*\*\* *Apothecia black, with a gray bloom.*
15. *albo cærulescens*. Id. p. 29. On rocks. Rare. Crust tartareous and cracked, whitish; apothecia flat.
16. *corticola*. Id. p. 32. Trunks and fences. Crust granulated, very white; apothecia small and subglobose.
- \*\*\*\* *Apothecia with a fuscous or brownish colour.*
17. *versicolor*. Schwz. MSS. Very common on smooth bark. Crust greenish, and bounded by a broad waving black line; apothecia small, greenish and other dark colours, clustered and stellate to the naked eye.
18. *luteola*. Ach. p. 41. Trunks and rocks. Crust thin, grayish, with globular pale granules; apothecia dirty yellow.
19. *carneola*. Ib. p. 42. Trunks. Crust thin, gray; apothecia sessile, thick, fleshy brown.
- \*\*\*\*\* *Apothecia of various colours.*
20. *coccinea*. Schwz. MSS. Common on trunks. Crust cinereous, and bordered by a black line; apothecia shining, convex, beautiful scarlet, whitish within.
21. *marmorea*  $\beta$ . *cupularis*. Ach. Syn. p. 46. On the earth in woods, among moss. Crust very thin, scarcely distinguishable; apothecia urceolate, flesh-coloured. A strongly marked, though minute species.



22. *Ehrhartiana*. Id. p. 47. Common on rocks. Crust cartilaginous, greenish yellow, rough, granulated; apothecia pale yellowish.

var.  $\beta$ . *polytropa*. Ibid. Crust subtartareous, tessellated, pale; apothecia crowded.

23. *aurantiaca*. Id. p. 50. Trunks and rotten wood. Crust smooth, whitish; apothecia orange, convex, margin lighter.

§§ *Crust foliaceous.*

24. *demissa*. Id. p. 50. On earth on rocks. Crust warty, subimbricated, lobed at the margin; apothecia reddish, depressed.

25. *globifera*. Id. p. 51. In the clefts and depressions on the surface of rocks. Crust imbricated, lobes detached, round, whitish underneath; apothecia subglobose, dark red.

4. CALICIUM.

\* *Apothecia sessile.*

1. *tigillare*. Id. p. 55. Common on fences and old posts. This beautiful Lichen in habit nearly resembles a *Lecidea*, and is remarkable from the frond's first appearing in small yellow spots, upon which the black apothecia are seated. The intervals between these afterwards fill up, and the whole crust becomes continuous.

2. *turbinatum*. Id. p. 59. On bark, and parasitic on *Parmeliæ*, &c. Crust whitish; apothecia turbinate.

3. *stigonellum*. Id. p. 56. Crust none; apothecia subglobose.

\*\* *Apothecia stipitate.*

4. *claviculare*. Id. p. 57. Old fences and posts. Apothecia subglobose; pedicles cylindric, thick.

5. *trachelinum*  $\beta$ . *quercinum*. Id. p. 58. Ibid. Crust ashy or none; apothecia turbinate; pedicles filiform, short.



## 5. GYROPHORA.

1. *pustulata*. Id. p. 66. On rocks. Rare. Frond underneath deeply pitted, smooth; apothecia rare, disk smooth.
2. *papulosa*. Id. p. 67. Ibid. Apothecia small, very numerous, and aggregated, urceolate and rarely gyrose.
3. *Pennsylvanica*. Id. p. 67. Frond subolivaceous, rough granular underneath; apothecia margined.
4. *Muhlenbergii*. Id. p. 67. Ibid. Frond wrinkled and scaly underneath; apothecia sunk in the pits.
5. *vellea*. Id. p. 67. Ibid. Rare in fruit. Frond large, coriaceous, sooty; apothecia generally towards the circumference of the frond.

## 6. OPEGRAPHA.

1. *macularis*. Id. p. 72. On smooth bark. Apothecia clustered and forming black spots.
2. *herpetica*  $\beta$ . *disparata*. Id. p. 73. Ibid. Apothecia short, broad; crust of a reddish olive hue.
3. *vulgata*. Id. p. 73. Trunks. Apothecia turgid, cylindric.
4. *notha*. Id. p. 76. Ibid. Disk of the apothecia without the cleft.  
     *var. \beta. gregaria*. Ibid. Apothecia crowded; disk flexuous and plicate.  
     *\gamma. cæsia*. Ibid. Apothecia with a grayish pruinose disk.
5. *vulvella*. Id. p. 77. Ibid. Apothecia elliptic, gaping in the middle.

2. Order. HETEROGENEI. Apothecia with a solitary perithecium, including the nucleus.

† *Apothecia margined*.

## 7. GRAPHIS.

1. *scripta*. Id. p. 81. On smooth bark. Crust somewhat shining, white, black bordered; apothecia semi-immersed.



var.  $\beta$ . *pulverulenta*. Smooth bark. Apothecia flexuous; disk gray pruinose.

$\gamma$ . *cerasi*. On Beech. Crust shining; apothecia straight and parallel.

2. *betuligna*. Id. p. 83. On Betula. Scarcely more than a variety of the last.

3. *serpentina*. Id. p. 83. Smooth bark. Crust very white; apothecia elongated, crowded, and waved.

†† *Apothecia without a margin*.

#### 8. VERRUCARIA.

1. *punctiformis*. Id. p. 87. Old bark. Apothecia small, hemispheric, seldom papillated; nucleus subglobose.

2. *analepta*. Id. p. 87. Ibid. Apothecia conoid, papillated; nucleus compressed. Larger than the preceding.

3. *epidermidis*. Id. p. 89. Smooth bark of limbs. Apothecia very minute, flattened, roughish.

var.  $\beta$ . *cerasi*. On Betula. Crust shining, of a silvery hue.

4. *stigmatella*. Id. p. 89. Bark. Apothecia convex, not papillated.

var.  $\beta$ . *lactea*. Ibid. Crust milky white, sublucid.

5. *gemmata*. Id. p. 90. On bark. Apothecia shining, papillated.

6. *composita*. Schwz. mss. On Carpinus and Betula. Crust yellowish brown, very smooth, shining, and bordered by a black line; apothecia small, immersed, and clustering in long irregular dark spots. Fig. 4.

#### 9. ENDOCARPON.

1. *smaragdulum*. Ach. p. 98. On rocks. Frond composed of very small, detached, scale-like lobes, of a light greenish or olive colour.

2. *tephroides*  $\beta$ . *polythecium*. Id. p. 99. On rocks. Frond adnate like a VERRUCARIA, cracked, of a light liver colour.

3. *Hedwigii*. Id. p. 99. On rocks. Fronds detached like No. 1, but larger.



4. *miniatum*. Id. p. 101. Common on rocks. Frond coriaceous and leafy, underneath of a reddish hue.
5. *complicatum*. Id. p. 102. Like the preceding, but of a dark colour underneath.
6. *Weberi*. Id. p. 102. On rocks near waterfalls. Like the two last, but the frond is of a thicker consistence, and changes to a greenish colour when moistened.

## II. Class. CŒNOTHALAMI.

Order. I. PHYMATOIDEI. *Apothecia included in wart-like processes formed from the frond.*

### 10. PORINA.

1. *pertusa*. Id. p. 109. Rocks and old trunks. Common. Apothecia with several orifices.
2. *leucostoma*. Id. p. 109. On trunks. Apothecia with white orifices; crust dark. Resembles a VARIOLARIA.
3. *lejoplaca*. Id. p. 109. Rocks and trunks. Apothecia with a single and irregular orifice.
4. *fallax*. Id. p. 110. Rough bark. Apothecia with an open expanded orifice, like a LECANORA.

### 11. THELOTREMA.

*lepadinum?* Id. p. 115. On bark. Very common. Probably a new species. Crust yellowish green.

### 12. PYRENULA.

1. *enteroleuca*. Sprengel MSS. *Thelotrema cinereum*. Schwz. Very common on trunks. Crust membranaceous, very white, sublucid, and to the microscope cracked and rugged. Apothecia above the crust, though surrounded by it at the base, cupuliform, open at the top like a LECIDEA; margin black, with a gray bloom; nucleus hemispheric, whitish with a black pruinose disk. Fig. 3.

Specimens of this common Lichen were sent by Dr. Torrey to Professor Sprengel of Halle, and by him determined to be a new species of PYRENULA, under the name here adopted. It has much the habit of a LECI-



DEA, and possibly may be the *LECIDEA urceolata* of Acharius.

2. *nigrescens*. *Ach.* p. 126. Common on rocks. Crust tessellated, blackish; apothecia on the areolæ, black, shining, scarcely distinguishable to the naked eye.
3. *margacea*. *Id.* p. 127. *Ibid.* Crust ashy, rugged, and warty; apothecia globose, in appearance like a *PORINA* with several orifices.

### 13. VARIOLARIA.

1. *velata*. *Id.* p. 129. On bark. Crust white; disk of the apothecia covered with a white lamina.
2. *communis*. *Id.* p. 130. *Ibid.* Crust commonly darker than the apothecia.
3. *amara*. *Id.* p. 131. *Ibid.* Crust bitter to the taste.
4. *corallina*. *Id.* p. 133. Encrusting decayed mosses. Crust with coralline papillæ.

Order II. DISCOIDEI. *Apothecia scutelliform, subsessile; disk different from the margin, which is formed from the frond.*

### 14. URCEOLARIA.

1. *cinerea*  $\beta$ . *notata*. *Id.* p. 40. On hard rocks. Crust ashy, smooth, and cracked; apothecia black, pruinose, immersed in the areolæ.
2. *calcareæ*. *Id.* p. 143. On calcareous rocks. Crust very white; apothecia smaller than in the preceding.

### 15. LECANORA.

♂ *Crust adnate, uniform.*

\* *Apothecia with a black and naked disk.*

1. *atra*. *Id.* p. 146. On trunks and rotten wood. Crust very white; apothecia crowded, angular, margin flexuous.  
var.  $\gamma$ . *calliginosa*. *Ibid.* Crust dark.
2. *commutata*. *Id.* p. 149. Fences and rotten wood. Crust thin, with greenish white dust; apothecia concave.
3. *periclea*  $\beta$ . *exigua*. *Id.* p. 151. *Ibid.* Crust dirty white, and blackish; apothecia small and crowded.



4. *sophodes*. Id. p. 153. Ibid. Crust verrucose, subdetermined, ashy greenish; apothecia crowded, black, brownish when moistened, margin tumid, very entire.

\*\* *Apothecia with a brown coloured disk.*

5. *subfusca*. Id. p. 157. Bark. Crust smooth, cartilaginous, granulated; apothecia dark, margin thick.
6. *ventosa*. Id. p. 159. Bark and rocks. Crust tessellated with tumid warts, yellowish or gray; apothecia reddish, brown, convex.
7. *varia*. Id. p. 161. Common on old posts and fences. Crust light yellow; apothecia generally dirty green, yellowish, and brown.

\*\*\* *Apothecia with a black or coloured disk,  
always pruinose.*

8. *Villarsii*? Id. p. 163. On rocks. Crust tartareous, gyrose, granulated, whitish; apothecia black, sessile, disk concave.
9. *glaucoma*. Id. p. 165. Ibid. Crust grayish; apothecia black, immersed, disk at length convex, margin obliterated.
10. *angulosa*. Id. p. 166. On smooth bark. Crust smooth and subrimose; apothecia crowded and angular.
11. *cæsius rubella*. Id. p. 167. Trunks. Crust membranaceous and white; apothecia large, light red.
12. *albella*. Id. p. 168. Bark. Crust cartilaginous, smooth, milk white; apothecia light flesh-coloured.

\*\*\*\*\* *Apothecia with disks of various colours.*

13. *perella*. Id. p. 169. On trunks. Crust thin, warty, white; apothecia light flesh-coloured.
14. *tartarea*. Id. p. 172. Rocks. Common. Crust white, tartareous, with clustered coral-like granules; apothecia light flesh-coloured. This is the *Cudbear* of the English, and used in dying purple on woollen.
15. *salicina*. Id. p. 175. Trunks. Crust granulated, dirty yellowish, hardly distinguishable; apothecia orange.



16. *fulva*. Schwz. MSS. Common on rough bark. Crust papillated, verrucose, of a pale sulphur yellow; apothecia with an orange disk, when young immersed in the verrucæ of the crust, at length enlarging with a thin inflected margin. Fig. 2.

§§ Crust adnate, radiating, and lobed at the circumference.

17. *elegans*. Ach. p. 182. On rocks. (Massachusetts.) Crust orange, radiating, lobes linear and convex.

18. *galactina*. Id. p. 187. Rotten trunks and rocks. Crust subimbricated, dirty white; apothecia crowded, angular, disk livid flesh-coloured, subpruinose.

19. *juglandina*. Schwz. MSS. Common on smooth bark. Crust flat, orbicular, sublucid, olivaceous, towards the circumference light glaucous green, minutely lacinated through its whole surface, central segments scaly imbricated, marginal ones flat and broader towards the apex; apothecia central, small, disk fuscous, concave, margin very thick.

§§§ Crust foliaceous, scaly, imbricated.

20. *Smithii*. Ach. p. 189 Common on trunks. Crust scaly, lobes thick, roundish, waved, yellow orange, deepening in colour towards the apex; apothecia orange, like *PARMELIA rutilans*.

21. *irregularis*. Schwz. MSS. Common on trunks. Crust scaly, lobes ascending, very minutely fringed, whitish gray, greenish when moistened; apothecia gray pruinose, dark brown when moistened, margin thick and entire.

22. *candelaria*. Ach. p. 192. On smooth bark. Crust scaly, bright yellow, margin of lobes granular; apothecia bright yellow.

23. *brunnea*. Id. p. 193. Trunks. Crust imbricated, ashy liver colour; apothecia reddish brown, margin crenulated.



## 16. PARMELIA.

♂ *Fron*d with segments of equal thickness at the apex.

1. *placorodia*. Id. p. 196. Trunks, stones, &c. Frond livid pale, underneath smooth and whitish, with black fibres.
2. *crinita*. Id. p. 196. Ibid. Frond grayish green, bearing branching coralline papillæ, underneath smooth, black, margin ciliated.
3. *caperata*. Id. p. 196. Ibid. Frond pale greenish yellow, underneath black hispid.
4. *Borreri*. Id. p. 197. Bark and on mosses. Frond gray, with whitish soredia; apothecia with a crenate, sublobed margin.
5. *scortea*. Id. p. 197. On trunks. Frond subcoriaceous, whitish gray, black dotted, sublucid.
6. *perlata*. Id. p. 197. Ibid. and stones. Frond grayish green, villose underneath.
7. *perforata*. Id. p. 198. Bark, and stones. Disk of the apothecia perforated.
8. *herbacea*. Id. p. 198. Trunks, and on the earth. Frond smooth, coriaceous, suborbicular; apothecia small, central. Has been removed to *STICTA* by Acharius.
9. *tiliacea*. Id. p. 199. Trunks. Frond grayish green, subpruinose, not dotted as in No. 5.
10. *olivacea*. Id. p. 200. Trunks and rotten wood. Frond dark olive, shining.
11. *plumbea*. Id. p. 202. Earth on mosses. Frond dark lead, and blackish when old.
12. *saxatilis*. Id. p. 203. Rocks and trunks. Segments generally reticulately lacunose on the upper surface, truncated at the apex.
13. *aleurites*. Id. p. 208. Bark. Frond generally covered with granular dust, much laciniated at the margin; apothecia light, margin crenulated.
14. *centrifuga*. Id. p. 209. Ibid. Frond greenish, divided through its whole surface into radiating segments.
15. *conspersa*. Id. p. 209. Ibid. Frond greenish, dotted black.



16. *rutilans*. Id. p. 210. Ibid. Frond deep yellow, whitish underneath; apothecia orange.
17. *venusta*. Id. p. 214. Bark, and among mosses. Frond deeply lacinated, segments narrow; margin of the apothecia leafy.
18. *stellaris*. Id. p. 216. Trunks. Frond stellate, segments convex, with whitish fibres beneath; apothecia black, pruinose.
19. *cæsia*. Id. p. 216. Trunks and rocks. Segments narrow, and more distant than the last.  
*var. β. dubia*. Rocks. A very minute variety, resembling frost work.
20. *cycloselis*. Id. p. 216. Trunks. Frond stellate; segments short, broad, subconnate; apothecia blackish.
21. *ulothrix*. Id. p. 217. Ibid. Like the preceding; apothecia, externally at the base, covered with black bristles.  
 §§ Frond with segments thickened at the apex.
22. *physodes*. Id. p. 218. Rocks, trunks, and on earth. Frond naked and shining beneath.
23. *colpodes*. Id. p. 219. Ibid. Frond spongy, and ragged beneath.

#### 17. BORRERA.

1. *tenella*. Id. p. 221. Bark and on the earth. Like a *PARMELIA*. Frond white; segments narrow, pinnatifid, convex and ciliated at the apex.
2. *furfuracea*. Id. p. 222. Bark. Much like *EVERNIA prunastri*. Segments of the frond channeled beneath, and bluish black.
3. *chrysophthalma*. Id. p. 223. Very common on trunks. Frond yellow, with orange apothecia.
4. *exilis* ? Id. p. 225. Ibid. Frond minute, white, segments attenuated and capillary. Perhaps only a variety of the preceding.

#### 18. CETRARIA.

1. *ciliaris*. Id. p. 227. Fences and stones. Frond with segments fringed, and ciliated with strong rigid fibres.



2. *lacunosa*. Id. p. 227. Earth in moist woods. Frond more deeply pitted and reticulated than the last, segments not so much divided, whitish underneath; apothecia large.
3. *glauca*. Id. p. 227. Stones and fences. Frond glaucous, tawny, brown underneath.
4. *viridis*. Schwz. mss. Small limbs in cedar swamps, New-Jersey. Frond glaucous green, lacunose reticulated, underneath pale yellow, margin complicately waved and beset with black sores; apothecia chesnut brown, margin inflected, lobed, and dentated.

## 19. STICTA.

1. *crocata*. Ach. p. 232. Trunks and earth. (Massachusetts.) Frond of a liver colour, margin bordered with yellow.
2. *anthraspis*. Id. p. 233. Among mosses on earth. Frond smooth coriaceous, lobes roundish; apothecia with a blackish disk.
3. *pulmonacea*. Id. p. 233. About roots of trees. Much reticulated and sinuated.
4. *scrobiculata*. Id. p. 234. Ibid. Frond orbicular, light greenish, surface roughened by minute sores.
5. *sylvatica*. Id. p. 236. On the earth with mosses. Frond with large segments, concave.

## 20. PELTIDEA.

1. *venosa*. Id. p. 237. Earth in woods. Frond with ashy-brown tomentose veins beneath.
2. *scutata*. Id. p. 237. Trunks and limbs. Smooth and veinless beneath, segments short.
3. *horizontalis*. Id. p. 238. Ibid. and on earth. Lobes elongated; shields flat and transversely oblong.
4. *aphthosa*. Id. p. 238. Earth on mosses. Frond light greenish, with small brown warts.
5. *canina*. Id. p. 239. Ibid. Lobes ascending, colour deeper than in the preceding.



21. NEPHROMA.

1. *resupinata*. Id. p. 241. Earth among moss. Frond brownish; distinguished by the apothecia being seated on the under side of the frond, the lobes of which turn over.

var.  $\beta$ . *papyracea*. Ibid. Frond greenish.

22. EVERNIA.

1. *prunastri*. Id. p. 245. Branches of trees. Rare. Frond granulated glaucous above, underneath whitish, reticulated.
2. *vulpina*? Id. p. 245. Massachusetts. Frond yellowish green, branching, segments attenuated, lacunose, compressed. In appearance like *CENOMYCE uncialis*, but easily distinguished by its central cotton-like medulla. Perhaps a new species.

Order III. CEPHALOIDEI. *Apothecia subglobose, terminating the frond.*

23. CENOMYCE.

§ *Frond foliaceous, podetia fistulous, attenuated, or dilated above.*

\* *Apothecia pale.*

1. *cæspiticia*. Id. p. 249. On earth. Frond minutely cleft; podetia very short, marginal.
2. *alcicornis*. Id. p. 250. On earth, in dry rocky situations. Frond with pale greenish, palmated, ascending segments, lighter underneath; podetia hardly perceptible.
3. *endiviæfolia*. Id. p. 250. Ibid. Frond large, leafy, yellowish green, white beneath, segments multifid; podetia also very minute.
4. *verticillata*. Id. p. 251. On earth among moss. Podetia cylindric, glabrous, livid greenish, the margin dilating horizontally, proliferous from the centre.
5. *pyxidata*. Id. p. 252. Ibid. Podetia turbinate.



6. *fimbriata*. Id. p. 254. Ibid. Podetia elongate, turbinate, cups proliferous from the margin.

7. *gonorega* var. *pleolepis*. Id. p. 259. Podetia cylindric, open, scaly, and leafy.

\*\* *Apothecia scarlet, or dark red.*

8. *bacillaris*. Id. p. 266. On rotten wood, fences, &c. Podetia cylindric, granulated, rarely cupbearing.

var.  $\delta$ . *clavata*. Id. p. 267. Podetia thick, ventricose, and sterile.

9. *coccifera*. Id. p. 269. Fences, &c. Podetia elongate-turbinate, pale yellowish green, cups with spreading margins.

§§ *Frond leafy, podetia subfistulous, cylindric, rayed at the apex; radii all fertile.*

10. *cariosa*. Id. p. 273. On earth. Podetia whitish, channeled, and verrucose, divided at the apex; apothecia crowded, dark.

11. *botrytes*. Id. p. 274. Rotten wood and earth. Podetia slender, fastigiately branching, rough; apothecia pel-tate, pale crowded.

§§§ *Frond evanescent, podetia cartilaginous, straight, subulate, branching, axils perforated.*

12. *acicularis*. Id. p. 275. Rotten wood and earth. Podetia straight, terete; apothecia capitate, subglobose, solitary, shining, dark-coloured.

13. *furcata*. Id. p. 276. Ibid. Podetia smooth, livid, axils not perforated, branches acicular, forked and diverging at the apex; apothecia generally very small.

14. *uncialis*. Id. p. 276. Earth among moss. Podetia dichotomous, extremities of branches short and rigid.

15. *rangiferina*. Id. p. 277. Ibid. Podetia elongated, cylindric, branches scattered, and much divided, the ultimate ones subradiate or drooping; apothecia globose.

var.  $\beta$ . *sylvatica*. Podetia thick and turgid, branches short and sparse.



var. *γ. alpestris*. Podetia very branching, branches implex, terminal ones forming a thick panicle or thyrses.

24. *BÆOMYCES*.

1. *roseus*. Id. p. 280. On argillaceous earth. Pedicles white; apothecia pale rose.
2. *rufus*. Id. p. 280. On rocks. Crust rough, ashy greenish; apothecia chesnut, pedicles short.

25. *ISIDIUM*.

1. *corallinum*. Id. p. 281. On rocks. Crust white, verrucose; apothecia only visible to the microscope.
2. *phymatodes*. Id. p. 282. Rotten wood in moist places. Crust green.

26. *STEREOCAULON*.

*paschale*. Id. p. 284. Frond grayish, branching, and rough with granular excrescences; apothecia terminal blackish.

(a)

III. Class. *HOMOTHALAMI*.

Order I. *SCUTELLATI*. *Apothecia scutelliform, sessile, bordered.*

27. *ALECTORIA*.

1. *jubata*. Id. p. 291. Pendent on branches chiefly of *Coniferae*. Frond black, capillary.

28. *RAMALINA*.

1. *polymorpha*. Id. p. 295. Trunks and rocks. Frond compressed, terete, with terminal soredia; apothecia submarginal.
2. *fraxinea*. Id. p. 296. Ibid. Frond broad, attenuated above; apothecia marginal, pale flesh colour.

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(a) The genus *Rhizomorpha* has, by the best cryptogamists of the present day, been removed to the *Fungi*.



3. *fastigiata* Id. p. 297. Trunks. Apothecia terminal.  
Frond thickening and fastigiate above.

## 29. COLLEMA.

§ *Frond leafy, lobes submembranaceous, loose, naked,  
dark green.*

1. *nigrescens*. Id. p. 321. Trunks. Frond submonophyl-  
lous; apothecia central, reddish brown.  
2. *furvum*. Id. p. 323. Ibid. Frond granulated on both  
sides; apothecia scattered.

§§ *Frond leafy, very thin, subdiaphanous;  
apothecia subpedicellate.*

3. *tremelloides*. Id. p. 326. Earth on moss and on rocks.  
Frond lead-colour, dotted; apothecia scattered, of a  
reddish brown, margin pale.  
4. *lacerum*. Id. p. 327. Trunks. Rare. Frond with small  
imbricated, laciniated, and fringed lobes.

Order II. PELTATI. *Apothecia peltate, without a border,  
fringed.*

## 30. CORNICULARIA.

1. *pubescens*. Id. p. 302. On rocks and rotten wood near  
waterfalls. Rare. Frond short, blackish.  
2. *fibrillosa*. Id. p. 302. (*sub var. pubescens.*) Common on  
fences. Certainly a distinct species.

## 31. USNEA.

1. *florida*. Id. p. 304. Common on trunks and rocks.  
Frond erect, rigid, greenish gray, with horizontal fi-  
bres; apothecia broad, with radiating ciliæ.  
2. *plicata*. Id. p. 305. Branches of trees. Frond pendent,  
smooth, branches lax, much divided, and capillary.  
*var. β. hirta*. Ibid. Frond erect, somewhat rigid,  
subpulverulent, and roughish, branches much divided,  
attenuated, and subfibrillose.





Halsey, Abraham. 1824. "Synoptical view of the lichens growing in the vicinity of the city of New York." *Annals of the Lyceum of Natural History of New York* 1, 3-21.

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