T.C. Cat.
An. Cat.

015.58

4.

5815774
MCC

GEOLOGICAL AND NATURAL HISTORY SURVEY OF MINNESOTA

CONWAY MACMILLAN, *State Botanist*

LIBRARY OF
Illinois State
LABORATORY OF NATURAL HISTORY,
CHAMPAIGN, ILLINOIS.

Minnesota Botanical Studies

Contents

- XXIII.** A contribution to the bibliography of American
algae, *Josephine E. Tilden* - - - 295

Bulletin No. 9

Part VI - - *August 26, 1895*

MINNEAPOLIS, MINN.
HARRISON & SMITH, STATE PRINTERS
1895

IT IS NECESSARY TO REDUCE THE MAILING LIST OF MINNESOTA BOTANICAL STUDIES. THEREFORE THE SUCCEEDING SIX NUMBERS THAT WILL COMPLETE THE VOLUME WILL BE MAILED ONLY TO THOSE WHO ACKNOWLEDGE THIS PART.

ADDRESS,

CONWAY MACMILLAN,

STATE BOTANIST,

UNIVERSITY, MINNEAPOLIS, MINN.

XXIII. A CONTRIBUTION TO THE BIBLIOGRAPHY OF AMERICAN ALGAE.

JOSEPHINE E. TILDEN.

It is the purpose of this paper to collect titles of articles referring to the algae of America. Since the study of this group has now reached a point where it can be made of great benefit it is thought that it may be well to construct a guide to bring together the information that has been accumulating during the past. In accordance with the law of development of any natural science, the first work done on the algae consisted principally in determining the species found in different localities. An investigation of life-histories followed, out of which grew the study of the morphological, physiological and paleontological relations of the group. An important question of to-day is that of the cause and effect of algal growths in water, since the supplying of cities and towns with pure drinking water is of vital consequence, and whatever system may be used, the influence of algal organisms in the water is at once detected and must be met with scientific as well as practical treatment. The recent adoption of the reservoir system in the city of Minneapolis makes this of peculiar interest at the present time. But it is not in cities alone that the good and bad effects of algal growths are to be observed. It was only a few years ago that Le Sueur county, Minnesota, was the seat of a very fatal disease among domestic animals which was believed to be due to their drinking the water of a lake infested with certain kinds of algae.

In several states of the Union the study of minute forms of life contained in rivers and other bodies of water used to supply cities has been begun, but what has been done is as yet very slight compared with what should and must be done. It is hoped that the list of titles here presented will facilitate study of this kind in North America.

The list has been compiled for the most part from the original sources, but some titles have been admitted on the authority of such works as the ROYAL SOCIETY CATALOGUE, BOTANISCHES CENTRALBLATT, BOTANISCHER JAHRESBERICHT, BOTANISCHE ZEITUNG, and BOTANISCHE JAHRBUECHER. The list is not put forward as a complete one, but is hoped to be accurate as far as it goes. Later, additions may be made.

The titles have been arranged in chronological order and the "Rules for Citation" of the Madison Botanical Congress have been kept in mind.

The following libraries have been of assistance: The botanical, zoological, geological and general libraries of the University of Minnesota; the libraries of the State Geological Survey, Hamline University and the State Board of Health; the private libraries of Professor N. H. Winchell of the University of Minnesota, and Dr. H. L. Osborn of Hamline University.

I take pleasure in thanking the following gentlemen for the great kindness they have in all cases shown me while engaged in this work: Professor Conway MacMillan, Professor N. H. Winchell, Dr. H. L. Osborn, Dr. U. S. Grant, Professor C. W. Hall, Professor H. F. Nachtrieb, Mr. C. P. Berkey and Mr. A. H. Elftman.

1. **Acheson, G.** Biological study of the Tap-water in the School of Practical Science, Toronto. (1883.) Proc. Can. Inst. 1:413. 1884.

2. **Adams, J. M.** Motion of Diatoms. Am. Mo. Mic. Jour. 4:59. Mr1883.

3. **Adan, H. P.** Extract from "Le Microscope."—(Am. Mo. Mic. Jour. 2:10, 11. Ja1881.)

4. **Agardh, C. A.** Systema Algarum. xi—xxxviii. 1-309. 1824.

Several species of algae from North America are included.

5—6. **Agardh, J. G.** In Historiam Algarum Symbolae. Linnaea. 15:1-50. 443-457. 1841.

In the first paper are included 11 species, of which 10 are new to science, from different parts of North and South America. In the second paper *Endocladia vernicata* is given as a new species from Brazil.

7. ———. Nya Alger fran Mexico. Oefvers. Kongl. Vet. Akad. Foerhandl. 4:5-17. 1847.

From Mexico and South America are given 25 species, with 4 new genera including 17 additional species.

8. **Agardh, J. G.** Species Genera et Ordines Algarum, s. descriptiones succinctae specierum generum et ordinum quibus Algarum regnum constituitur. 1. 1848, 2. 1852, 3. 1876.

9. ———. Algologiska Bidrag. Oefvers. Kongl. Vet. Akad. Foerhandl. 6:79-89. 1849.

Several species from California.

10. ———. Om de under Korvetten Josephines expedition insamlade Algerne. Oefvers. Kongl. Vet. Akad. Foerhandl. 27:359-366. 1870.

Laminaria longicuris Delapyl. From Boston harbor.

11. ———. Alger insamlade pa Groenland (1870.) Oefvers. Kongl. Vet. Akad. Foerhandl. 27:1080, 1081. 1870.

12. ———. Bidrag till Kannedomen af Groenlands Laminarieer och Fucaceer. Oefvers. Kongl. Vet. Akad. Foerhandl. 28: No. 8. 10. 1871.

13. ———. Till Algernes Systematik. Parts I, II, III. Acta. Univ. Lund. 9: (Math.) No. 8. 1872.

Monostroma groenlandicus and *M. vahlII* are noted.

14. ———. Till Algernes Systematik. Part VI. Ulvaceae. Lund. Univ. Aarskrift. 19:1882.—(Science. 2:831. 28D1883.)

Enteromorpha erecta is credited to New York on the authority of J. Hooper.

15. ———. Analecta algologica. Observationes de specibus Algarum minus cognitis earumque dispositione. Continuatio II. Lund. Univ. Aarskrift. 30:98. 1 pl. 1894.

New species of *Ceramium* from America are included

16. **Agassiz, A.** Notes from the Bermudas. Am. Jour. Sci. III. 47:411-416. Je1894.

States that the so-called "Serpulae reefs" might be as correctly named "Algae atolls," since algae play as large a part in covering their surface as do the *Serpulae*.

17. **Agassiz, L.** The Vegetable Character of *Xanthidium*. Proc. Am. Ass. Adv. Sci. 89-91. (15Ag1849.) 1850.

18. ———. On the relation between Coloration and Structure in the Higher Animals. Proc. Am. Ass. Adv. Sci. 194. (22Ag1850.) 1851.

Remarks on the color of Algae.

19. ———. Report upon Deep sea Dredgings in the Gulf stream during the Third Cruise of the U. S. Steamer Bibb; addressed to Professor B. Pierce, Supt. U. S. Coast Survey. Bull. Mus. Comp. Zool. No. 13. 363-386. 1869.—(Am. Nat. 4:38-40. Mr1870.

20. **Allen, T. F.** Characeae. Bull. Torr. Bot. Club. **2:9, 10.** Mr1871.

Nine species of *Nitella* and 5 of *Chara* are reported from Eastern United States.

21. **Allen, T. F.** Characeae Americanae, illustrated and described. Part I and II. 1879.—(Bull. Torr. Bot. Club. **6:315.** My1879.) (Am. Jour. Sci. Arts. III. **17:488, 489.** Je1879.)

22. ———. Similarity between the Characeae of America and Asia. Bull. Torr. Bot. Club. **7:105–107.** O1880.

23. ———. Notes. Am. Mo. Mic. Jour. **2:98.** My1881.
The preparation of a solution for mounting algae.

24. ———. Development of the Cortex in *Chara*. Illustrated by a series of American species. Bull. Torr. Bot. Club. **9:37–47. pl. 15–22.** Ap1882.—(Jour. of Bot. **20:349.** 1882.) (Bot. Centralb. **14:33.** 1883.)

25. ———. Observations on some American forms of *Chara coronata*. Am. Nat. **16:358–369. pl. 4 and 10 cuts.** My1882.

Nine American forms of *C. coronata* are described and figured.

26. ———. Notes on the American Species of *Tolypella*. Bull. Torr. Bot. Club. **10:109–117. pl. 37–42.** ON1883.

27. ———. Characeae. N. Y. St. Mus. Nat. Hist. 38th Ann. Rep. **16.** 15Ja1885.

Ten species, 4 of them new to the state, were presented to the State museum.

28. ———. Charas or Stoneworts (Characeae). Bot. Gaz. **11:141.** Je1886.

Directions for collecting.

29. ———. Some Notes on Characeae. Bull. Torr. Bot. Club. **14:211–215. pl. 71–75.** 4O1887.—(Jour. Roy. Mic. Soc. **1888:90, 91.** F1888.)

A new *Nitella* from Feejee Islands, 1 from Nantucket, and a new species of *Tolypella* from the shore of Niagara river described.

30. ———. Dredge for *Chara*. Bot. Gaz. **12:297. 1 f.** D1887.
A figure and description.

31. ———. *Nitella* (not *Tolypella*) *Macounii*. Bull. Torr. Bot. Club. **15:11.** 5Ja1888.

32. The Characeae of America. Part I. 1–64. *f. 1–54.* 1888. (Bull. Torr. Bot. Club. **15:90, 91.** 2Mr1888.) (Am. Nat. **22:455–457.** My1888.) (Jour. Roy. Mic. Soc. **1888:461.** Je1888.) Part II. Fasc. 1. 1–8. *pl. 1–14.* (1892.) not dated.—(Bull. Torr. Bot. Club. **20:130, 131.** 15Mr1893.) (Jour. of Bot. **31:156.** My1893.)

(Am. Nat. 27:570 Je1893.) Part II. Fasc. 2. 9-17. *pl.* 15-22. 1894.

Part I treats of the morphology and classification, with analytical key to the North American species. Part II includes descriptions of species of *Nitella*.

33. **Allen, T. F.** Characeae. In N. L. Britton's Catalogue of Plants found in New Jersey. Geol. Surv. N. J. Final Rep. St. Geol. 2:356, 357. 1889.

Nine species of *Nitella* and 7 of *Chara* are listed.

34. ———. The Characeae.—(Bull. Torr. Bot. Club. 17:136. 9My1890.)

A lecture given before the Club, April 8, 1890.

35. ———. Note on some Characeae. Bull. Torr. Bot. Club. 19:230. 13J1892.

36. ———Notes on New Characeae. Bull. Torr. Bot. Club. 20:119, 120. 15Mr1893.

Notes on 2 new species of *Nitella* from the Valley of Mexico and from Japan, and 2 new varieties of *Chara* from Mexico and New York.

37. ———. Note on some Characeae. Bull. Torr. Bot. Club. 20:258. 17Je1893.

States that Fasc. 1 of Part II, The Characeae of America, should have been dated 1892.

38. ———. Remarks on *Chara gymnopus* A. Br., with descriptions of New Species of *Chara* and *Nitella*. Bull. Torr. Bot. Club. 21:162-167. *pl.* 185-192. 25Ap1894.

Describes 3 new species and 1 new variety of *Chara*, and 3 of *Nitella*.

39. ———. Japanese Characeae I. Bull. Torr. Bot. Club. 21:523-526. 24D1894. Japanese Characeae II. Bull. Torr. Bot. Club. 22:68-71. 26F1895.

In the first article are included 2 species of *Chara* and 5 of *Nitella*, of which latter 2 are new. In the second 2 new species and 1 new variety of *Nitella* are described.

40. ———. Note on *Chara sejuncta* A. Br. Bull. Torr. Bot. Club. 21:526. 24D1894.

41. **Anderson, C. L.** List of California Marine Algae, with notes. Zoe. 2:217-225. O1891.

A list of 228 species.

42. ———. Some new and some old Algae but recently recognized on the California coast. Zoe. 4:358-362. 1 f. Ja1894.

Punctaria winstonii and *Callithamnion rupicolum* described as new.

43. **Anderson, F. W.** and **Kelsey, F. D.** Common and Conspicuous Algae of Montana. Bull. Torr. Bot. Club. 18:137-146. 1My1891.

Forty-two species and varieties of Algae are described, of which 3 varieties and 1 species are new to science. 24 Diatoms are named.

44. **Angel, M.** Diatomaceous earth. Cal. St. Mining Bur. 10th Ann. Report St. Mineralogist for 1890. 583, 584. 1890.

A deposit in San Luis Obispo county.

45. **Archer, W.** A word more on the "Ague Plant." Grevillea. 2:166-169. My1874.—(Mo. Mic. Jour. 12:31, 32. 1J11874.)
A discussion of Botrydium argillaceum.

46. ———. New Closterium of New Jersey. Quart. Jour. Micr. Sci. 19:120. 1879.

47. **Ard, J.** Fucoides alleghaniensis. Proc. Phil. Acad. 5:256. (19Ag1851.) 1852.

Three specimens presented to the Society from Lewistown, Pa.

48. **Ardissone, F.** Alghe della Terra del Fuego raccolte del Prof. Spegazzini. Rendiconta Reale Instit. Lombardo II. 21:208-215.—(Bull. Torr. Bot. Club. 17:158. 9Je1890.)

A list of 45 species with 3 new.

49. **Arechavaleta, J.** Los Vaucheria montevidéanos. Anales del Ateneo del Uruguay. 4:18. pl. 5, 6. 1883.—(Bot. Zeit. 41:627. 21S1883.)

50. **Areschoug, J. E.** Algarum (Phycearum) minus rite cognitarum pugillus secundus. Linnaea. 17:257-269. 1843.

A specimen of Padina deusta Hook. from Greenland, is described.

51. ———. Virginia, ett nytt algslaegte. Oefvers. Kongl. Vet. Akad. Foerhandl. 10:145, 146. 1853.—(Bot. Zeit. 13:562. 1855.)

Collected on the coast of California. Stated to be the Postelsia palmaeformis of Ruprecht.

52. ———. Phyceae novae et minus cognitae in maribus extra-europaeis collectae quas descriptionibus atque observationibus adumbravit. Act. Reg. Soc. Sci. III. 1:329-372. 1854. Upsala.—(Bull. Soc. Bot. France. 3:204-205. 1856.)

Some species from South America.

53. ———. Observationes phycologicae particula quarta: De Laminariaceis nonnullis. Act. Reg. Soc. Sci. III. 11:1883. Upsala.—(Science. 2:21. 6J11883.)

Includes several forms of Laminariae found in the United States.

54. **Arthur, J. C.** History of Floyd county, Iowa.—(Bot. Gaz. 7:127. N1882.)

Description of some algal forms.

55. ———. Some Algae of Minnesota supposed to be Poisonous. Bull. Minn. Acad. Nat. Sci. 2:(App.) 1-12. 31My1883.—(Fourth Bien. Rep. Bd. Regents Univ. of Minn. Suppl. I. Rep. Dept. Agric. Univ. of Minn. 95-104. 1887.) Second Rep. on Some Algae of Minnesota supposed to be Poisonous. Fourth Bien. Rep. Bd. Regents Univ. of Minn. Suppl. I. Rep. Dept. Agric. Univ. of Minn. 109-114. 1887.—(Bull. Minn. Acad. Nat. Sci. 3:97-103. 1889)

56. **Arthur, J. C.** A supposed Poisonous Sea-weed in the Lakes of Minnesota.—(Proc. Am. Ass. Adv. Sci. 32:305. (Ag1883.) 1884.) (Science. 2:333. 7S1888.)

57. **Arthur, J. C., Upham, W., Bailey, L. H., Jr., Holway, E. W. D.** and others. Algae. Report on Botanical Work in Minnesota for the year 1886. Geol. and Nat. Hist. Surv. Minn. Bull. No. 3. 36-39. 1O1887.

Fifty-seven species are listed.

58. **Ashburner, —.** Diatomaceous earth from Santa Monica bay.—(Am. Mo. Mic. Jour. 8:58. Mr1887.)

Read before San Francisco Microscopical Society, Feb. 23, 1887.

59. **Ashmead, S.** Marine Algae. Proc. Phil. Acad. 6:147, 148. (14S) 1852.

A collection of 40 specimens from Beesley's Point, N. J., donated to the Museum and a few remarks concerning their habitat.

60. ———. Marine Algae. Proc. Phil. Acad. 6:1xxii. (11O) 1853.

Thirty-six specimens from Newport and New Haven.

61. ———. Marine Algae. Proc. Phil. Acad. 7:xxxiii. (9O1855.) 1856.

Twenty-nine species from Beesley's Point, N. J. are added to the Museum.

62. ———. Catalogue of Marine Algae discovered at Beesley's Point during the past summer, with some remarks thereon. Proc. Phil. Acad. 7:410-413. (30O1855.) 1856.

Thirty species embraced in this list.

63. ———. Marine Algae. Proc. Phil. Acad. 8:i. (19F1856.) 1857.

Six species from Florida presented to the Museum.

64. ———. Marine Algae. Proc. Phil. Acad. 8:v. (22Ap-1856.) 1857.

Sixty-six specimens presented, which were collected at Key West, Florida, during the winter of 1855-56.

65. ———. Marine Algae. Proc. Phil. Acad. 1857:74. (17Mr1857.) 1858.

A verbal discussion of the specimens presented upon a former occasion and of some additional ones involving a correction of some of the names.

66. ———. Marine Algae. Proc. Phil. Acad. 1857:ii. (17Mr1857.) 1858.

Ten specimens including 9 species from Key West, Florida.

67. ———. A list of Plants and a Catalogue of Marine Algae collected on the coast of Egg Harbor, at and near Beesley's Point. Geol. Report Cape May county, N. J. 149-154. 1857. Trenton.

68. **Ashmead, S.** A doubtful Alga. Proc. Phil. Acad. 1858:8. (16F1858.) 1859.

One of the species found at Beesley's Point, N. J. and supposed to be either *Callithamnion* or *Griffithsia*.

69. ———. *Catalogus Plantarum in Nova Caesarea Repertarum* by O. R. Willis with a supplement concerning marine algae. i-xxviii. 1-88. 1878. N. Y. and Chicago. A. S. Barnes & Co. (Bot. Gaz. 3:8. Ja1878.)

Twenty-eight species of marine algae are enumerated.

———. See **Durand, E., James, T. P. and Ashmead, S.**

70. **Askenasy, E.** Ueber eine neue Meeresalge. Bot-morph Studien. 1872. Heidelberg.

Rhodopeltis scyleri collected from the coast of Peru.

71. ———. Algen. Mit Unterstuetzung der Herren Bornet, E., Grunow, A., Hariot, P., Moebius, M., Nordstedt, O., bearbeitet. Forschungsreise S. M. S. "Gazelle." P. IV. Bot. red. von A. Engler. 4to. 1-58. 12 pl. 1888. Berlin.

Species from America.

72. **Atkinson, G. F.** Preliminary note on the synonymy of *Entothrix grande* Wolle. Bot. Gaz. 14:292. N1889.

73. ———. Monograph of the Lemnaceae of the United States. Ann. Bot. 4:177-226. pl. 7-9. My1890.—(Bull. Torr. Bot. Club. 17:184. 1J1890.) (Jour. Roy. Mic. Soc. 1890: 641, 642. O1890.)

74. ———. Intelligence manifested by the swarmspores of *Rhizophidium globosum* (A. Br.) Schroeter. Bot. Gaz. 19:503, 504. 26D1894.

75. **Atwell, C. B.** A phase of Conjugation in *Spirogyra*. Bot. Gaz. 14:154. 1f. Je1889.—(Am. Mo. Mic. Jour. 10:208. S1889.) (Jour. Roy. Mic. Soc. 1889:786. O1889.)

76. ———. A deep-water *Nostoc*. Bot. Gaz. 14:291, 292. N1889.

Description of a *Nostoc* found in Lake Michigan.

———. See **Johnson, L. N. and Atwell, C. B.**

77. **Atwood, H. F.** Mounting Algae. Am. Jour. Mic. 2:154, 155. N1877.—(Jour. N. Y. Mic. Soc. 3:72, 73. O1887.)

78. ———. *Volvox globator*. Am. Jour. Mic. 3:116, 117. My1878.

79. **Aubert, A. B.** *Styrax* and Balsam. Am. Mo. Mic. Jour. 6:86, 87. My1885.—(Jour. Roy. Mic. Soc. II. 5:744. 1885.)

80. **Aubert, A. B.** A partial list of the Diatoms of Somerville, Seal Harbor and North East Harbor, Maine, U. S. A.

The list comprises 126 species from Somerville, 44 from Seal Harbor, 18 from North East Harbor, making a total of 188 species from Maine.

81. **Austin, C. F.** Notes on Hepaticology. Bull. Torr. Bot. Club. 6:301-306. Ap1879.

Refers *Poterophora* Wolle to an hepatic protonema or fern prothallium.

82. **Babcock, H. H.** Chicago Hydrant water. The Lens. 1:103. 1872.—(Mo. Mic. Jour. 7:182,183. 1Ap1872.) (Grevillea. 1:13. J1872.)

83. ———. Organisms in Chicago drinking water.—(Am. Nat. 7:123. F1873.)

Brief review of a paper read at the Dubuque meeting of the American Association.

84. **Bernard de la Pylaie, A. J. M.** Flore de l'Ile de Terre-neuve et des Iles Saint Pierre et Miclon. F. Didot. 4to. 1-128. 1829. Paris.

List of algae.

85. **Bailey, J. W.** On fossil Infusoria discovered in Peat-earth at West Point, N. Y., with some notices of American species of Diatomae. Am. Jour. Sci. Arts. 35:118-124. pl. 2. Ja1839.

Names 6 species of diatoms.

86. ———. Letter on fossil Infusoria of Massachusetts. E. Hitchcock's Final Report Geol. Mass. 2:311-315. (19S1840.) 1841.

87. ———. A Sketch of the Infusoria, of the family Bacillaria, with some account of the most interesting species which have been found in a recent or fossil state in the United States. Am. Jour. Sci. Arts. 41:284-305. pl. 3. O1841. 42:88-105. pl. 2. OND1841. 43:321-332. pl. 5. J1AgS1842. Reports of the 1st, 2d and 3d meetings of the Association of American Geologists and Naturalists for 1840, 1841 and 1842. Trans. Ass. Am. Geol. Nat. 1840-42:112-164. pl. 1-3. 1843.

88. Ehrenberg's Notices of American Infusoria. Am. Jour. Sci. Arts. 43:393-395. J1AgS1842.

89. ———. On Microscopic fossils from the Infusorial stratum of Virginia. Am. Jour. Sci. Arts. 45:313. J1AgS1843.

90. ———. Account of some new Infusorial Forms discovered in the Fossil Infusoria from Petersburg, Va., and Piscataway, Md. Am. Jour. Sci. Arts. 46:137-141. pl. 3. OND1843.

91. **Bailey, J. W.** On some new species of American Desmidiaceae from the Catskill Mountains. Am. Geol. Nat. Ass. Reports. 1843.—(Am. Jour. Sci. Arts. II. 1:126, 127. 4f. My1846.)

Three species are described.

92. ———. Notes on the Algae of the United States. Am. Geol. Nat. Ass. Reports. 1843.—(Am. Jour. Sci. Arts. II. 3:80–86. 399–403. My1847. II. 6:37–42. N1848.)

From this list it appears that 172 species of Algae are now known to occur in the United States.

93. ———. Notice of a Memoir by C. G. Ehrenberg: "On the Extent and Influence of Microscopic Life in North and South America." Am. Jour. Sci. Arts. 46:297, 313. JaFMr1844.

94. ———. Notice of some new localities of Infusoria, Fossil and Recent. Am. Jour. Sci. Arts. 48:321–343. pl. 4. Ap1845.

95. ———. Notes on the Infusoria of the Mississippi river. Proc. Boston Nat. Hist. Soc. 2:33–35. 1845–48.

96. ———. Some remarks on the *Navicula spencerii*, and on a still more difficult test object. Am. Jour. Sci. Arts. II. 7:265–270. My1849.

97. ———. On a process for detecting the remains of Infusoria, etc., in Sedimentary Deposits. Proc. Am. Ass. Adv. Sci. 1849:409. (21Ag1849.) Ag1850.

98. ———. Discovery of an Infusorial stratum in Florida. Am. Jour. Sci. Arts. II. 10:282. N1850.

99. ———. Microscopical examination of Soundings, made by the U. S. Coast Survey off the Atlantic coast of the United States. Smiths. Cont. Knowl. 2³:1–15. 1 pl. (24D1850.) 1851.

A number of Diatoms noted.

100. ———. Microscopical Observations made in South Carolina, Georgia and Florida. Smiths. Cont. Knowl. 2⁸:1–48. pl. 1–3. (1D1850.) 1851.

Lists of Diatoms, Desmids and other Algae reported from a large number of localities.

101. ———. Reply to Mr. De la Rue's remarks on the *Navicula spencerii*, contained in the American Journal of Science, vol. ix, p. 23., with a notice of two new test objects. Am. Jour. Sci. Arts. II. 11:82–84. My1851.

102. ———. Fossil Infusoria of the Southern Rice Fields. Am. Jour. Sci. Arts. II. 11:85. My1851.

103. ———. Localities of *Terpsinoë musica* Ehr. Am. Jour. Sci. Arts. II. 11:85. My1851.

104. ———. Fossil Infusoria of Maryland. Am. Jour. Sci. Arts. II. 11:85, 86. My1851.

105. **Bailey, J. W.** On the real nature of the so-called "orifices" in Diatomaceous shells. *Am. Jour. Sci. Arts.* II. 11:349, 350. My1851.

106. ———. On the cell-membrane of Diatomaceous shells. *Am. Jour. Sci. Arts.* II. 11:350, 351. My1851.

107. ———. Infusoria in Hudson river ice. *Am. Jour. Sci. Arts.* II. 11:351. My1851.

108. ———. List of Diatomaceae, collected by the United States Exploring Expedition under Capt. Wilkes, U. S. N. *Proc. Phil. Acad.* 6:431, 432. 25O1853.

Eighty species are noted.

109. ———. Examination of some deep Soundings from the Atlantic Ocean. *Am. Jour. Sci. Arts.* II. 17:176-178. My1854.

110. ———. On some new localities of fossil Diatomaceae in California and Oregon. *Am. Jour. Sci. Arts.* II. 17:179, 180. My1854.

111. ———. On a mode of giving permanent flexibility to brittle specimens in Botany and Zoology. *Am. Jour. Sci. Arts.* II. 18:100-102. N1854.

112. ———. Notes on new species and localities of Microscopical Organisms. *Smiths. Cont. Knowl.* 7³:1-15. 1 pl. (N1853.) 1855.

A description of fossil Diatoms from California is given. 16 new species of living forms described. Also a list of diatoms and desmids found in the Croton water in New York and a list of diatoms from Halifax, Nova Scotia.

113. ———. On some new localities of Fossil Diatomaceae. *Quart. Jour. Mic. Sci.* 3:91, 92. 1855.

California and Oregon are cited.

114. ———. On some new species of Diatomaceae. *Quart. Jour. Mic. Sci.* 3:93, 94. 1855.

115. ———. New mode of cleaning Diatomaceous deposits. *Am. Jour. Sci. Arts.* II. 21:145, 146. My1856.—(*Bull. Soc. Bot. France.* 3:445, 446. 1856.)

116. ———. On some specimens of deep sea bottom, from the sea of Kamtschatka, collected by Lieut. Brooks, U. S. N. *Am. Jour. Sci. Arts.* II. 21:284, 285. My1856.—(*Quart. Jour. Mic. Sci.* 4:305, 306. 1856.)

117. ———. New method of disintegrating masses of Fossil Diatomaceae. *Am. Jour. Sci. Arts.* II. 21:356, 357. My1856. *Quart. Jour. Mic. Sci.* 4:302, 303. 1856.

118. **Bailey, J. W.** On the non-existence of polarizing silica in the organic kingdoms. *Am. Jour. Sci. Arts.* II. **21**:357,358. My1856.—(*Quart. Jour. Mic. Sci.* **4**:303,305. 1856.)

119. ———. Notice of Microscopic forms found in the soundings of the Sea of Kamtschatka. *Am. Jour. Sci. Arts.* II. **22**:1–6. *pl. 1.* N1856.

Comparison with species found in different portions of the United States.

120. ———. Letter from J. W. Bailey, U. S. Military Academy, at West Point, relative to the characteristics deducible from specimens of bottom, brought up in sounding the Florida section of the Gulf Stream. *Rep. Supt. Coast Survey for 1855.* 360. (16O1855.) 1856. Washington.

A great number of known species of diatoms found in these surroundings.

121. ———. Report upon the results of microscopic examinations of the Soundings made by Lieut. Berryman of the U. S. Navy, on his recent voyages to and from Ireland in the Arctic. *Am. Jour. Sci. Arts.* II. **23**:153–157. Mr1857.

Comparison with species from the Gulf of Mexico.

122. ———. Fresh water Sketches. *Am. Nat.* **5**:334–340. J11871.

123. ———. The Bailey Collection of Diatomaceae in the Museum of the Boston Society of Natural History, by Prof. H. L. Smith. *The Lens.* **1**:288. N1872.—(*Mo. Mic. Jour.* **9**:78. 1F1873.)

———. *See Harvey, W. H. and Bailey, J. W.*

124. **Bailey, L. W.** Notes on new species of microscopical organisms, chiefly from the Para river, South America. *Boston Jour. Nat. Hist.* 329. *2 pl.* 1861.

125. ———. Letter on Diatomaceous earths of Maine. 2d Ann. Report Nat. Hist. and Geol. St. Maine. 395–401. (13N) 1862.

Lists of diatoms and other algal forms.

126. ———. Notes on Diatomaceae from the St. John river. *Can. Nat. and Geol.* **8**:92–95. Ap1863.

A list of 60 diatoms from Harris' Cove, Kennebeckasis river, New Brunswick is given. Thirteen species observed in melting ice of St. John river are named; also several species of desmids and diatoms from a pond at Fredricton.

127. ———. Desmids and diatoms. *Am. Nat.* **1**:505–517. *pl. 13.* D1867.

128. **Bailey, S. A.** Infusorial earths. Ann. Report Board of Regents Smithsonian Inst. 1866:46. 1872.
Specimens from Utica, New York, presented to the Museum.

129. **Balen, A. D.** Pithophora kewensis. Jour. N. Y. Mic. Soc. 1:218. (20 N.) D1885.

Record of locality near Plainfield, New Jersey.

130. ———. Volvox globator kept alive for three months. Jour. N. Y. Mic. Soc. 2:48, 49. (5 F.) Mr1886.

131. **Banks, C. W.** Slides of arranged and isolated Diatoms. Proc. San Fran. Mic. Soc. F1885.

132. **Barbour, E. H.** Living fossils. Bot. Gaz. 17:223. J1892.

Describes a Chara at Fall River, South Dakota.

133. **B(arnes), C. R.** The chlorophyll bands of Spirogyra. Bot. Gaz. 9:13. Ja1884.

An easy way of counting the number of bands.

134. **Bartlett, J.** The Ague Plant. Grevillea. 1:95. D1872. 2:142, 143. Mr1874.—(Quek. Mic. Club. Jour. 3:116, 117. 1873.) (Mo. Mic. Jour. 9:75, 76. 1F1873.).

135. **Barton, B. W.** On the origin and development of the stichidia and tetrasporangia in Dasya elegans. Studies Biol. Lab. Johns Hopkins Univ. 5:279-282. f. 1-6. (Ap.) O1893.

136. **Bauer, F.** Some experiments on the Fungi which constitute the coloring matter of the Red Snow discovered in Baffin's Bay Phil. Trans. Roy. Soc. London. Part I. 165-173. pl. 17. (11My.) 1820.—(Am. Jour. Sci. Arts. 2:356. N1820.)

137. **Bayard, S. F.** Algae of Rhode Island. Ann. Rec. Sci. and Indus. 342. 1872-73.

138. **Beal, W. J.** Observations on the conjugation of Mesocarpus pleurocarpus.—(Bull. Torr. Bot. Club. 16:244. 19S1889.)

Described at meeting of the Club, August 30, 1889.

139. ———. Mesocarpus pleurocarpus. The Microscope. 10:172-174. 3 f. Je1890.

140. **Beale, L.** Test objects for the microscope. (Grammophora subtilissima, Hyalodiscus subtilis.) Am. Nat. 1:158. My1867.

Bean, See **Leffman and Bean.**

141. **Beckwith, E. F.** Resolution of Amphipleura. The Microscope. 5:131. 1885.—(Jour. Roy. Mic. Soc. 5:726. 1885.)

142. **Bennett, A. W.** Volvox globator. Am. Jour. Mic. 3:217-220. 1 pl. O1878.

143. **Bennett, A. W.** *Volvox globator*. Am. Nat. 12: 815,816. D 1878.

Report upon investigations of Ferd. Cohn.

144. ———. The Structure and affinities of Characeae. Am. Nat. 12:818,819. D1878.

145. ———. Internal spore-formation in Diatoms.—(Am. Nat. 20:280,281. Mr1886.)

Account of the observations of Count A. F. Castracane and Mr. F. Kitton.

146. ———. Movements of Desmids. Am. Nat. 20:379,380. Ap1886.

147. ———. Pleomorphism of Algae. Am. Nat. 20:380. Ap1886.

148. **Bennett, J. L.** Plants of Rhode Island, being an enumeration of plants growing without cultivation in the state of Rhode Island. Proc. Prov. Frankl. Soc. 1--128. 1888.—(Bull. Torr. Bot. Club. 15:299. 2N1888.)—(Am. Nat. 22:1026, 1027. N1888.)

Eight species of Characeae and 619 species of other algae listed.

149. **Bergen, J. Y.** Cleaning Diatoms. Am. Mo. Mic. Jour. 4:198. O1883.—(Jour. Roy. Mic. Soc. II. 3:922. 1883.)

150. **Berggren, S.** Alger fran Groenlands inlandis. Oefvers. Kongl. Vet. Akad. Foerhandl. 28:293-296. 1871.

A species of *Ancylonema* considered as new by the author.

151. **Bessey, C. E.** The study of Botany in the United States. Am. Nat. 15:732-734. S1881.

152. ———. The abundance of Fresh-water Algae. Am. Nat. 16:43. Ja1882.

An unusual growth of algae in autumn in central Iowa, caused by the wet season.

153. ———. The systematic arrangement of the Thallophytes. Am. Nat. 16:43-46. Ja1882.

A discussion of the systems of leading Botanists.

154. ———. Pacific coast Botany. Am. Nat. 16:811, 812. O1882.

A brief review of the work that has been carried on in western United States in the different lines of Botany.

155. ———. Botany in Minneapolis. Am. Nat. 17:79. Ja1883.

The Botanical course at the summer school at the University of Minnesota described.

156. ———. Hybridism in *Spirogyra*. Am. Nat. 18:67,68. 1 f. Ja1884.—(Bot. Gaz. 9:30. F1884.)

157. **Bessey, C. E.** Sexuality in Zygnemaceae. *Am. Nat.* 18:421, 422. Ap1884.—(*Science* 6:224, 225. 11S1885.)—(*Jour. Roy. Mic. Soc.* II. 5:1038, 1039. D1885.)—(*Proc. Am. Ass. Adv. Sci.* 34:291. 1886.)

A brief abstract from *Nature* with additional notes upon the subject.

158. ———. Preliminary lists of the Protophytes, Zygo-phytes, Oophytes, Carpophytes and Bryophytes of the Ames Flora. *Bull. Bot. Dept. Iowa Ag. Coll.* 133-150. 1884.—(*Bot. Gaz.* 10:249. Mr1885.)

159. ———. Botany in Kansas.—(*Am. Nat.* 19:73. Ja1885.)

A dozen algae identified by F. Wolle.

160. ———. Botany at Salem.—(*Am. Nat.* 19:605, 606. Je1885.)

An extract from annual report of work of Peabody Academy of Science. Algae were given especial attention.

161. ———. Attempted hybridization between Pond-scums of different genera. *Am. Nat.* 19:800-802. Ag1885.

162. ———. Botanical work in Minnesota. *Am. Nat.* 22:66, 67. Ja1888.

Forty-three species of desmids and diatoms are listed.

163. ———. *Pediastrum* and *Polyedrium*. *Am. Nat.* 22:1026. N1888.

164. ———. Algae growing on animals. *Am. Nat.* 22:1028. N1888.

Three species of algae on hairs of sloths.

165. ———. Supplementary list of recently reported species. *Cont. Bot. Dept. Univ. Nebraska N. S.* 3:45-53. 1892.

Fifty-six species of algae listed.

166. ———. The Sargasso Sea. By Dr. O. Krümmel. (*Am. Nat.* 26:251,252. Mr1892.)

167. **Bicknel, E.** An exhibition of Diatoms thrown up by the sea at Marblehead, Massachusetts. *Proc. Am. Ass. Adv. Sci.* 19:384. 1871.—(*Am. Nat.* 4:573. N1870.)—(*Mo. Mic. Jour.* 5:34. 1Ja1871.)

Report given at the 19th meeting of the A. A. A. S.

168. **Bigelow, R. P.** On the structure of the frond in *Champia parvula* Harv. *Proc. Am. Acad. Arts. Sci. N. S.* 15:W. S. 23:111-121. 1 pl. 1 f. (16Je1887.) 1888.—(*Proc. Am. Ass. Adv. Sci.* 36:274,275. (Ag1887.)1888.)—(*Jour. Roy. Mic. Soc.* 1888:623. Ag1888. 1889:418. Je1889.)—(*Bot. Centralb.* 34:99,100. 1888.)

169. **Biscoe, J. D.** *Amphipleura pellucida* by moonlight. —(*Am. Nat.* 7:55. Ja1873.)

170 **Blackburn, W.** On Dr. Carpenter's address delivered at Montreal to the Histological and Microscopical Section of the American Association for the Advancement of Science. (Diatom tests.) *Mic. News.* 29. 1883. London.

171. **Blackford, E.** Green bearded oysters.—(*The Microscope.* 3:33-35. Ap1883.)

172. **Blackham, G. E.** *Pleurosigma angulatum*. *Am. Jour. Mic. Pop. Sci.* 5:160. Jl1880.

173. **Blake, J.** On some diatoms from a hot spring in Pueblo Valley, Humboldt county, Nevada. (1871.) *Proc. Cal. Acad.* 4:183. 1868-72.—(*Am. Nat.* 5:716. N1871.)—(*Am. Jour. Sci. Arts.* III. 4:148,149. Ag1872.)—(*Ann. Mag. Nat. Hist.* 10:312. 1872.)—(*Mo. Mic. Jour.* 9:71. 1F1873.)

Red algae and about 50 species of diatoms.

174. ———. On algae found growing in hot springs at different temperatures. (1871.) *Proc. Cal. Acad.* 4:193. 1868-72.

175. **Blake, W. P.** Notice of remarkable strata containing the remains of Infusoria and Polythalamia in the Tertiary formation of Monterey, California. *Proc. Phil. Acad.* 7:328-331. 24Ap1855.

Specimens of these strata were found to be rich in marine diatoms.

176. **Boldt, R.** Desmidieer fran Groenland. *Bihang Kongl. Svensk. Vet. Akad. Handl.* 13: Afd. III⁵. 1-48. *pl. 1, 2.* (8Je 1887) 1888.—(*Bot. Centralb.* 38:736-739. 1889.)—(*Jour. Roy. Mic. Soc.* 1889:676, 677. O1889.)—(*Bull. Torr. Bot. Club.* 17:20. 15Ja1890.)

A list of desmids with a description of new species in 4 genera.

177. ———. Grunddragen af Desmidieernas utbredning i norden. *Bihang Kongl. Svensk. Vet. Akad. Handl.* 13: Afd. III⁶. 1-110. (8Je1887.) 1888.

178. ———. Nagra soetvattens-alger fran Groenland. *Bot. Notiser.* 156-158. 1 f. 1893.

Fourteen species named.

179. **Booth, M. A.** Mailing packages of Diatoms. *Am. Mo. Mic. Jour.* 5:100. My1884.

180. **Bornet, E. and Flahault, C.** Note sur le genre *Aulosira*. *Bull. Soc. Bot. France.* 32:119-122. *pl. 4.* (13Mr) 2My1885. Montevideo specimens.

181. ———. Revision des Nostocacees heterocysteis contenues dans les principaux Herbiers de France. *Ann. Sci. Nat.* vii. 3:323-381. 1885. 4:343-373. 1885. 5:51-129. 1886. 7:177-262. 1887.

Numerous species described from various American localities.

182. **Bornet, E. and Grunow, A.** Mazaea, nouveau genre d'Algue de l'ordre des Cryptophycees. Bull. Soc. Bot. France. 28: 297-289. *pl.* 7. (25N1881.) F1882.

A new fresh water form collected in Brazil.

183. **Boyer, C. S.** A fossil marine Diatomaceous Deposit at St. Augustine, Florida. Bull. Torr. Bot. Club. 22: 171-174. 18Ap1895.

184. ———. A Diatomaceous Deposit from an Artesian Well at Wildwood, N. J. Bull. Torr. Bot. Club. 22: 260-266. 25Je1895.

Eighty exclusively fresh water forms, 47 exclusively marine forms, and others found in both habitats.

185. **Bragdon, A. A.** The objectives which afford the most accurate knowledge of histology. Am. Mo. Mic. Jour. 1: 89-93. My1880.

Brace, L. J. K. See Gardner, J., Brace, L. J. K. and Dolley, C. S.

186. **Brannon, M. A.** Grinnellia Americana. Proc. Ind. Acad. Sci. 34, 35. 1892.

187. **Braun, A.** A brief notice of the Charae of North America. Am. Jour. Sci. Arts. 46: 92, 93. O-N-D1843.

188. ———. Die in Columbien und Guyana aufgefundenen Characeen. Berl. Monatsb. 349-367. 1858.

189. ———. Fragmente einer Monographie der Characeen. (Posthumous.) Herausgeg. von O. Nordstedt. (Sep.-Abdr. aus Abhandl. Koenigl. Akad. Wiss. (Phys. 1. Kl.) 1892. Berlin.

"Nur in America 23."

190. **Bray, W. L.** Notes on Pediasstrum. (Proc. Ind. Acad. Sci. 49. 1892.)

191. **Brebisson, A. de.** Description de quelques nouvelles Diatomees observees dans le guano du Perou, formant le genre Spatangidium. Ann. Sci. Nat. iv. 9: 91-96. *pl.* 4 b. 1858.

Five species described.

192. **Breckenfeld, A. H.** An Infusorian in the water of San Francisco. Am. Mo. Mic. Jour. 5: 4, 5. Ja1884.

Probably Ceratium longicorne.

193. ———. The life history of Vaucheria. Am. Mo. Mic. Jour. 6: 2-6. 6f. Ja1885.

194. ———. Abnormal forms of Vaucheria. The Microscope. 6: 247. N1886.

Remarks made at San Francisco Microscopical Society at the meeting of August 11, 1886.

195. **Breckenfeld, A. H.** How to study Pond Life.—(Am. Mo. Mic. Jour. 11:241,242. S1890.

Paper read at meeting of San Francisco Microscopical Society, August 13, 1890.

196. **Breitenbach, W.** Protective Mimicry in Marine Life. (Pop. Sci. Mo. 26:365-368. Ja1885.)—(Am. Mo. Mic. Jour. 6:139. J11885.)

Notes on the Sargasso Sea.

197. **Brewer, W. H.** Observations on the presence of living species in hot and saline waters in California. Am. Jour. Sci. Arts. II. 41:391-393. My1866.

198. ———. Notes on the organisms of the Geysers of California. Am. Jour. Sci. Arts. II. 42:429. N1866.

199. **Bridgman, L. B.** Zoospores in *Spirogyra condensata*. Erythea. 1:128-130. 1893.

Probably Chytridium zoospores.

200. **Briggs, S. A.** Some of the Diatomaceae of Lake Michigan. The Lens. 1:45. 1872.

201. ———. Some of the Diatomaceae of Upper Lake Huron and the Sault. The Lens. 1:235-237. 1872.

202. ———. Contributions towards a complete list of Rhode Island Diatoms. (Addition to Olney's Catalogue.) The Lens. 2:161-163. 1873.

203. ———. The Diatomaceae in the soundings of the Expedition for the Exploration of the Baltic. The Lens. 2:232. 1 pl. 1873.

204. **Brigham, C. B.** The fresh water Aquarium. Am. Nat 3:131-136. My. 3:207-212. Je. 3:373-377. S. 3:486-490. N 1869. 4:23-27. Mr1870.

205. **Britton, N. L.** On the composition and distribution of the Flora of New Jersey.—(Bot. Gaz. 9:156. ON1884.)

Read before the Botanical Club in Minneapolis. 10 species of Chara, 110 species and 4 varieties of marine algae, 510 species of fresh water algae, and 450 species of diatoms.

206. ———. On an Archaean plant from the White Crystalline Limestone of Sussex county, New Jersey. Ann. N. Y. Acad. Sci. 4:123,124. pl. 7. (9 Ja.) F1888.

207. ———. Catalogue of Plants found in New Jersey. 1-642. 1889.—(Am. Jour. Sci. Arts. III. 40:171,172. Ag1890.)

208. ———. John Strong Newberry. Bull. Torr. Bot. Club. 20:89-98. 15Mr1893.

One diatom and 3 species of other algae named in honor of Professor Newberry.

209. **Broadhead, G. C.** Note on coal measure Fucoids. *Am. Jour. Sci. Arts.* III. 2:216-217. S1871.

210. **Brooks, W. K.** The origin of the Food of Marine Animals. *Bull. U. S. Fish Comm. for 1893.* 13:87-92. 1894.

211. **Browne, P.** The civil and natural history of Jamaica. 3 parts. 1-503. *pl. 1-50.* 1756. Osborne. London.—Ed. 2. i-viii. 1-503. (123.) *pl. 1-50.* 1789. White & Son, London.

Remarks on sea weeds.

212. **Brown, R.** On the origin and mode of propagation of the Gulf weed. *Proc. Linn. Soc.* 2:77-80. 1855.—(Misc. Bot. Works of Robert Brown. 1:579-582. 1866.)

Read before the Linnean Society May 7, 1850.

213. ———. On the nature of the discoloration of the Arctic Seas. (1867.) *Edin. Bot. Soc. Trans.* 9:244-252. 1868.—(Quart. Jour. Mic. Soc. 8:240-247. 1868.)—(*Am. Nat* 2:383, 384. S1868.)—(*Petermann Mitth.* 15:21-23. 1869.)

Read before the Edinburgh Botanical Society, Dec. 1867. The discoloration caused by a diatom.

214. **Brun, W.** New process of preparing Diatoms. *Am. Mo. Mic. Jour.* 3:222, 233. D1882.

215. **Brunt, G. van.** Bad Taste of Water. *Proc. Poughkeepsie Soc. Nat. Sci.* 1:128-131. (27D.) 1875.

Remarks on algae.

216. ———. Removing Air from Diatoms. *Am. Mo. Mic. Jour.* 4:39. F1883.

217. ———. Desmidiaceae. *Am. Mo. Mic. Jour.* 4:59, 60. Mr1883.

Note of address before the New York Microscopical Society.

218. ———. Preparation of *Bacillaria paradoxa*. *Am. Mo. Mic. Jour.* 4:60. Mr1883.

219. ———. Prof. Hamilton L. Smith's New Mounting Medium. *Jour. N. Y. Mic. Soc.* 1:158, 159. (15My.) Je1885.

220. **Burgess, E. S.** Notes on the larger fresh-water algae of the District of Columbia.—(*Am. Mo. Mic. Jour.* 7:239, 240. D1886.)

Paper read before the Washington Microscopical Society at the 50th regular meeting.

221. ———. Works on fresh-water algae accessible in Washington. (*Am. Mo. Mic. Jour.* 9:13, 14. Ja1888.)

Abstract of paper read before the Washington Microscopical Society Nov. 8, 1887.

222. **Burgess, E. S.** Fresh-water Algae. — (Am. Nat. 22:669-679. Ag1888.)—(The Microscope. 8:344, 345. N1888.)

Condensed from a lecture given at the U. S. Nat. Museum, Washington, D. C., Jan. 7, 1888.

———. See **Farlow, W. G., Nichols, and Burgess, E. S.**

223. **Burnett, W. J.** The Family of Vibrionia (Ehrenberg) not animals, but plants. Proc. Am. Ass. Adv. Sci. 195-199. (22Ag1850.) 1851.

224. **Bush, Mrs. M. A.** Marine Algae. Proc. Phil. Acad. 1866:426. (4D) 1866.

Ninety-five specimens donated to the Museum.

225. **Butler, Eloise.** An active Desmid. Am. Nat. 16:584. J11882.

226. ———. Desmids (Desmidiaceae.) Bot. Gaz. 11:148, 149. Je1886.

Directions for collecting.

227. **Calkins, G. N.** The Microscopical Examination of Water. 23d Ann. Rep. Mass. St. Bd. Health. 397-421. 1892.

228. ———. On Uroglena, a Genus of Colony-building Infusoria observed in certain Water Supplies of Massachusetts. 23d Ann. Rep. Mass. St. Bd. Health, 647-658. *pl. 1-4.* 1892

Compared with Volvox.

229. ———. A study of Odors observed in the Drinking Waters of Massachusetts. 24th Ann. Rep. Mass. St. Bd. Health. 355-379. 1893.

A number of algae are discussed.

230. ———. The Seasonable Distribution of Microscopical Organisms in Surface Waters. 24th Ann. Rep. Mass. St. Bd. Health. 383-390. 1892.

Diatomaceae, Cyanophyceae and other algae.

231. **Campbell, D. H.** Plants of the Detroit river. Bull. Torr. Bot. Club. 13:93,94. Je1886.

Eighty-seven species of algae listed.

232. ———. Some Abnormal Forms of Vaucheria. Am. Nat. 20:552,553. Je1886.

233. ———. Coloring the Nuclei of Living Cells. Bot. Gaz. 12:192,193. Ag1887.

The spermatozooids of Chara used with good results.

234. ———. The absorption of Aniline Colors by Living Cells. Bot. Gaz. 12:193,194. Ag1887.

Describes the effect of various dyes upon Spirogyra, Zygnema, etc.

235. ———. The study of Fucus in Inland Laboratories. Bot. Gaz. 14:182. J11889.

236. **Campbell, D. H.** Studies in Cell Division. Bull. Torr. Bot. Club. 17:113-121. *pl.* 102-103. 9My1890.

Mentions a number of common algal forms used in experiments.

Cardot, J. See **Delamare, E., Renauld, F. and Cardot, J.**

237. **Carruthers, J. B.** On the Cystocarps of some species of Callophyllis and Rhodymenia. Jour. Linn. Soc. 29:77-86. (Je1890.) 1893.

The Rhodymenia studied was collected from Santa Cruz, Bay of Monterey, by Dr. C. L. Anderson.

238. **Carruthers, W.** On the History and Affinities of the British Coniferae. Geol. Sect. Brit. Ass. at Liverpool. 1870. 71. 1871.

States reasons for placing Prototaxites among the algae.

239. ———. On the History, Histological Structure and Affinities of Nematophycus logani Carr. (Prototaxites logani Dawson), an Alga of Devonian Age. Mo. Mic. Jour. 8:160-172. *pl.* 31, 32. 1O1872.

A Canadian fossil form.

240. **Carter, F. B.** Desmids. Their Life History and their Classification.—(Am. Mo. Mic. Jour. 10:19. Ja1889. 10:45. F1889.)—10:35-38. F1889. 10:73-79. 1 *pl.* Ap1889.

Abstract of paper read before the Essex county, New Jersey, Microscopical Society.

241. ———. Diatoms. Their Life History and their Classification. Am. Mo. Mic. Jour. 11:276-280. D1890. 12:1-6. Ja. 12:81-85. Ap. 12:97-101. *pl.* 1. My. 12:121-123. *pl.* 2. Je1891.—(Bull. Torr. Bot. Club. 19:27, 28: 15Ja1892.)

Read before the Essex county, New Jersey, Microscopical Society, Nov. 13, 1890.

242. **Cassin, J.** A collection of Algae. Proc. Phil. Acad. 1864:145. (3My) 1864.

The entire collection of Mr. Ashmead bequeathed to the Society.

243. ———. Striae of the Diatomaceae.—(Am. Jour. Mic. 6:189-181. S. 6:194-197. O1881.)

244. **Castracane, A. F.** Report on the Diatomaceae collected by H. M. S. Challenger during the years 1873-76. The voyage of H. M. S. Challenger. Bot. 2:1-170. *pl.* 1-30. (D1884.) 1886.—(Bot. Centralb. 33:258. 1888.)

245. ———. Le raccolte di Diatomee pelagiche del Challenger. Atti. Accad. Pontif. Nuov. Linc. 39: 1887. Rome.

246. **Certes, A.** Sur l'abondance de la Pinnularia viridis dans les depots du Cap Horn. Rap. sur les Protozoaires. Miss. Sci. Cap Horn. 20. 1889. Paris.

247. **Chaloner, A. D.** Infusoria. Proc. Phil. Acad. 1:169. (3My.) ApMy1842.

Inquiry concerning property of evolving oxygen gas under influence of sun's rays.

248. **Chamberlain, C. W.** Some of the organic Impurities found in Drinking Waters. 5th Ann. Rep. Conn. St. Bd. Health for 1882. 260-280. *pl. 1, 2.* 1883.

Chapman, E. T. See Wanklyn, J. A. and Chapman, E. T.

249. **Chase, H. H. and Walker, W. C.** On some new and rare Diatoms. I. 2 *pl.* 1886. Utica, N. Y.—(Bot. Centralb. 32:97-98. 1887.) II and III. 1-12. 3 *pl.* 1887.—Daily News Print, Flint, Mich. 1887.—(Jour. Roy. Mic. Soc. 1887:788. O1887.)—(Bot. Centralb. 33:130, 131. 1888.)

Chase, H. H. See Thomas, B. W. and Chase, H. H.

250. **Cheeseman, E. L.** An Alga in an Aquarium. With note by the editor. Am. Mo. Mic. Jour. 4:41. Mr1883.

251. ———. A growing Slide. Am. Mo. Mic. Jour. 6:53. Mr1885.

252. **Christian, T.** Diatoms in Barbadoes Deposit. Am. Mo. Mic. Jour. 4:179,180. S1883.

253. ———. Photo-micrographs of a new Diatom—*Melonavicula marylandica*. Am. Mo. Mic. Jour. 7:218. N1886.

254. ———. New Diatomaceous Deposits.—(The Microscope. 7:65-68. 6 *f.* Mr1887.)

Extract from paper read before the Richmond Microscopical Society.
A number of forms from an artesian well at Cambridge, Maryland,
at a depth of 200 feet.

255. **Chute, R.** Infusorial Earth. Ann. Rep. Bd. Regents. Smiths. Inst. 1866:46. 1872.

Specimens from St. Anthony's Falls were added to the Museum.

256. **Clark, F. C.** Red Snow. Am. Nat. 9:129-135. Mr1875.

257. **Clark, Josephine A.** Card-Index of Genera, Species and Varieties of Plants published since 1885. Washington, D. C., U. S. A. 1892—.

Index of new species of algae.

258. **Clark, J.** Catalogue of Flowering Plants and Ferns observed in the vicinity of Cincinnati. Adopted and published by the Western Academy of Natural Sciences. Cincinnati. 1-30. 1852.

Chara flexilis included.

259. **Cleburne, W.** Fossil Algae. Proc. Phil. Acad. 1857:
ii. (12My1857.) 1858.

Two specimens from Minnesota.

260. **Clendenin, Ida.** Observations on the Zoospores of *Chaetophora endiviaefolia*. Asa Gray Bull. No. 5. 13. 1894.

261. **Cleve, P. T.** On Diatoms from the Arctic Sea. Bihang Kongl. Svenska. Vet. Akad. Handl. 1: No. 13. 4 pl. 1872-73.

262. ———. Diatoms from the West Indian Archipelago. Bihang. Kongl. Svensk. Vet. Akad. Handl. 5: No. 8. 1880.

263. ———. Färskvattens-Diatomaceer fran Groenland och Argentinska Republiken. 1. Diatomaceer fran Groenland. Oefvers. Kongl. Vet. Akad. Foerhandl. 38: No. 10. 3-7. 1881. —(Bot. Centralb. 11:43. 1882.) 2. Diatomaceer fran Argentinsk a Republiken. Oefvers. Kongl. Vet. Akad. Foerhandl. 38: No. 10. 7-13. 1881.—(Acad. Bol. Cordoba. 4: 191-197. 1882. Buenos Ayres.)

264. ———. On some New and little Known Diatoms. Bihang. Kongl. Svensk. Vet. Akad. Handl. 18: No. 5. 1882.

Specimens collected from Brazil, Florida and California.

265. ———. Diatoms collected during the expedition of the Vega. Vega-Expeditionens. Vet. Jakt. 3: 1883. Stockholm.—(Bot. Centralb. 18:132, 133. 1884.)

Species from Point de Galli and Behring Sea.

266. ———. On the diatoms collected during the Arctic expedition of Sir George Nares. Jour, Linn. Soc. 20: 313-317. (9Ap1883.) 1884.

267. ———. Note sur les Diatomees trouvees dans la pousiere glaciale de la cote orientale du Groenland. Le Diatomiste. 75. 1892.

268. ———. Diatomees rares ou nouvelles. Le Diatomiste. 75. 1892.—(Ann. Microgr. 351. 1893.)—(Am. Mo. Mic. Jour. 15: 214, 215. 1 pl. J11894.)

Several forms from American localities.

269. ———. Les Diatomees de l'Equateur. Le Diatomiste. 2: 99. 1 pl.

One hundred and thirty-seven species and varieties with several new from Ecuador.

270. **Cleve, P. T. and Grunow, A.** Beitræge zur Kenntniss der Arctischen Diatomeen. (1879.) Akad. Handl. 17: No. 2. 1881.

Gatherings made in Greenland.

271. **Cleve, P. T. and Kitton, F.** New Diatoms. Kongl. Svensk. Vet. Akad. 5:1878.—(Grevillea. 7:67–71. D1878.)

One hundred and seventy-seven species of diatoms, of which 25 are considered to be new, collected in the West Indian archipelago.

272. ———. New Diatoms. Addenda et Corrigenda.—Grevillea. 7:115. Mr1879.

273. **Cleveland, D.** Marine Algae of San Diego, California. 1885.

274. (**Clifford, G.**) To fasten arranged Diatoms. Am. Mo. Mic. Jour. 15:222, 223. J11894.

275. **Clinton, G. P.** Pleodorina in Illinois. Bot. Gaz. 19:383, 384. 15S1894.

276 **Cockerell, T. D. A.** Contributions towards a list of the Fauna and Flora of Wet Mountain Valley, Colorado. West Am. Scient. 6:153–155. (N) 1889.—(Bull. Torr. Bot. Club. 17:48. 5F1890.)

Thirty-one algae named.

277. **Cohn, F.** Janisch's Photogramma der Bacillariaceen von der Expedition der "Gazelle." Jahresb. Schles. Gesell. Vaterl. Cult. 1878. Breslau.

278. ———. Ueber eine Groenlandische Thermalalge. Bericht. Thätig. Bot. Sect. Schles. Gesell. 196. 1886.

279. **Cole, T.** List of Infusorial objects found in the neighborhood of Salem, Massachusetts. Proc. Essex. Inst. 1853.

280. **Collingwood, C.** Observations on the microscopic Alga which causes the discoloration of the sea in various parts of the world. Trans. Mic. Soc. 16:85–92. pl. 7. 1868.

281. **Collins, F. S.** A Laminaria new to the United States. Bull. Torr. Bot. Club. 7:117, 118. N1880.

Notes occurrence of *L. longipes* Bory and two other Laminarias on the Maine coast.

282. ———. Notes on New England Marine Algae. I. Bull. Torr. Bot. Club. 9:69–71. My1882. II. 10:55, 56. My1883. III. 11:29, 30. Mr1884. IV. 11:130–132. ND1884. V. 18:335–341. 15N1891.

283. ———. Algae from Atlantic City, N. J., collected by S. R. Morse. Bull. Torr. Bot. Club. 15:309–314. 4D1888.

One hundred and eight species enumerated.

284. ———. *Brachytrichia quoyii* (Ag.) Bornet & Flahault. Bull. Torr. Bot. Club. 17:175, 176. 1J11890.

A discussion of the various descriptions of the plant under different names.

Collins, F. S. See Damē, L. L. and Collins, F. S.

285. Congdon, E. A. Diatoms.—(Bull. Torr. Bot. Club. 13:124. J11886.)

A list of 22 fossil diatoms discovered near Clove lake reported to the Natural Science Association of Staten Island.

286. Conser, H. N. The examination of Nostoc. Am. Mo. Mic. Jour. 10:246. N1889.

287. Coombe, J. N. On the Animality of the Diatom. The Microscope (Smiley.) N. S. 2:187-189. D1894.

288. Coulter, S. Spirogyra under Shock. Bot. Gaz. 12:153-157. f. 1-5. J11887.—(Jour. Roy. Mic. Society. 1887:999. D1887.)

289. Coville, F. V. Botany of the Death Valley Expedition. U. S. Dept. Agric. Cont. U. S. Nat. Herb. 4:1-300. (231-233.) 1893.

Two species of Chara and about 5 species of other algae are reported.

290. Cox, C. F. Cement for Mounting. Am. Mo. Mic. Jour. 5:140. 1884.—(Zeits. wiss. Mik. 2:83. 1885.)

291. ———. What is a Diatom? Jour. N. Y. Mic. Soc. 8:1-28. (18D1891.) Ja1892.—(Bull. Torr. Bot. Club. 19:104, 105. 5Mr1892.)

292. ———. Interesting items on Diatoms. Am. Mo. Mic. Jour. 13:32-37. F1892.

293. ———. On recently discovered Deposits of Diatomaceous Earth in the Adirondacks. Trans. N. Y. Acad. Sci. 12:219, 220. (8My.) 1893

294. Cox, E. T. A trap for catching Diatoms and Animalcules. Am. Jour. Mic. 3:59. Mr1878.

295. Cox, J. D. Isthmia nervosa.—A study of its modes of growth and reproduction. Am. Jour. Mic. 3:97-101. 4f. My. 3:125-130. 2f. Je1878.—(Brebissonia 1:13, 14. 31Ag. 1:29-32. pl 2. f. 1-6. 28S. 1:45-48. 28O. 1:65-71. 28N1878.)—(Am. Quart. Mic. Jour. 1:81, 82. O1878.)

296. ———. Surirella craticula, an abnormal form of Navicula cuspidata. Am. Jour. Mic. 4:97-100. f. 1, 2. My1879.—(Brebissonia. 1:192. 30Je1879.)

297. C(ox), J. D. Motion of Diatoms. Am. Mo. Mic. Jour. 2:206, 207. N1881.—(Jour. Roy. Mic. Soc. II. 1:649. 1881.)

298. Cox, J. D. Structure of the Diatom Shell. Am. Mo. Mic. Jour. 5:45-49. Mr. 5:66-69. Ap. 5:85 89. My. 5:104-109. Je1884.—(Jour. Roy. Mic. Soc. II. 4:941. 1884.)

299. **Cox, J. D.** Photography with high powers by lamplight. Illustrating the Structure of Diatoms. Proc. Am. Soc. Mic. 7th Ann. Meeting. 99-104. *pl. 5.* 1884.

300. ———. Structure of the Diatom Shell. Silicious films too thin to show a broken edge. Jour. Roy. Mic. Soc. II. 5:398-405. (Je)1885.

A number of specimens from the United States were mentioned.

301. ———. Some Diatom Hoops: The Question of their Mode of Growth (*Aulacodiscus kittoni*.) Proc. Am. Soc. Mic. 8th Ann. Meeting. 33-37. 2 *f.* 1885.—(Jour. Roy. Mic. Soc. II. 6:659, 660. Ag1886.)

302. ———. Diatoms of the Gulf. Am. Mo. Mic. Jour. 6:145-147. Ag1885.

303. ———. Deformed Diatoms. Proc. Am. Soc. Mic. 13th Ann. Meeting. 178. 1890.

Abnormalities in 16 genera described.

304. ———. The Coscinodiscaeae. Notes on some unreliable criteria of Genera and Species. Proc. Am. Soc. Mic. 13th Ann. Meeting. 180. 1890.

305. ———. Diatoms: their Nutrition and Locomotion. The Microscope. 196-202. Jl1890.

306. ———. Diatom Structure—The Interpretation of Microscopical Images. Jour. N. Y. Mic. Soc. 7:73-87. (2Ja.) Ap1891.

307. **Cragin, F. W.** Note on Characeae. Bull. Washburn Coll. Lab. Nat. Hist. 1:188. Jl1886.

308. ———. On a leaf-bearing Terrane in the Loup Fork. Am. Geol. 8: 29-32. Jl1891.

Contains list of diatoms found in a lacustrine marl deposit in Indian Territory.

309. **Craig, T.** A new Dictyosphaerium. Proc. Nat. Sci. Ass. I. 4: 10. Ja1894.

310. **Croall, A.** Marine Algae of Greenland. 68°-70° N. L. Trans. Edinb. Bot. Soc. 9:456-462. 1868.

311. **Crotty, Gertrude.** Methods of Collecting, Cleaning and Mounting Diatoms. Trans. 23d Meeting Kansas Acad. Sci. 12:81-83. (1889.) 1890.

312. **Cuboni, G.** Diatomee raccolte a San Bernardino dei Grigioni da Giuseppe De Notaris. Notarisia. 2:226. 1887.

313. **Cunningham, K. M.** Procuring and Cleaning Diatomaceae. Am. Mo. Mic. Jour. 1:66, 67. Ap1880.

314. **Cunningham, K. M.** Cleaning Diatoms. Am. Mo. Mic. Jour. 2:14. Jel1881.
315. ———. An excellent Method of Cleaning Diatoms. Am. Mo. Mic. Jour. 2:93. 1881.—(Jour. Roy. Mic. Soc. II. 1:837. 1881.)
316. ———. Cleaning Diatoms. Am. Mo. Mic. Jour. 3:14. Ja1882.
317. ———. On collecting Marine Diatomaceae. Mic. News. 3:59. 1883. London.
318. ———. Microscopic specimens about Mobile. Am. Mo. Mic. Jour. 6:60. Mr1885.
Diatoms from Mobile Bay.
319. ———. New Find of Fossil Diatoms. Science. 7:35. 8Ja1886.
Statement made that at least 30 species of diatoms were found in a sample of clay from the vicinity of Philadelphia.
320. ———. A new find of fossil Diatoms. Am. Mo. Mic. Jour. 7:39. F1886.
A list of 14 genera of diatoms found in clay near Philadelphia.
321. ———. Notice of Slides containing 35 selected Diatoms of the Richmond fossil earth. Am. Mo. Mic. Jour. 7:79. Ap1886.
322. ———. Collecting and Cleaning Diatoms. The Microscope. 7:331-336. N1887.—(Jour. Roy. Mic. Soc. 143. 1888.)
323. ———. On the preparation of Type Plates and Arranged Groups of Diatoms. The Microscope. 8:237-241. Ag 1888.—(Jour. Roy. Mic. Soc. 152. 1889.)
324. ———. The Diatoms of Mobile, Alabama. The Microscope. 9:105-108. Ap1889.
Enumerates 137 species and varieties.
325. ———. Arranging Diatoms. Jour. N. Y. Mic. Soc. 6:60. Ap1890.
326. ———. The Mobile Deposits. Am. Mo. Mic. Jour. 13:169, 170. Jl1892.
Fifty-eight species of diatoms listed.
327. ———. Diatomology. Am. Mo. Mic. Jour. 13:249-253. N1892.
328. ———. Notes on some Researches among the Diatomaceae. Jour. N. Y. Mic. Soc. 9:85-115. O1893.
329. ———. A remarkable Collection of Photo-micrographs. Am. Mo. Mic. Jour. 14:339-342. D1893.
Twenty-four specimens of diatoms prepared by Dr. Henderson, at Mobile, Alabama, about the year 1860.

330. **Cunningham, K. M.** Studies in the Biology of the Diatoms. *Am. Mo. Mic. Jour.* 15:193-207. J11894.

331. ———. The Diatom considered as a Protozoan, with method of Demonstration. *Am. Mo. Mic. Jour.* 15:228-242. Ag1894.

332. ———. A reply to Dr. Alfred C. Stokes' Critical Communication, headed "A Note incidently in regard to the Animality of the Diatom, but especially to Mr. Cunningham's Method of Illumination." *The Microscope.* (Smiley.) N. S. 2:185-187. D1894.

333. **Curtis, G. B.** On Cleaning and Mounting the Diatomaceae. *Mic. Bull.* 12. 1890.—(*Nuova Notarisia.* 52. 1890.)

334. **Curtiss, G. L.** Diatoms of the Waters of Indiana. 12th Ann. Rep. Ind. Dept. Geol. Nat. Hist. 377-384. *pl.* 33-38. 1883. Figures numerous species and names most of them.

335. **Cutter, E.** On the Presence of the Forms of Life in the Central and Lateral surface Waters of Lakes and Ponds. *Am. Mo. Mic. Jour.* 1:186-188. O1880.

336. **Dall, W. H.** Arctic Marine Vegetation. *Nature.* 12:166. 1J11875.

337. **Dallinger, W. H.** On "Navicula crassinervis, Frustulia saxonica," and Navicula rhomboides, as Test Objects. (*Mo. Mic. Jour.* 17:1-7. *pl.* 165, 166. 1Ja1877.)

Read before the Royal Microscopical Society Dec. 6, 1876.

338. ———. Additional Note on the Identity of Navicula crassinervis, Frustulia saxonica, and N. rhomboides.—(*Mo. Mic. Jour.* 17:173-178. *pl.* 176. 1Ap1877.)

Read before the Royal Microscopical Society March 7, 1877.

339. **Dame, L. L. and Collins, F. S.** Flora of Middlesex county, Massachusetts. 1-181. (151-165). 1888.—(*Bot. Gaz.* 13:278. O1888.)

Eleven species of Characeae and 204 species of other algae listed.

340. **Dana, J. D.** On American Geological History. *Am. Jour. Sci. Arts.* II. 22:305-349. N1856.—(*Can. Nat. and Geol.* 1:395-400. (Ag1855.) D1856. 1:401-430. Ja1857.)

Considers the Age of Algae to correspond to the Silurian and Devonian times.

341. **Daubree, A.** Deep-sea Deposits. *Jour. des Savants.* 733-743. D1892. 37-54. Ja1893.—(*Ann. Rep. Bd. Regents Smiths. Inst.* 1893:345-566. (J11893.) 1894.)

Statement made that Diatoms abound toward the polar regions.

342. **Davidson, G.** Diatoms.—(The Microscope. 9:311. O1889.)—(Am. Mo. Mic. Jour. 11:42. F1890.)

A collection from Lopez Island in Washington Sound presented to the San Francisco Microscopical Society Aug. 28, 1889.

343. **Davis, B. M.** Continuity of the Protoplasm in the Chantransia form of Batrachospermum. Bot. Gaz. 16:149. 1 f. My1891.—(Jour. Roy. Mic. Soc. 1891:628 O1891.)

344. ———. Development of the Frond of *Champia parvula* Harv. from the Carpospore. Ann. Bot. 6:339-354. pl. 21. D1892.—(Zoe. 3:366. Ja1893.)—(Jour. Roy. Mic. Soc. 1893:361. Je1893.)

345. ———. Euglenopsis: a New Alga-like Organism. Ann. Bot. 8:377-390. pl. 19. 1894.

Specimens from Charles River, Cambridge, Massachusetts.

346. ———. Notes on the Life History of a Blue-Green Motile Cell. Bot. Gaz. 19:96-102. 16Mr1894.

347. **Davis, J. E.** Diatom Slide.—(Am. Mo. Mic. Jour. 8:137. J11887.)

Specimens dredged from ocean bed at a depth of 1,750 fathoms, shown at the meeting of the San Francisco Microscopical Society May 27, 1887.

348. ———. Diatomaceous Earth.—(Am. Mo. Mic. Jour. 11:195. Ag1890.)

Contributions to the San Francisco Microscopical Society July 23, 1890. Specimens from Los Angeles county.

349. **Dawson, G. M.** On Foraminifera from the Gulf and River St. Lawrence. Am. Jour. Sci. Arts. III. 1:204-210. Mr1871.

350. **Dawson, J. W.** Notice of the Natural History Collections of the McGill University. Can. Nat. Geol. 7:221-223. Je1862.

The herbarium contains a collection of Algae.

351. ———. The evidence of Fossil Plants as to the Climate of the Post-pliocene period in Canada. Can. Nat. and Geol. N. S. 3:69-76. F1866.

Species of *Fucus* and *Ulva* are described but not determined.

352. **Dawson, J. W., and Hinde, G. J.** On New Species of Fossil Sponges from the Siluro-Cambrian at Little Metis on the Lower St. Lawrence. Trans. Roy. Soc. Can. 7⁴:31-55. 1889.

Buthotrephis pergracilis Dawson is described.

353. **Dawson, W. and Penhallow, D. P.** On Nematophyton and allied forms from the Devonian (Erian) of Gaspé and Bay

des Chaleurs. Trans. Roy. Soc. Can. 6¹: 27-47. *pl.* 1, 2. 1889.
—(Jour. Roy. Mic. Soc. 1889: 560. Ag1889.)

354. **Day, D. F.** The Plants of Buffalo and its vicinity—
Cryptogamae. Bull. Buff. Soc. Nat. Sci. 4: 153-269. 1883.

Two species of Chara, 1 of Nitella, and 203 species of other Algae listed.

355. **Day, D. T.** Infusorial Earth. U. S. Geol. Surv. Miner.
Res. U. S. 1885: 433. 1886.

Remarks upon the deposit in Maryland.

356. ———. Infusorial Earth. U. S. Geol. Surv. Miner.
Res. U. S. 1886: 4. 587, 588. 1887.

The deposits in Maryland, Pennsylvania, Virginia, New Jersey, New Mexico and the Pacific Coast States described.

357. ———. Infusorial Earth. U. S. Geol. Surv. Miner.
Res. U. S. 1887: 4. 554. 1888.

Notes of a new deposit of infusorial earth opened at Pope's Creek, Maryland. An analysis is made by Mr. P. de P. Ricketts of New York.

358. ———. Infusorial Earth. U. S. Geol. Surv. Miner.
Res. U. S. 1888: 6. 578, 579. 1890.

States that the deposit in Maryland is probably the only producing locality in the United States, the others being practically abandoned.

359. ———. Infusorial Earth. U. S. Geol. Surv. Miner.
Res. U. S. 1889-1890: 459. 1892.

360. ———. Infusorial Earth. U. S. Geol. Surv. Miner.
Res. U. S. 1892: 5. 752, 753. 1893.

361. **Day, E. G.** Stephanodiscus niagarae. Jour. N. Y.
Mic. Soc. 1: 41, 42. (2Ja.) F1885.

States that it occurs abundantly in Niagara river and Lake Erie.

362. **Debes, E.** The Mounting of Diatoms. Am. Mo. Mic.
Jour. 7: 65-67. Ap1886.

363. ———. Cultivation of Diatoms for Biological Purposes.
Am. Mo. Mic. Jour. 7: 236. D1886.

364. **Deby, J.** Researches on the Cryptogamic Flora of the
State of Georgia. Jour. Phil. Acad. II. 3: 59-67. *pl.* 7. My1855.

A discussion of the organization and morphology of Chlamidococcus pluvialis.

365. ———. Receipts for Microscopists. Jour. Quek. Mic.
Club. 6: 165-167. 213. 1879-81.—(Am. Mo. Mic. Jour. 2: 24, 25.
F1881.)

366. **Delamare, E., Renauld, F., Cardot, J.** Florulé de
l'Ile Miquelon. 8vo. 1-79. 1888. Lyons.—(Bull. Torr. Bot.
Club. 15: 201, 202. 2J1888.)

De Long. See Long, de.

367. **Deming, J. L.** List of Diatoms from Granville, Ohio. Bull. Sci. Lab. Denison Univ. 3:114, 115. Ap1888.

Twenty-four diatoms named.

DePont. See Pont, de.

368. **Detmers, H. J.** American and European Microscopes. (Proc. Am. Soc. Mic. 10:149. 1888.)

Extract from an address delivered before the American Society of Microscopists on "What I saw in the Optical Establishments of Germany."

DeToni. See Toni, de.

DeWildemann. See Wildemann, de.

DeWitt. See Witt, de.

369. **Dickie, G.** Notes on the Algae. Southerland's Journal of a Voyage in Baffin's Bay and Barrow Straits in the years 1850-51. 2. 1852. London.

370. ———. Notes on Flowering Plants and Algae collected during the Voyage of the "Isabel." E. A. Inglefield's A Summer Search for Sir John Franklin. Appendix. 1853. London.

371. ———. Algae. J. D. Hooker's An Account of the Plants collected by Dr. Walker in Greenland and Arctic America during the Expedition of Sir Francis M'Clintock, R. N., in the Yacht "Fox." 21Jel860. Jour. Linn. Soc. (Bot.) 5:79-88. 1861.

Sixteen species from Port Kennedy.

372. ———. Notes on a collection of Algae procured in Cumberland Sound by Mr. James Taylor, and Remarks on Arctic Species in General. Jour. Linn. Soc. (Bot.) 9:235-243. 1867.

Sixty-three marine and a few fresh-water forms are named.

373. ———. Fresh-Water Algae from Greenland, 68°—70° N. L. Trans. Edin. Bot. Soc. 9:462-464. 1868.

374. ———. Notes of Algae collected on the Coast of North-west America, by Mr. R. Brown. Trans. Edin. Bot. Soc. 9:465-467. 1868.

375. ———. Notes on Diatomaceae from Danish Greenland collected by Mr. R. Brown. Trans. Edin. Bot. Soc. 10:65-67. 1869.—(Quart. Jour. Mic. Soc. 9:317. 1869.)—(Mo. Mic. Jour. 1:191. Mr1869.

376. ———. Notes on some Algae found in the North Atlantic Ocean. Jour. Linn. Soc. (Bot.) 11:456-459. (7Ap1870.) 1871.

New species: *Kallonema pellucidum*, *Spermosira atlantica*, *Schizosiphon obscurum*.

377. **Dickie, G.** On the Marine Algae of Barbadoes. Jour. Linn. Soc. (Bot.) 14:146-152. *pl. 11.* 1875.

Eighty species collected of which nearly one-half occur on the shores of the United States.

378. ———. On the Marine Algae of St. Thomas and the Bermudas. Jour. Linn. Soc. (Bot.) 14:312-317. (28Ag1873.) 1875.

A determination of 41 species sent by H. N. Mosely from Bermuda.

379. ———. Enumeration of Algae from Fernando de Noronha collected by H. N. Mosely. Jour. Linn. Soc. (Bot.) 14:363-365. (16Ap1874.) 1875.

States that the 30 species obtained are related chiefly to those of the Mexican Gulf.

380. ———. Enumeration of Algae from 30 fathoms at Barra Grande, near Pernambuco, Brazil, collected by H. N. Mosely. Jour. Linn. Soc. (Bot.) 14:375, 376. (16Ap1874.) 1875.

Sixteen species are listed.

381. ———. Enumeration of Algae from Bahia, collected by H. N. Mosely, September 25, 1873. Jour. Linn. Soc. (Bot.) 14:377. (16Ap1874.) 1875.

Seven species noted.

382. ———. Algae from Tristan d'Acunha collected by H. N. Mosely. Jour. Linn. Soc. (Bot.) 14:384-386. (7My1874.) 1875.

Sixteen species listed.

383. ———. Algae from Inaccessible Island near Tristan d'Acunha collected by H. N. Mosely. Jour. Linn. Soc. (Bot.) 14:386, 387. (7My1874.) 1875.

Five species collected.

384. ———. Notes on Algae collected by H. N. Mosely chiefly obtained in Torres Straits, Coasts of Japan and Juan Fernandez. Jour. Linn. Soc. (Bot.) 15:446-455. (15Je1876.) 1877.

385. ———. Supplemental Notes on Algae collected by H. N. Mosely, M. A., of H. M. S. Challenger, from various localities. Jour. Linn. Soc. (Bot.) 15:486-489. (2N1876.) 1877.

Twelve species from Bermuda.

386. ———. On the Algae found during the Arctic Expedition. Jour. Linn. Soc. (Bot.) 17:6-12. (20D1877.) 1880.

387. ———. Notes on Algae from the Amazon and its Tributaries. Jour. Linn. Soc. (Bot.) 18:123-132. (6My1880.) 1881.

A long list furnished.

388. ———. Structure of the Diatom Valve. Proc. Am. Soc. Mic. 7. 1884.—(Jour. Roy. Mic. Soc. II. 5:286. 1884.)

389. **Dobson, H. A.** *Volvox globator*. Am. Mo. Mic. Jour. 6:139. Jl1885.

Believed to be the first discovery of *Volvox* in the District of Columbia.

390. **Dodge, C. W.** The Structure and Habits of some Water Organisms. (Proc. Rochester Acad. Sci. 2:244. (29D 1893.) 1894.

Lecture on some algae and animalcules from Hemlock lake.

391. **Dolley, C. S.** Vibratile Cilia and Ciliary Motion. Am. Mo. Mic. Jour. 4:69-75. Ap. 4:89-96. My. 4:111-116. Je1883.

392. ———. On a Cilio-flagellate Infusorian recently observed in Baltimore Drinking Water. Johns Hopkins Univ. Circ. 3:60, 61. Mr1884.

Peridinium apiculatum.

393. ———. The Botany of the Bahamas. Proc. Phil. Acad. 1889:130-135. (7My1889.) 1890.

States that these islands provide a rich field for the Algologist.

- . See **Gardiner, J., Brace, L. J. K. and Dolley, C. S.**

394. **Douglas, H. H.** Haeckel's Classification of the Protista. Am. Mo. Mic. Jour. 1:152-154. Ag1880.

395. **Douglas, S. T.** Colored Snow Fall in west Michigan. Proc. Ann Arbor Sci. Ass. for year ending May 1, 1876. 117-129. 1876.

396. **Drown, T. M.** The Odor and Color of Surface Waters. Jour. New Eng. W. W. Ass. 2-29. Mr1888.

397. ———. The Chemical Examination of Waters and the Interpretation of Analyses. Mass. St. Bd. Health. Rep. on Water Supply and Sewerage. Part I. 519-578. (Algae. 567-569.) 1890.

———. See **Stearns, F. P. and Drown, T. M.**

398. **Dudley, P. H.** *Triceratium davyanum*. Jour. N. Y. Mic. Soc. 1:145, 146. pl. 1. (15My.) Je1885.

399. ———. Notes on *Protococcus viridis*. Jour. N. Y. Mic. Soc. 11:9-13. 1 pl. (18D1885.) Ja1886.

400. **Dudley, Mrs. P. H.** Algae. New York St. Mus. 43d Ann. Rep. 61. 25Mr1860.

An alga collected by Mrs. L. E. Holden from the Hot Springs of Arkansas is added to the Museum.

401. **Dudley, W. R.** *Chara*, *Nitella* and *Spirogyra* in Midwinter. Am. Mo. Mic. Jour. 4:58, 59. Mr1883.

402. **Dunning, F. W.** Diatomaceous Earth. (Am. Mo. Mic. Jour. 11:42. F1890.)

A box of earth from Lyon's Creek, Calvert county, Maryland, forwarded to the San Francisco Microscopical Society Aug. 28, 1889.

403. **Duperrey, L. I.** Voyage autour du Monde sur La Coquille pendant les années 1222-25. A. Bertrand. 4. et folio. 1-240. *pl.* 1-24. (Algae.) 1828. Paris.

Cryptogames recoltées par D'Urville et Lesson.

404. **Durand, E., James, T. P. and Ashmead, S.** Enumeration of the Arctic Plants collected by Dr. I. I. Hayes in his Exploration of Smith's Sound, between parallels 78th and 82d, during the months of July, August and beginning of September, 1861. Proc. Phil. Acad. 1863:93-96. (31Mr1863.) 1864.

Sixteen algae determined by Mr. Ashmead.

405. **Durkee, —.** Specimens of Marine Algae chiefly from England. Can. Nat. and Geol. 5:328. Ag1860.

A few species from America.

406. **Durkee, R. P. H.** The structure of the Diatom valve. Proc. Am. Soc. Mic. 7th Ann. Meeting. 105-108. 1884.—(Jour. Roy. Mic. Soc. 5:286. 1885.)

Dyer, C. B. See **Miller, S. A. and Dyer, C. B.**

407. **Eaton, D. C.** List of Marine Algae collected near Eastport, Maine, in August and September, 1873, in connection with the work of the U. S. Fish Commission under Prof. S. F. Baird. Trans. Conn. Acad. Arts. Sci. 2:343-350. 1873.

408. ———. List of the Marine Algae collected by Dr. Edward Palmer on the coast of Florida and at Nassau, Bahama Islands, March to August, 1874. 1-6. 1875. New Haven.

409. ———. *Fucus serratus*. Am. Nat. 9:468. Ag1875.

Notes the collection of the plant at several points on the Atlantic Coast of the United States.

410. ———. Description of a New Alga of California. Proc. Am. Acad. Arts. Sci. W. S. 12:245. 1877.

Nitophyllum spectabile.

411. **Edwards, A(rthur) M(ead.)** On the Diatomaceous Forms contained in a Peat Marl from Milwaukee. Proc. Boston Nat. Hist. Soc. 7:79. 1859.

412. ———. On Collecting, Preparing and Mounting Diatomaceae for the Microscope. Proc. Boston Nat. Hist. Soc. 7:89. 1859.

413. ———. On some Sub-peat Deposits of Diatomaceae. Proc. Boston Nat. Hist. Soc. 7:283. 1859.

414. **Edwards, A(rthur) M(ead).** On Diatomaceae collected in the United States. *Trans. Roy. Mic. Soc.* 7:84-91. 1859.

Eighty-six species from Hoboken, New Jersey.

415. ———. Method of Cleaning Diatomaceae. *Quart. Jour. Mic. Sci.* 7:167-169. 1859.

416. ———. On American Diatomaceae. *Quart. Jour. Mic. Sci.* 8:127-129. 1860.

417. ———. On the Microscopic Forms of the Harbor of Charleston, South Carolina. *Ann. Lyc. Nat. Hist. N. Y.* 7:103-105. (21F1859.) Ap1860.

Twenty-seven diatoms are named and this list compared with that of Bailey's from the same locality.

418. ———. Remarks on Prof. H. L. Smith's observation on the probable formation of an Amoeba from Pinnularia. *Am. Nat.* 1:167. My1867.

Brief and unimportant note.

419. ———. On the occurrence of Living Forms in the Hot Waters of California. *Am. Jour. Sci. Arts.* II. 45:239-241. Mr1868.—(*Quart. Jour. Mic. Sci.* 8:247-250. 1868.)

420. ———. Note on a Point in the Habits of the Diatomaceae and Desmidiaceae. *Proc. Boston Nat. Hist. Soc.* II: 361-363. 1868.—(*Quart. Jour. Mic. Sci.* 9:64-66. 1869.)

421. ———. A New Process of Preparing Specimens of Filamentous Algae for the Microscope. *Am. Nat.* 3:164-167. My1869.—(*Mo. Mic. Jour.* 1:361-364. 1Je1869.)

422. ———. What is a Desmid? *Am. Nat.* 3:313-323. pl. 5. Ag1869.

423. ———. On the Preparation of Specimens of Soundings for the Microscope. (*Mo. Mic. Jour.* 4:144-146. 1S1870.)

Read at the New York Lyceum of Natural History June 6, 1870.

424. ———. On some Facts connected with the Occurrence of Deposits of Fresh-water Diatomaceae commonly known as Infusorial Earths. *Proc. N. Y. Lyc. Nat. Hist.* 1:47-50, 1870-1871.—(*Mo. Mic. Jour.* 5:234, 235. 1My1871.)

425. ———. Microscopical Examination of two Minerals. *Proc. N. Y. Lyc. Nat. Hist.* 1:96-98. 1870-1871.—(*Mo. Mic. Jour.* 5:226-228. 1871.)

One mineral Diatomaceous.

426. ———. Notes on Diatomaceae. *Proc. Boston Nat. Hist. Soc.* 13:207-220. 1871.—(*Mo. Mic. Jour.* 3:249, 250. 1My. 4:33-40. 1Jl1870.)—(*Quart. Jour. Mic. Sci.* 10:270-280. 1870.)

Paper read before the Boston Society of Natural History. Feb. 9, 1870.

427. **Edwards, A(rthur) M(ead).** Note. Bull. Torr. Bot. Club. 2:39, 40. O1871.

Gomphonema and Hydrodictyon in New Jersey.

428. ———. Notice of an Undescribed form of Pleurosigma (*P. robustum*), family Diatomaceae. Proc. Boston Nat. Hist. Soc. 14:256-260. 1872.

429. ———. Is Guano Bird Dung or Infusorial Deposits. (Mo. Mic. Jour. 7:127. 1Mr1872.)

From New York Lyceum of Natural History.

430. ———. Remarks on Triceratium fimbriatum. The Lens. 1:100. Ap1872.—(Mo. Mic. Jour. 10:137. 1S1873.)

431. ———. Dimorphic Diatoms.—(Grevillea. 1:15. J11872.)

432. ———. Note on Silicious Incrustations from the Geysers of the Yellowstone River, Wyoming Territory.—(Mo. Mic. Jour. 8:104, 105. 1S1872.)

From New York Lyceum of Natural History.

433. ———. On the formation of Deposits of Fresh-Water Diatomaceae. Proc. N. Y. Lyc. Nat. Hist. 1:109. 1873.

434. ———. Notes on some Microscopic Organisms. Proc. N. Y. Lyc. Nat. Hist. 1:205-216. 1873.—(Mo. Mic. Jour. 8:22-30. 1J11872.)

435. ———. Note on Colored Rain. Proc. N. Y. Lyc. Nat. Hist. 1:272-276. 1873.

436. ———. Natural History of the Diatomaceae. Geol. New Hamp. 416-505. pl. 1-3. 1874.—(Bull. Torr. Bot. Club. 6:34. My1875.)—(Mo. Mic. Jour. 12:225-236. 1N1874. 13:221, 222. 1My1875.)

437. ———. Doctor Phipson on Diatoms. Am. Jour. Mic. 1:129. 1876.

438. ———. Diatoms from Keene, N. H. The Microscope. 10:352. N1890.

439. ———. Report of the Examination by means of the Microscope of the Specimens of Infusorial Earths of the Pacific Coast of the United States.—(The Microscope. 11:284. S1891.)

440. ———. The First Diatoms Published. Am. Mo. Mic. Jour. 12:243-245. N1891.

441. ———. Hudson River "Fiord." Am. Jour. Sci. 43:182, 183. Mr1892.—(Am. Mo. Mic. Jour. 13:123. My1892.)

442. ———. What is a Species in the Diatomaceae? Am. Mo. Mic. Jour. 13:212-216. S1892.—(Jour. Roy. Mic. Soc. 1893:80. F1893.)

443. **Edwards, A(rthur) M(ead).** The Occurrence of Marine Diatoms in Fresh Water. Jour. N. Y. Mic. Soc. 9:71. 1893.

444. ———. Marine Fossil Diatomaceae from California and their Geology.—(Am. Mo. Mic. Jour. 14:90. Mr1893.)

Read before the San Francisco Microscopical Society Feb. 15, 1893.

445. ———. On a Champlain (?) deposit of Diatomaceae belonging to the Littoral Plain. Am. Jour. Sci. III. 45:385-388. My1893.

Notes 200 species and varieties.

446. ———. The Diatomaceae of the Triassic (?) sandstone of New Jersey. Am. Nat. 27:817, 818. S1893.—(Am. Mo. Mic. Jour. 14.290. O1893.)

447. ———. Preserving Objects of Natural History: Microscopical Objects. Am. Mo. Mic. Jour. 14:350, 351. D1893.

Salicylic acid used to preserve diatoms.

448. ———. The Bacillariaceae or Diatomaceae. Am. Mo. Mic. Jour. 15:27-29. Ja1894.

449. ———. Red Snow as seen by means of the Microscope. Am. Mo. Mic. Jour. 15:70-74. Mr1894.

450. ———. Guano examined Microscopically. The Microscope. (Smiley.) N. S. 2:51-54. Ap1894.

Notes on Diatoms.

451. ———. Chemical Analyses of the so-called Infusorial Earths. Am. Mo. Mic. Jour. 15:171-175. Je1894.

452. ———. On "Species" in the Desmidiæ. Am. Mo. Mic. Jour. 15:299, 300. O1894.

453. ———. Can Life originate without Parent Forms? Am. Mo. Mic. Jour. 16:115, 116. Ap1895.

454. **Edwards, A(rthur) M(ead)., Johnston, C. and Smith, H. L.** Practical directions for Collecting, Preserving and Mounting Diatomaceae. Industrial Publishing Company. 1877. New York.—(Am. Nat. 12:63. Ja1878.)

455. **Edwards, J. B.** On the Water Supply of Montreal and its Suburbs. Can. Nat. and Quart. Jour. Sci. N. S. 9:116-124. (28Ap) 23Je1879.

Silicious filaments of diatoms and skeletons of algae were found.

456. **Ehrenberg, C. G.** The Diatomaceae. Schomburgk's Reisen im Guiana und am Orinoko während der Jahre 1835-39; nach seinen Berichten und Mittheilungen an die geographische Gesellschaft in London herausgegeben von Otto Alfred Schomburgk. G. Wigand. i-xxiv. 1-510. 6 pl. 1841. Leipzig.

457. **Ehrenberg, C. G.** Observations on the Fossil Infusoria of Virginia and Maryland, and comparison of the same with those found in the Chalk Formations of Europe and Africa. Berlin, Monatsb. F1844.—(Am. Jour. Sci. Arts. 48: 201–204. Ap1845.)

458. ———. Neue Untersuchungen ueber das kleinste Leben als geologisches Moment in Nord- und Sud-America, im atmosphärischen Staube des Atlantischen Oceans bei den Capverdischen Inseln und im Guano. Berlin, Bericht. 53–87. 1845.—(Bibl. Univ. 55: 387–389. 1845.)—(Frör. Notizen. 37: 151–153. 1846.)—(Ann. Nat. Hist. 1: 392–394. 1848.)

459. ———. On Infusorial Deposits on the River Chutes in Oregon. Monatsb. Akad. Berlin. 76. F1849.—(Am. Jour. Sci. Arts. II. 9: 140. Ja1850.)

460. ———. Passatstaub und Blutregen. Berlin, Abhandl. (Phys.) 269–460. 1847.—(Edinb. New Phil. Jour. 52: 24–29. 1852.)—(Am. Jour. Sci. Arts. II. 11: 372–389. 1 pl. My1851.)

Several species of diatoms from dust showers in different parts of South America.

461. ———. Ueber eine frische Probe der die Crimson Cliffs scharlachroth färbenden substanz aus der Baffin's Bai und das begleitenden kleinste Leben. Monatsb. Berlin Akad. 741. 1851. Berlin.

462. ———. Über den Gehalt an festen Theilen und an mikroskopischen Lebensformen in der Wassertrübung des Mississippi. Berlin, Bericht. 324–333. 1851.—(Am. Jour. Sci. Arts. II. 14: 428, 429. N1852.)

463. ———. Ueber das mikroskopische Leben des Rio Conigo in Rio Janeiro Braziliens. Berlin, Bericht. 475–479. 1851.

464. ———. Uebersicht des mikroskopischen Lebens in Californien. Berlin, Bericht. 528–535. Ag1852.—(Am. Jour. Sci. Arts. II. 16: 134. N1853.)

Seventy-two species from Shasta City and Sacramento river of which 5 are new to science.

465. ———. Das jetzige mikroskopische Süß-wasser-Leben der Galapagos Inseln. Berlin, Bericht. 178, 179. 1853.

466. ———. Ueber die erfreuliche im Grossen foerdernde Theilnahme an mikroskopischen Forschungen in Nord-America. Berlin, Bericht. 203–220. 1853.

467. **Ehrenberg, C. G.** Ueber das jetzige mikroskopische Leben als Flusstrübung und Humusland in Florida. Berlin, Bericht. 252–271. 1853.

468. ———. Mikrogeologie. Fortsetzung. Enthaltend: Das Noerdliche Amerika, die Sudlichen vereinigten Staaten, Californien und Oregon mit allem Festland und den Inseln bis zum Nordpol. Folio. 1856. Leipzig.

469. ———. Das mikroskopische Leben in dem Meeresgrunde. Proben auf der Telegraphenlinie zwischen America und England. Berlin, Monatsb. 142–145. 1857.

470. ———. Ueber den Tiefgrund des stillen Oceans zwischen Californien und den Sandwich-Inseln aus bis 15,600 Tiefe nach Lieut. Brooke. Berlin, Monatsb. 819–833. 1860.

471. ———. Beitrag zur Uebersicht der Elemente des tiefen Meeresgrundes im Mexicanischen Golfstrom bei Florida. Berlin, Monatsb. 222–240. 24Ja1861.

472. ———. Ueber die Tiefgrund-Verhältnisse des Oceans am Eingange der Davis-Strasse und bei Island. Berlin, Monatsb. 275–315. 1861.

473. ———. Ueber die vervielfältigten Grundhebungen zum Behufe der neuen Nord-Atlantischen Telegraphenlinie. Berlin, Monatsb. 505, 506. 1861.

474. ———. Mittheilung ueber das mikroskopische Erdleben nach Dr. Hochstetter's von der Erdumseglung der Fregatte Novara mitgebrachten Materialien. Berlin, Monatsb. 886–889. 1861.

475. ———. Ueber einen Phytolitharien-Tuff als Gebirgsart im Toluca-Thale von Mexico. Berlin, Monatsb. Akad. 158–168. 1866.

476. ———. Ueber die von Kaptän Koldewey auf der Deutschen Nordpol-Expedition gehobenen Tiefgrundproben. Berlin, Monatsb. Akad. 628–631. 1868.

477. ———. Ueber mächtige Gebirgs-Schichten vorherrschend aus mikroskopischen Bacillarien unter und bei der Stadt Mexico. Berlin, Akad. Abhandl. 1–66. 1869. (Berlin, Monatsb. Akad. 373–377. 1869.)

478. ———. Ueber die Bacillarien-Bänke im Hochlande Californiens. Berlin, Monatsb. Akad. 126–129. 1870.

479. ———. Ueber die wachsende Kenntniss des unsichtbaren Lebens als felsbindende Bacillarien in Californien. Berlin, Akad. Abhandl. 1–74. 1870.—(Berlin, Monatsb. Akad. 259–264. 1870.)

480. **Ehrenberg, C. G.** Ueber Prof. Whitney's neueste Erläuterungen der Californischen Bacillarien-Gebirge. Berlin, Monatsb. Akad. 124-139. 1872.

481. ———. Grossere Felsproben des Polycistinen-Mergels von Barbados mit weiteren Erläuterungen. Berlin, Monatsb. Akad. 213-263. 1873.

482. ———. Fortsetzung der mikrogeologischen Studien als Gesamt-Uebersicht der Mikroskopischen Paläontologie gleichartig analysirter Gebirgsarten der Erde, mit specieller Rücksicht auf den Polycistinen-Mergel von Barbados. Berlin, Akad. Abhandl. (Physik., Abth. 1) 1-223. 1875.

483. **Eisen, G.** Restricted distribution of fresh-water Oligochaeta. Zool. 4:20-22. April 1893.

Remarks upon the geographical distribution of fresh-water algae.

484. **Emerson, G. B.** Marine plants. Proc. Boston Soc. Nat. Hist. 1:13. 17 March 1841.

Sixteen species of marine algae exhibited.

485. **Ernst, A. and Slack, H. J.** Diatomaceous Earth from the Lake of Valencia, Caracas. Mo. Mic. Jour. 6:69, 70. 1 August 1871.

Eschweiler, F. G. See **Martius, K. F. P. von, Eschweiler, F. G. and Nees von Esenbeck, C. G.**

486. **Eyferth, B.** The Simplest Forms of Life.—(Am. Quart. Mic. Jour. 1:146-155. Jan. 1:225-234. April 1:305-310. July 1879.)—(Am. Mo. Mic. Jour. 1:10. Jan. 1:115-117. Jan. 1:154, 155. August 1880.)

Translations from the German with additions. Polyedrium enorme De Bary is stated to be the only species of this genus found in America.

487. **E. E.** Algae. West Am. Scient. 2:66. July 1886.

488. **Fahnestock, —.** American Marine Algae. Proc. Phil. Acad. 6:xliv. (9 November 1852.) 1853.

Twenty-nine specimens donated to the Museum.

489. **Farlow, W. G.** Cuban Sea-weeds. Am. Nat. 5:201-209. Jan. 1871.

490. ———. List of the Sea-weeds or Marine Algae of the south Coast of New England. U. S. Fish Commission of Fish and Fisheries. Report on the Condition of the Sea Fisheries of the south Coast of New England, in 1871 and 1872. Part I, 281-294. 1873.

491. ———. Stenogramma interrupta. Am. Nat. 9:311. May 1875.

Note on E. M. Holmes' article in Grevillea for December 1874.

492. **Farlow, W. G.** List of the Marine Algae of the United States with Notes of New and Imperfectly known Species. Proc. Am. Acad. Arts. Sci. **10**: 351-380. 1875.—(Am. Jour. Sci. Arts. III. **9**: 475. Jel 1875.)

493. ———. List of the Marine Algae of the United States. U. S. Commission of Fish and Fisheries. Report of the Commission for 1873-4 and 1874-5: Part III. 691-717. 1876.

Includes a list of the principal useful sea-weeds occurring on the United States' Coast

494. ———. Algae. J. H. Kidder's Contribution to the Natural History of Kerguelen Island, made in connection with the United States Transit-of-Venus Expedition 1874-75. **2**: 30, 31. 1876.—(U. S. Nat. Mus. Bull. **1**: 1877.)—(Smiths. Miscell. Coll. **13**³: 1878.)

Twenty-two species determined.

495. ———. On certain Algae in Horn pond, Woburn, Proc. Boston Soc. Nat. Hist. **19**: 47. 6D1876.

A species apparently belonging to the genus *Anabaena* the cause of a very disagreeable "pig-pen" odor.

496. ———. Remarks on certain algae found in the Water Supply of the City of Boston. Bull. Buss. Inst. 75-80. Ja1877.

497. ———. The Oscillatoria and Bacteria.

A paper read before the Boston Natural History Society 1877.

498. ———. Notes on some Algae new to the United States. Proc. Am. Acad. Arts. Sci. N. S. **4**: 235-244. (9My.) 1877.

499. ———. List of Algae collected at Points in Cumberland Sound during the autumn of 1877. Contribution to the Natural History of Arctic America made in connection with the Howgate Polar Expedition. Bull. U. S. Nat. Mus. **15**: 169. 1879.

500. ———. On some Impurities of Drinking-water caused by Vegetable Growths. Supplement to 1st Annual Report of Massachusetts State Board of Health containing the Reports and Papers on Public Health, Lunacy and Charity. 1879. 131-152. *pl.* 1, 2. 1880.—(Bull. Torr. Bot. Club. **7**: 100. S1880.) (Am. Mo. Mic. Jour. **2**: 15. Ja1881.)

Considers grass-green and blue-green algae, especially Nostocs, from a sanitary point of view.

501. ———. On the Nature of the Peculiar Reddening of Salted Codfish during the Summer Season. U. S. Comm. Fish and Fisheries. Part VI. Rep. Comm. for 1878. 969-974. Appendix H. 1880.—(Revue Myc. **6**: 197-199. 1J1884. **7**: 17. 1Ja1885.)

502. **Farlow, W. G.** Botany. Ann. Rep. Bd. Regents Smiths Inst. 1880:313-329. 1881. 1881:391-408. 1883. 1882:551-563. 1884. 1883:681-698. 1885.

A review of the work done during the several years.

503. ———. Note on Laminarieae. Bull. Torr. Bot. Club. 8:67, 68. Je1881.

504. ———. I. The Marine Algae of New England. U. S. Comm. Fish and Fisheries. Part VII. Rep. Comm. for 1879. 1-210. *pl. 1-15*. 1882.—(Am. Jour. Sci. Arts. III. 22:158-160. Ag1881.)—(Bot. Gaz. 6:246, 247. Ag1881.)—(Hedwigia 20:151, 152. O1881.)

A number of new species are added.

505. ———. Notes on New England Algae. Bull. Torr. Bot. Club. 9:65-68. My1882.

506. ———. Swarm Spores of Closterium. Am. Mo. Mic. Jour. 3:118. Je1882.

507. ———. "Notes on Fresh Water Algae." Bot. Gaz. 8:224, 225. My1883.

Remarks on scum found on Minnesota lakes by Prof. J. C. Arthur.

508. ———. "Notes on Fresh Water Algae." Bot. Gaz. 8:246. Je1883.

509. ———. Relations of Certain Forms of Algae to Disagreeable Tastes and Odors.—(Science. 2:333, 334. 7S1883.)—(Proc. Am. Ass. Adv. Sci. 32:306, 307. (Ag1883.) 1884.)

510. ———. Notes on the Cryptogamic Flora of the White Mountains. Appalachia. 3:232-252. D1883.

Twenty-three species of algae noted, including 2 species of *Nitella*.

511. ———. Notes on Arctic Algae: Based principally on Collections made at Ungava Bay by Mr. L. M. Turner. Proc. Am. Acad. Arts. Sci. N. S. 13:469-477. (12My.) 1886.—(Jour. Roy. Mic. Soc. 1887:268. Ap1887.)

512. ———. Nostoc Group (Phycochromaceae.) Bot. Gaz. 11:149. Je1886.

Directions for collecting.

513. ———. Vegetable Parasites and Evolution. Bot. Gaz. 12:173-189. Ag1887.

Speaks of symbiosis of unicellular algae and animals, etc.

514. ———. Apical Growth in *Fucus*.—(Proc. Am. Ass. Adv. Sci. 36:271, 272. (Ag1887.) Mr1888.)

Paper read before the association.

515. **Farlow, W. G.** Algae. N. L. Britton's "An Enumeration of the Plants collected by Dr. H. H. Rusby in South America." 1885-1886. I. Bull. Torr. Bot. Club. 15:177-184. 2Jl1888.

Four species listed.

516. ———. On some New or Imperfectly Known Algae of the United States. Bull. Torr. Bot. Club. 16:1-12. *pl.* 87, 88. 12Ja1889.

Observations upon 12 known species besides descriptions of 4 new.

517. ———. Nature of the Red Substance in Codfish, its Character, Development and Prevention. U. S. Commission Fish and Fisheries. Part XIV. Rep. Comm. for 1886. 1035. 1889.

518. ———. Notes on some Algae in the Herbarium of the Long Island Historical Society. Bull. Torr. Bot. Club. 20:107-109. 15Mr1893.

519. **Farlow, W. G., Nichols, and Burgess, E. S.** Reports on Peculiar Condition of the Water Supplied to the City of Boston. Rep. Cochituate Water Bd. 1876.

520. ———. Reports on Matter connected with the Boston Water Supply. Bull. Buss. Inst. Ja1877.

———. See **Remsen, I., Hyatt, A. and Farlow, W. G.**

521. **Farnell, W.** Localities of Objects. Am. Jour. Mic. 2:9, 10. Ja1877.

522. **Farris, C. C.** Diatomaceous Earth.—(Am. Mo. Mic. Jour. 11:267. N1890.)

Report on examination of specimens from California. Given before the St. Louis Club of Microscopists Sept. 10, 1890.

523. **Field, G. W.** The Problem of Marine Biology. Am. Nat. 26:799-808. O1892.

Flahault, C. See **Bornet, E. and Flahault, C.**

524. **Forbes, F. F.** A Study of Algae Growths in Reservoirs and Ponds. Jour. N. E. Water Works Ass. 4: Je1890.

525. ———. The Relative Taste and Odor Imparted to Water by some Algae and Infusoria. Jour. N. E. Water Works Ass. 6: Je1891.

526. **Forbes, S. A.** The Food of the Smaller Fresh Water Fishes. Ill. St. Lab. Nat. Hist. Bull. No. 6. 65-94. My1883.

States that nearly half the vegetable food consists of algae—chiefly of filamentous forms.

527. ———. The First Food of the Common White-Fish. Ill. St. Lab. Nat. Hist. Bull. No. 6. 95-109. My1883.

Remarks on algae as food.

528. **Forbes, S. A.** Studies of the Food of Fresh Water Fishes. Bull. Ill. St. Lab. Nat. Hist. 2:433-473. 1888.

Algae detected as food in a number of cases.

529. ———. On the Food Relations of Fresh Water Fishes: a Summary and Discussion. Bull. Ill. St. Lab. Nat. Hist. 475-538.

Gives a list of genera of algae detected as food, with the species of fish known to use them.

530. **France, Raoul.** Recherches sur le genre *Phythelios* Frenz. La Notarisia. 9:1-5. 1894.

Specimens from Argentine.

531. **Francotte, P.** Mounting Diatoms in Series. The Microscope. 4:91. Ap1884.

532. **Frankland, E.** Water analysis for Sanitary Purposes, with Hints for the Interpretation of Results. P. Blakisten. 1880. Philadelphia.

533. **Freeland, P.** On the Movements of the Diatomaceae. Can. Jour. N. S. 6:324-327. 1 f. (2F) Jl1861.

534. **Freeston, G.** Preparations of *Volvox*, *Nostoc* and other Algae. Am. Mo. Mic. Jour. 6:79. Ap1885.

535. **Fteley, A.** Algae observed in Storage Basin No. 3 of the Boston Water Supply, in 1879. 1st Ann. Rep. Mass. St. Bd. Health, Lunacy, and Charity. for 1879: 123-128. 1880.

536. **Gardiner, J., Brace, L. J. K. and Dolley, C. S.** Provisional List of the Plants of the Bahama Islands. Proc. Phil. Acad. 1889:349-407. 1890.

Six species of marine algae listed.

537. **Gardner, J. S.** Reply to Nathorst on Fossil Algae. Nature 28:52. 17My1883.

538. **Gerstenberger, C.** Bacillarien preparate aus dem Guano. Beitr. z. Neuen. Mikros. 3:47. 1862.

539. **Gibbs, G.** Red Snow in Washington Territory. Am. Nat. 5:116, 117. Mr1871.

540. **Gilbert, G. K.** Lake Bonneville. U. S. Geol. Surv. 210. 1890.

States that diatoms are plentiful in certain portions of the White Marl, but have not yet been found in the Yellow Clay.

541. **Goddard, P. B.** Infusoria. Proc. Phil. Acad. 1:172. (10My.) ApMy1842.

States that the Infusoria referred to by Dr. Challoner at meeting of May 3, are probably *Closterium*.

542. **Goddard, P. B.** Dried specimens of *Hydrodictyon pentagonum*. *Proc. Phil. Acad.* 1:209. (20 S.) AgSO1842.
Donated to Museum.

543. **Gould, A. A.** An Address in commemoration of Professor J. W. Bailey, President of the Association, delivered before the Association August 19, 1857. *Proc. Am. Ass. Adv. Sci.* 1-8. (19Ag1857.) 1858.—(*Am. Jour. Sci. Arts.* II. 25:153-158. Mr1858.)

544. **Grabendoerfer, J.** *Beitrage zur Kenntniss der Tange.* *Bot. Ztg.* 43:609-618. 25 S. 43:625-636. 2 O. 43:641-648. 90. 43:657-664. *pl.* 6. 1885.—(*Jour. Roy. Mic. Soc.* II. 6:290. Ap1886.)

Description of 2 algae from South Brazil.

545. **Grahn, E. G.** Microscopical Notes. *Bull. Brookville Soc. Nat. Hist.* No. 1. 39-41. 1885.

List of 46 diatoms and 2 desmids from the vicinity of Brookville.

546. **Gratacap, L. P.** and **Woodward, A.** The Freshwater Flora and Fauna of Central Park. *Sci. Am. Suppl.* 18: (No. 468.) 7480, 7481. 20D1884.—Repr. as pamphlet. 1-19. 27D1884.—(*Bull. Torr. Bot. Club.* 12:12. Ja1885.)

A list of 55 species of algae.

547. **Gray, A.** Letter on Mr. Wolle's papers on Algae. *Bull. Torr. Bot. Club.* 6:202, 203. F1878.

Criticisms mostly typographical, on Mr. Wolle's preceeding papers.

548. **Greenleaf, R. C.** On a new species of *Nitzschia*: *N. mitchelliana*. (1865.) *Proc. Boston Nat. Hist. Soc.* 10:107. 1866.

549. ———. List of *Diatomaceae* found in a peat swamp near Lake Winisquam in Laconia, N. H. (1866.) *Proc. Boston. Nat. Hist. Soc.* 11:75. 1868.

550. ———. On the Diatoms and other Microscopic Objects found in Soundings from the Gulf of Mexico, between Sand Key and El Moro made by Henry Mitchell of U. S. Coast Survey. *Proc. Boston Nat. Hist. Soc.* 11:79. 1868.

551. ———. Remarks on the double Plate of *Aulacodiscus oreganus*. *Proc. Boston Nat. Hist. Soc.* 12:361. 1869.

552. ———. List of Diatoms from South Carolina. *Proc. Boston Nat. Hist. Soc.* 12:362. 1869.

———. See **Stodder, C.** and **Greenleaf, R. C.**

553. **Gregory, Emily L.** Probable discovery of Zoospores in *Oscillaria* announced, and remarks made on *Vaucheria* galls in Meeting of Club.—(*Bull. Torr. Bot. Club.* 17:112. 10Ap1890.)

554. **Gregory, Emily L.** Abnormal Growth of *Spirogyra* Cells. Bull. Torr. Bot. Club. 19:75-79. 5Mr1892.—(Jour. Roy. Mic. Soc. 1892:647, 648. O1892.)

555. ———. What are Diatoms? Pop. Sci. Mo. 41:200-205. f. 1-8. Je1892.

556. **Gregory, W.** On the Presence of Diatomaceae, Phytolitharia and Sponge Spicules, in Soils which support Vegetation. Am. Jour. Sci. Arts. II. 21:434-437. My 1856.

Soils were examined from the Andes, Brazil, North America, West Indies and foreign countries.

557. **Greville, R. K.** Description of some New Diatomaceous Forms from the West Indies. Quart. Jour. Mic. Sci. 5:7-12. pl. 3. 1857.

558. ———. Descriptions of Diatomaceae observed in Californian Guano. Quart. Jour. Mic. Sci. 7:155-166. pl. 7, 8 1859.—(Edinb. New Phil. Jour. 10:25-30. 1859.)—(Trans. Edinb. Bot. Soc. 6:245-249. 1860.)

559. ———. On the Asterolamprae of the Barbadoes Deposit. Trans. Roy. Mic. Soc. 10:41-55. pl. 7, 8. 1862.

560. ———. Descriptions of New Genera and Species of Diatoms from the South Pacific. Trans. Edinb. Bot. Soc. 7: 534-543. 574-580. 1863.—(Edinb. New Phil. Jour. 18:35-43. 181-187. 1863.)

561. ———. Descriptions of new and rare Diatoms from the Tropics and Southern Hemisphere. Trans. Edinb. Bot. Soc. 8:436-441. 1866.—(Trans. Mic. Soc. 11:8. 1 pl. 12:81-94. 1864. 13:1-10. 24-34. 43-75. 97-105. 1865. 14:1-9. 77-86. 121-130. 1866.)

562. **Grey, E.** Glycerin in Mounting. Am. Mo. Mic. Jour. 5:140. 1884.—(Zeits. wiss. Mik. 2:81. 1885.)

563. **Griffen, A. R.** An Essay on the Botanical, Chemical and Medical properties of the *Fucus edulis* of Linnaeus. Van Winkle and Wiley. 8vo. 1-36. pl. 1. 1816. New York.

564. **Griffin, A. W.** On the Collection and Preparation of the Diatomaceae. Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. 3:138-146. Jl. 3:229-236. O1884.—(Am. Mo. Mic. Jour. 6:6-8. Ja1885.)

Much use made of American material.

565. **Griffith, E. H.** Diatoms: How to Find and How to Prepare them. Am. Jour. Mic. 5:87-90. Ap1880.

566. **Griffith, E. H.** Arranging Diatoms. The Microscope. 3:205, 206. 1883—(Jour. Roy. Mic. Soc. 4:307. 1884.)

567. **Grote, A. R.** and **Pitt, W. H.** New Furoid from the Water-lime Group of Western New York. Bull. Buff. Soc. Nat. Sci. 3:88. (7Ja.) 1876.—(Am. Jour. Sci. Arts. III. 11:150. F1876.)

568. **Grove, E.** Diatomaceous Remains observed in Preparations of Calcareous Algae from a Pond in Michigan. Phyc. Mem. Part III. 78-80. Ap1895.

Ninety species listed.

569. **Grunow, A.** Diatomeen auf Sargassum von Honduras. (Hedwigia. 6:1-8. 17-32. 1867.)

570. ———. Novara Diatoms. Descriptions of New Genera and species of Diatoms obtained by the Austrian Imperial Frigate Novara, during her voyage round the World. (Transl.) Grevillea. 1:30-32. *pl.* 2. Ag. 1:41-43. S. 1:76-80. *pl.* 5. N. 1:91-94. *pl.* 6. D1872.

571. ———. Some remarks concerning P. T. Cleve and Moeller's Diatoms. Am. Jour. Mic. 3:101-105. My1878.—(Brebissonia. 1:98-102. 31Ja1879.)

572. ———. Die Diatomeen von Franz Josefs-Land. Denkschr. math.-naturwiss. Cl. K. Akad. Wiss. 48: 1884.—(Bot. Centralb. 19:65-67. 1884.)

573. ———. Diatomees in A. Piccone's Algae del Viaggio di Circumnavigazione della Vettor Pisani. 1-97. 2 *pl.* 1886.—(Notarisia. 2:255, 259, 283. 1887.)

Diatoms from Brazil, Peru and Magellan Straits.

———. See **Bornet, E.** and **Grunow, A.**

———. See **Cleve, P. T.** and **Grunow, A.**

574. **Grunow, A.** and **Kitton, F.** New Diatoms from Honduras. Mo. Mic. Jour. 18:165-186. 193-196. 101877.

575. ———. On some New Species of Nitzschia. Jour. Roy. Mic. Soc. 3: *pl.* 12-13. 1880.

576. **G., A. P. B.** Wilson's "Diatoms in Wheat Straw." Am. Jour. Sci. Arts. III. 12:232. S1876.

577. **Habirshaw, F.** Catalogue of the Diatomaceae, with reference to the various published descriptions and figures. Edited and published by Romyn Hitchcock. Part I. i-xxii 1-58. (Edit. 1877.) 1881. New York. Reproduced by the Edison Electric Pen Process. New York. 1877.—(Am. Mo. Mic. Jour. 1:15, 16. Ja1880.)—Ed. II. Edited and published by H. H.

Chase. 4to. 1885. Geneva, N. Y.—Ed. III. Prepared by H. H. Chase. 4to. Bound in 4 volumes. Typewritten to order for Julien Deby. *Unique*. N. Y.

578. **Habirshaw, F.** Collection of Diatomaceae. Proc. Boston Nat. Hist. Soc. **21**:451, 452. (15Mr1882.) 1883.

A collection consisting of 1,678 species presented to the Society.

579. **Hall, F. W.** List of the Marine Algae growing in Long Island Sound within 20 miles of New Haven. Bull. Torr. Bot. Club. **6**:109–112. S1876.

Ninety-five species and varieties mentioned.

580. **Hall, J.** Fossil Plants of the Calciferous Sandstone. Pal. N. Y. **1**:7, 8. *pl.* 2. 1847.

Palaeophycus tubularis, *P. irregularis* and *Buthotrephis antiquata* described as new.

581. ———. Fossil Plants (?) of the Birdseye Limestone. Pal. N. Y. **1**:37–40. *pl.* 8–9. 1847.

Phytopsis tubulosum and *P. cellulolum* described as new.

582. ———. Fossil Plants of the Trenton Limestone. Pal. N. Y. **1**:62, 63. *pl.* 21, 22. 1847.

Buthotrephis gracilis, *B. succulens*, *Palaeophycus rugosus*, and *P. simplex* described as new species.

583. ———. Fossil Plants of the Utica Slate and Hudson River Group. Pal. N. Y. **1**:261–264. *pl.* 68–70. 1847.

Sphenothallus angustifolius, *S. latifolius*, *Buthotrephis subnodosa*, *Palaeophycus virgatus* given as a new species.

584. ———. Fossil Plants of the Medina Sandstone. Pal. N. Y. **2**:4–7. *pl.* 1–3. 1852.

Arthropycus harlani, *Palaeophycus tortuosus* described, the latter as new.

585. ———. Fossil Plants of the Clinton Group. Pal. N. Y. **2**:18–26. *pl.* 5–10. 1852.

Species in *Buthotrephis*, *Palaeophycus*, *Rusophycus* and *Ichnophycus* are described, with 8 new species.

586. ———. Note on some Obscure Organisms in the Roofing Slates of Washington county, New York. 39th Ann. Rep. N. Y. St. Mus. Nat. Hist. for 1885. 160. *pl.* 11. 1886.

Dactyloides bulbosus Hall.—The organism possibly related to the marine algae.

587. **Hallock, C.** Occurrence of Red Snow. Am. Mo. Mic. Jour. **7**:42, 43. Mr1886.

588. **Halsted, B. D.** Reproduction in Fresh Water Algae. Am. Nat. **11**:513–524. S1877.—(Bot. Gaz. **2**:147. O1877.)

589. **Halsted, B. D.** Classification and Description of the American Species of Characeae. Proc. Boston Soc. Nat. Hist. 20:169-190. 5Mr1879.—(Bot. Gaz. 5:20, 21. F1880.)

Eight species of Nitella, 1 of Tolypella, 14 species and varieties of Chara described.

590. **Hamlin, F. M.** Bermuda Earth. Am. Jour. Mic. 2: 141, 142. O1877.

591. **Hanks, H. G.** Diatoms and Diatomaceous Earths. 2d Rep. St. Miner. Cal. from Dec. 1, 1880 to Oct. 1, 1882. 266-270. 1882.

A list of 100 diatoms found in the Santa Monica Earth.

592. ———. A fossil Diatomaceous Earth.—(Am. Mo. Mic. Jour. 8:117. Je1887.)

Remarks before the San Francisco Microscopical Society at the meeting of Apr. 13, 1887.

593. ———. Diatomaceous Earth.—(Am. Mo. Mic. Jour. 12:190. Ag1891.)

Specimens of fossil diatoms from Santa Barbara county, California, presented to the San Francisco Microscopical Society June 1, 1891.

594. **Harlot, P.** Algues Magellaniques Nouvelles. Jour. de Bot. 1:55-59. 3f. 1Ap. 1:72-74. 3f. 15Ap1887.

Six species new to science figured and described from Orange Harbor and Falkland Isles.

595. ———. Algues. Mission scientifique du Cap Horn. 1882-83. Botanique. 5:1-109. 9 pl. 1888.—(Bull. Soc. Bot. France. 37: II. 12:122, 123. 1890.)

596. ———. Le Genre Bulbotrichia. Notarisia. 5:993-996. 30Je1890.

597. ———. Quelques Algues du Bresil et du Congo. Notarisia. 6:1217-1220. 30Ap1891.

Twenty species collected by Wainio in Brazil.

598. ———. Complement a la flore algologique de la Terre de Feu. Notarisia. 7:1427-1435. 31Ja1892.

599. ———. Nouvelle contribution a l'etude des Algues de la region Magellanique. Jour. de Bot. 9:95-99. 1Mr1895.

600. ———. Algues du Golfe de Californie recueillies par M. Diguët. Jour. de Bot. 9:167-170. 16Ap. and 1My1895.

Seven species described.

601. **Harkness, H. W.** Chlamydococcus pluvialis.—(Am. Mo. Mic. Jour. 8:118. Je1887.)

Specimens sent to San Francisco Microscopical Society and statement made upon its habits compared with C. nivalis.

602. **Harvey, F. L.** The Fresh Water Algae of Maine. I, II, III. Bull. Torr. Bot. Club. 15:155-161. 2Je1888. 16:181-188. 6Jl1889. 19:118-125. *pl. 126.* 5Ap1892.

One hundred and ninety species listed with 4 new species and 7 new varieties.

603. **Harvey, W. H.** Descriptions of Seventeen New Species of Algae collected by the United States Exploring Expedition. Proc. Boston Nat. Hist. Soc. 3:371-374. 1848-51.

604. ———. Observations on the Marine Flora of the Atlantic States. Proc. Am. Ass. Adv. Sci. 1850:79-80. 14Mr1850.

605. ———. Nereis Boreali-Americana: or, Contributions to a History of the Marine Algae of North America. Part I. Melanospermeae. Part II. Rhodospermeae. Part III. Chlorospermeae. Smiths. Contr. Knowl. 3^d:1-144. *pl. 1-12.* (Jl1851.) 1852. 5th:1-247. *pl. 13-36.* (O1852.) 1853. 10th:1-119. *pl. 37-50.* (S1857.) 1858. Supplement No. 1. Additional Species discovered since the publication of the First and Second Parts. No. 2. List of Arctic Algae, chiefly compiled from Collections brought home by Officers of the recent Searching Expeditions. 10th:121-134. (S1857.) 1858.—(Am. Jour. Sci. Arts. II. 13:42-53. My. II. 14:1-8. N1852. II. 16:422-424. N1853. II. 27:142-146. My1859.)

Brought together into one volume and published by the Smithsonian Institution, May, 1858.

606. ———. Lectures on Marine Algae. 1856. Washington.

607. ———. Characters of New Algae chiefly from Japan and adjacent regions, collected by Charles Wright in the North Pacific Exploring Expedition under Capt. John Rodgers. Proc. Am. Acad. 4:327-335. 1857-60.

608. ———. Notice of a Collection of Algae made on the northwest Coast of North America, chiefly at Vancouver's Island, by David Lyall, in the years 1859-61. Jour. Linn. Soc. (Bot.) 6:157-177. 1862.

One hundred and seven species listed.

609. **Harvey, W. H.** and **Bailey, J. W.** New Species of Diatomaceae, collected by the United States Exploring Expedition, under the command of Capt. Wilkes, U. S. N. Proc. Phil. Acad. 6:430, 431. 25O1853—(Quart. Jour. Mic. Sci. 3:93, 94. 1855.)

Short descriptions of 14 species.

610. **Harvey, W. H.** and **Hooker, J. D.** Algae Antarcticae, being Characters and Descriptions of the hitherto Unpublished

Species of Algae, discovered in Lord Auckland's Group. Campbell's Island, Kerguelen's Land, Falkland Islands, Cape Horn, and other Southern Circumpolar regions, during the voyage of H. M. Discovery Ships, Erebus and Terror. Hook, Jour. Bot. London. 4:249-276. 293-298. 1845.

611. **Haskins, B. W.** Observation on the Movements of a Diatom. The Microscope. 10:272, 273. S1890.

Examination of a Lake Erie form.

612. **Hastings, W. N.** A Proposed New Desmid. Am. Mo. Mic. Jour. 13:29. 1 f. F1892.

Gonatozygon aculeatum is the name proposed for a new desmid from New Hampshire.

613. ———. How to Collect Desmids. Am. Mo. Mic. Jour. 13:113-116. My1892.—(The Microscope. 12:147. 1892.)

614. ———. New Desmids from New Hampshire. I. Am. Mo. Mic. Jour. 13:153-155. 1 pl. J11892.

New species and varieties in 4 genera described.

615. **Hauck, F.** Meeresalgen von Puerto-Rico. Engler's Bot. Jahrb. 9:457-470. 1888.

Ninety-two species, of which 2 are new, are listed with observations.

616. **Hay, G. U.** Preliminary List of New Brunswick Algae. Bull. N. B. Nat. Hist. Soc. No. 5. 1886.

617. ———. Marine Algae of the Maritime Provinces. Bull. N. B. Nat. Hist. Soc. 6:62-68. 1893.—(Bull. Torr. Bot. Club. 14:220. 4O1887.)

Lists 84 species.

618. **Hay, G. U. and MacKay, A. H.** Marine Algae of New Brunswick. With an Appendix containing a List of the Marine Algae of the Maritime Provinces of the Dominion of Canada, with notes. Trans. Roy. Soc. Canada. 5⁴:167-174. (1887.) 1888.

619. **Helm, S.** Note on the Binary Subdivision of *Micrasterias denticulata* (Breb.) Ralfs. Jour. N. Y. Mic. Soc. 5:93, 94. pl. 20. 4O1889.—(Jour. Roy. Mic. Soc. 1890:217. Ap1890.)

620. **Hemsley, W. B.** Report on the Botany of the Bermudas and various other Islands of the Atlantic and Southern Oceans. Part I. Rep. Sci. Results Voyage H. M. S. Challenger 1873-76. (Bot.) 1:1-128. (Algae 104-128.) (4 Mr1884.) 1885. Part II. Rep. Sci. Results Voyage H. M. S. Challenger. 1873-76. (Bot.) 1:1-281. (16Ap1884.) 1885.

The number of species of Bermudan algae given in this work is stated to be 132 and a list of them is furnished in Part I. Seventeen species from St. Paul's Rocks; 31 from Fernando Noronha and contiguous islets; 4 from Ascension; 19 from St. Helena; 17 from Tristan da Cunha Group listed.

621. **Hemsley, W. B.** Report on the Botany of Juan Fernandez, the Southeastern Moluccas, and the Admiralty Islands. Rep. Sci. Results Voyage H. M. S. Challenger 1873-76. (Bot.) 1:1-312. (19Ag1884. 26F1885.) 1885.

Twenty-six species from Juan Fernandez.

622. **H(errick), E. C.** Ancient Meteorological Notices. Am. Jour. Sci. Arts. 43:398, 399. J1AgS142.

Notice of Red Snow near Boston in 1688.

623. **Hervey, A. B.** The Classification of the Algae. Am. Quart. Mic. Jour. 1:116-122. *pl. 11.* Ja1879.

624. ———. Sea Mosses: A Collector's Guide and an Introduction to the Study of Marine Algae. 1-276. *pl. 1-20.* 1881. S. E. Cassino. Boston.—(Am. Nat. 15:890. N1881.)

625. ———. *Arthrocladia villosa* Duby. Bull. Torr. Bot. Club. 9:126, 127. O1882.

626. ———. Translation of Behren's Work with Additions from the Experience of American Investigators. Am. Mo. Mic. Jour. 5:38. F1884.

627. ———. Marine Algae. Bot. Gaz. 11:147, 148. Je1886.

Directions for collecting.

628. **Hess, R. J.** Report of the Biological and Microscopical Section. Proc. Phil. Acad. 1889:432, 433. (31D1889.) 1890.

Diatoms from Mobile Bay from Dr. Hall, Feb. 18, 1889.

629. **Heureck, H. van.** Recherche des Diatomees. Le Microscope. 1878.—(Brebissonia. 1:19-21. 31Ag. 1:34-37. 28S. 1:83-88. 28D1878.)

A number of American localities given.

630. ———. Les Apochromatiques Juges en Amerique. Jour. Microg. 12:489. 1888.

631. **H(icks), L. E.** Diatomaceous Earth in Nebraska. Am. Jour. Sci. Arts. III. 35:86. Ja1888.

Six species noted.

632. **Hilgard, T. C.** Synopsis of a New Classification of the Vegetable Kingdom. Proc. Phil. Acad. 8:304-306 30D1856.

633. ———. Infusorial Circuit of Generations. Am. Jour. Sci. Arts. III. 2:20-25. J11871.—(Mo. Mic. Jour. 6:227-233 1N1871.)

634. ———. The Fresh Water Algae as the Spawns of Mosses. Proc. Am. Ass. Adv. Sci. 20:352-384. 1872.

635. **Hilgard, T. C.** The Old Haarlem and the Latest Brussels Microscopical Prize-Questions. Proc. Am. Ass. Adv. Sci. 21:199-208. 1873.

636. **Hill, J. W.** Is our Drinking Water Dangerous? Am Water Works Ass. 1893.

Hinde, G. J. See Dawson, J. W. and Hinde, G. J.

637. **Hirst, G. D.** Method of Intensifying the Resolving power of Microscopic Objectives. (Amphipleura pellucida and Pleurosigma angulatum.) Mic. Bull. 5:36. 1888.

638. **Hitchcock, C. H.** Geology of Maine. 2d Ann. Rep. Nat. Hist. Geol. St. Maine. 331, 332. D1862.

Fucoides cauda-galli found on an island in Moosehead lake.

639. **Hitchcock, R.** Euglena and Trachelomonas. Trans. N. Y. Mic. Soc. 1:18-20. Ja1879.

640. ———. G. Winter's "On a Natural System of the Thallophytes." Am. Quart. Mic. Jour. 1:234, 235. Ap1879.

641. ———. Spring Collections. Am. Mo. Mic. Jour. 1:52-54. Mr1880.

642. ———. The Preparation and Mounting of Microscopic Objects. Am. Mo. Mic. Jour. 1:64-66. Ap. 1:95, 96. My. 1:149, 150. Ag1880. 2:28. F1881.

643. ———. About Diatoms. Am. Mo. Mic. Jour. 1:84. My1880.

644. ———. Directions for Cleaning Diatoms. Am. Mo. Mic. Jour. 1:107-110. Je. 1:146-148. Ag1880.

645. ———. Movement of Diatoms. Am. Mo. Mic. Jour. 2:75, 76. Ap1881.

646. ———. Preservative Solutions for Botanical Preparations. Am. Mo. Mic. Jour. 2:149, 150. Ag1881.

Recipes for preserving algae.

647. ———. Red Snow in Colorado.—(Am. Mo. Mic. Jour. 2:155. Ag1881.)

Reprint of a paragraph from the New York Times.

648. ———. Croton Water in August. Am. Mo. Mic. Jour. 2:156, 157. Ag1881.

Twenty-four species of algae named.

649. ———. Deby's Terrestrial Diatoms.—(Am. Mo. Mic. Jour. 2:167, 168. S1881.)

650. ———. Croton Water. Am. Mo. Mic. Jour. 2:172. S1881.

Names 7 species of algae.

651. **Hitchcock, C. H.** Pond Life. Am. Mo. Mic. Jour. 2: 198, 199. O1881.

Notes Chaetophora and Volvox from Plainfield, N. J.

652. ———. Striae of Diatoms. Am. Mo. Mic. Jour. 2: 236. D1881.

653. ———. The Phenomena of Growth among the Microscopic Forms of Life. Am. Mo. Mic. Jour. 3: 28-34. F1882.

654. ———. Swarm spores of Closterium. Am. Mo. Mic. Jour. 3: 76, 77. Ap1882.

Notes correction by Mr. W. Trelease.

655. ———. Collecting. Am. Mo. Mic. Jour. 3: 77. Ap1882.

656. ———. Water colored by Algae. Am. Mo. Mic. Jour. 3: 94, 95. My1882.

657. ———. Life in a jar of Water. Am. Mo. Mic. Jour. 3: 97, 98. My1882.

Note on Tolypothrix muscicola.

658. ———. Plant Cells in Animals. Am. Mo. Mic. Jour. 3: 133. Jl1882.

659. ———. Aquaria for Microscopists. Am. Mo. Mic. Jour. 3: 148-150. Ag1882.

660. ———. Selecting and arranging Diatoms. Am. Mo. Mic. Jour. 3: 236. D1882.

Describes method of J. Chalon.

661. ———. Note on Aulacodiscus kittoni. Am. Mo. Mic. Jour. 3: 238. D1882.

662. ———. E. W. Wilton's "Pond Life in Winter." Am. Mo. Mic. Jour. 4: 3, 4. Ja1883.

663. ———. N. E. Brown's "Volvox globator."—(Am. Mo. Jour. Mic. 4: 11. Ja1883.)

664. ———. Unicellular Algae. Am. Mo. Mic. Jour. 4: 21-24. F1883.

665. ———. Some minute Plants. Am. Mo. Mic. Jour. 4: 26-28. F1883.

Notes Scenedesmus and Dictyosphaerium from New Jersey.

666. ———. J. Hogg's "The Movements of Diatoms."—(Am. Mo. Mic. Jour. 4: 57. Mr1883.)

667. ———. Prinz and Grunow's "The Punctations of Diatoms." Am. Mo. Mic. Jour. 4: 141-143. Ag1883.

668. ———. Mounting Algae. Am. Mo. Mic. Jour. 4: 156, 157. Ag1883.

Notes G. Berthold's methods.

669. **Hitchcock, C. H.** Spirogyra. Am. Mo. Mic. Jour. 4:176 S1883.
670. ———. The Development of Pleurococcus. Am. Mo. Mic. Jour. 4:191. O1883.
671. ———. The Structure of Diatoms. Am. Mo. Mic. Jour. 5:53-55. Mr1884.—(Jour. Roy. Mic. Soc. 11. 4:474. 1884.)
672. ———. Spring Collections. Am. Mo. Mic. Jour. 5:77, 78. Ap1884.
673. ———. Photographs showing the Structure of Diatom Shells. Am. Mo. Mic. Jour. 5:112. Je1884.
674. ———. Filamentous Projections on Diatoms. Am. Mo. Mic. Jour. 5:176, 177. S1884.
675. ———. Colored Rains. Am. Mo. Mic. Jour. 6:27, 28. F1885.
Memoranda of colored rains taken from a newspaper clipping.
676. ———. Beading of Amphipleura. Am. Mo. Mic. Jour. 6:32. F1885.
677. ———. The Genera of Algae. Am. Mo. Mic. Jour. 6:35. F1885.
678. ———. Examination of Dried Algae. Am. Mo. Mic. Jour. 6:36, 37. F1885.
679. ———. Beading of Amphipleura and Photo-Micrography. Am. Mo. Mic. Jour. 6:42-45. Mr1885.
680. ———. Provisional Key of Algae of Fresh Water. Am. Mo. Mic. Jour. 6:68-74. Ap. 6:109-114. Je. 6:129, 130. Jl. 6:170-174. S. 6:231-233. D1885.
681. ———. Prof. Smith's New Mounting Medium. Am. Mo. Mic. Jour. 6:157. Ag1885.
682. ———. The Red Snow.—(Am. Mo. Mic. Jour. 6:221-224. D1885.)—(Bull. Torr. Bot. Club. 12:131, 132. D1885.)
Review of a paper on Red Snow read before the Biological Society of Washington.
683. ———. Fixing Arranged Diatoms and Sections. Am. Mo. Mic. Jour. 6:233. D1885.
684. ———. The Striae of Diatoms on the Moeller Probe-Platte. Am. Mo. Mic. Jour. 6:234. D1885.
685. ———. Provisional Key to Classification of Algae of Fresh Water. Am. Mo. Mic. Jour. 7:30, 31. F. 7:50-53. Mr. 7:95-97. My. 7:133, 134. Jl. 7:142-144. Ag. 7:170, 171. S1886.

686. **Hitchcock, C. H.** On Mounting certain Diatoms. *Am. Mo. Mic. Jour.* 7:148, 149. Ag1886.—(*Jour. Roy. Mic. Soc.* II. 6:1079. 1886.)

687. ———. Resolution of Pearls of Amphipleura. *Am. Mo. Mic. Jour.* 8:105, 106. Je1887.

688. ———. Reminiscences and Notes on recent Progress. *Am. Mo. Mic. Jour.* 8:205–207. N1887.

Refers to the author's observations upon the development of *Ulothrix* from *Pleurococcus* described in the *American Monthly Microscopical Journal.* 4:191. O1883.

689. ———. Diatoms from New Localities. *Am. Mo. Mic. Jour.* 13:42, 43. F1892.

Mention of New York and Alabama Forms.

690. ———. Notice of Rev. Francis Wolle. *Am. Mo. Mic. Jour.* 14:181, 182. J11893. (With frontispiece.)

691. **Hobby C. M.** List of Species of Fresh Water Algae found in Iowa. *Proc. Iowa Acad. Sci.* 1875–1880. 28. 1880.

Twenty-seven genera represented.

692. **Holland, F.** Reproduction of *Closterium* by Swarm Spores. *Am. Mo. Mic. Jour.* 3:41, 42. Mr1882.

Mistakes Chytridium parasite for desmid structures.

693. **Holm, T.** Beitrage zur Flora West Groenlands. *Engler's Bot. Jahrb.* 8:283–320. 1887.

Lists 55 species of algae.

694. **Holstein, G. W.** *Gyroiithes holsteini* (Alga) from the Carboniferous of Texas. *Proc. Phil. Acad.* 1887:436. (1887.) 1888.

Specimen presented to the Museum.

695. **Hooker, J. D.** The Botany of the Antarctic Voyage of H. M. Discovery Ships *Erebus* and *Terror*, in the years 1839–43. *Flora Antarctica.* I: Part II. Botany of *Fuegia*, the Falklands, *Kerguelen's Land*, etc. *Algae.* 454–519. *pl.* 165–194. 1847.

696. ———. On the Diatomaceous Vegetation of the Antarctic Ocean. Rep. 17th meeting Brit. Ass. Adv. Sci. Notices and Abstracts of Communications. 83–85. (Je.) 1847.—(*Am. Jour. Sci. Arts.* II. 4:424. N1847.)

697. ———. Outlines of the Distribution of Arctic Plants. (1860.)—*Trans. Linn. Soc.* 23:251–348. 1862.—(*Can. Nat. N. S.* 3:325–362. 1868.)

Two species of *Characeae* and 100 species of other algae have been found within the Arctic circle.

———. See **Harvey, W. H.** and **Hooker, J. D.**

698. **Hooper, J.** Twenty-two Species of Marine Algae. Proc. Phil. Acad. 5:230. 10Je1851.

Presented to the Museum.

699. **Hopkins, F. V.** Report upon the Specimens obtained from Borings made in 1874, between the Mississippi River and Lake Borgne, at the site proposed for an outlet for flood waters. Suppl. to Rep. Comm. Engineers. 1-42. 2 pl. 16Ja1875. Appendix 4. 1878. Washington.—Appendix to Report of the Secretary of War. 1878. Washington.

700. **Horseford, E. N. and Jackson, C. T.** Report on the Disagreeable Tastes and Odors in the Cochituate Water Supply. Ann. Rep. Cochituate Water Board for 1854. 32-59. 1855. Boston.

701. **Howe, M. A.** Miscellaneous Notes. Pittonia. 2:291. 1892.

Notes on seaweeds from the coast of California.

702. ———. A month on the shores of Monterey Bay. Erythea. 1:62-68. 1893.

Remarks upon a number of algae.

703. **Humphrey, J. E.** On the Anatomy and Development of *Agarum turneri* Post and Rupr. Proc. Am. Acad. Arts. Sci. N. S. 14:195-204. pl. 1, 2. (16Je1886.) 1887.—(Jour. Roy. Mic. Soc. 1887:441. Je1887.)

704. **Hunt, J. G.** Specimen of Algae that polluted the Camden (N. J.) Drinking Water, summer of 1873. Philadelphia Morning Times. 4:72. 1873.

Hyatt, A. See Remsen, I., Hyatt, A. and Farlow, W. G.

705. **Hyatt, J. D.** Sporadic Growth of Certain Diatoms and the Relations thereof to Impurities in the Water Supply of Cities. Proc. Am. Soc. Mic. 197-199. 1882.

706. **Hyde, H. C.** Slides of Naviculæ mounted in Styra. (Am. Mo. Mic. Jour. 12:236, 237. C1891.)

A few remarks made before the meeting of the San Francisco Microscopical Society Aug. 19, 1891, with exhibition of specimens.

707. ———. The Santa Monica Diatomaceous Deposit. (Am. Mo. Mic. Jour. 13:270-272. N1892.)

Paper read before the San Francisco Microscopical Society Aug. 17, 1892.

Jackson, C. T. See Horseford, E. N. and Jackson, C. T.

708. **Jackson, E. E.** Letter on Mounting Desmids. The Microscope. 4:117. My1884.

709. **James, J. F.** Catalogue of the Flowering Plants, Ferns and Fungi, growing in the vicinity of Cincinnati. Jour. Cin. Soc. Nat. Hist. 2:42-68. (1-27.) Ap1879.

Chara flexilis Willd. noted.

710. ———. The Fucoids of the Cincinnati Group. Jour. Cin. Soc. Nat. Hist. 7:124-132. (2S.) O1884. 7:151-166. (7O1884.) Ja1885.

711. ———. Studies in Problematic Organisms: The Genus Scolithus. Bull. Geol. Soc. Am. 3:32-44. *f.* 1-15. 1892.

712. ———. On Problematic Organisms and the Preservation of Algae as Fossils. Am. Nat. 26:5-10. Ja1892.—(Bull. Torr. Bot. Club. 19:166. 5My1892.)—(Proc. Am. Ass. Adv. Sci. 40:284. (Ag1891.) 1892.)

713. ———. Studies in Problematic Organisms. No. II: The genus Fucoides. Jour. Cin. Soc. Nat. Hist. 16:62-81. *pl.* 3-5. Jl-O1893.—(Bull. Torr. Bot. Club. 20:452. N1893.)—(Proc. Am. Ass. Adv. Sci. 42:173. (Ag1893.) 1894.)

714. ———. Remarks on the Genus *Arthrophyceus* Hall. Jour. Cin. Soc. Nat. Hist. 16:82-86. Jl-O1893.

715. ———. On the Value of Supposed Algae as Geological Guides. Am. Geol. 13:95-101. F1894.—(Proc. Am. Ass. Adv. Sci. 42:172, 173. (Ag1893.) 1894.)

James, T. P. See **Durand, E., James, T. P. and Ashmead, S.**

716. **Janisch, C.** The Diatoms of the "Gazelle" Expedition. 17 *pl.* photographed. With MS index to the plates. Not published but distributed to several Diatomists by the author.

717. **Jelliffe, S. E.** A Preliminary List of the Plants found in the Ridgewood Water Supply of the City of Brooklyn, King's County, N. Y. Bull. Torr. Bot. Club. 20:243-246. 17Je1893.

Lists 32 desmids, 34 diatoms and 18 species and varieties of other algae.

718. ———. A Preliminary Report upon the Microscopical Organisms found in the Brooklyn Water Supply. Brooklyn Med. Jour. 7:593-617. *pl.* 1-3. O1893.

719. ———. The Chicago Water Supply in the World's Fair Grounds. Am. Mo. Mic. Jour. 14:310, 311. N1893.

Twenty-six algal forms found.

720. **Jelliffe, S. E.** A Further Contribution to the Microscopical Examination of the Brooklyn Water Supply. Brooklyn Med. Jour. 8:588-604. O1894.

721. ———. Cryptogamic Notes from Long Island. III. Diatomaceae. Bull. Torr. Bot. Club. 22:274, 275. 25Je1895.
Seventy-four diatoms listed.

722. **Johnson, L. N.** Observations on the Zoospores of Draparnaldia. Bot. Gaz. 18:294-298. *pl. 32.* Ag1893.

723. ———. On some Species of Micrasterias. Bot. Gaz 19:56-60. *pl. 6.* 16F1894.

Notes on 3 species.

724. ———. Some New and Rare Desmids of the United States. I. Bull. Torr. Bot. Club. 21:285-291. *pl. 211.* 20J11894.
Remarks upon 50 desmids of which 5 are new to science.

725. **Johnson, L. N. and Atwell, C. B.** Fresh Water Algae of Cook county, Illinois. Rep. Dept. Nat. Hist. Northwestern Univ. 18-21. 1890.

726. **Johnson, S. W.** Seaweed as a Fertilizer. Am. Chemist. 2:297. 1872.

727. **Johnson, T.** Shell-boring Algae. Nat. Sci. 5:17-20. J11894.

Statement made that algae of this kind are found at Cape Horn.

728. **Johnston, C.** Improved mode of preparing Diatomaceae. Am. Jour. Sci. Arts. II: 28:448, 449. N1859.

729. ———. Description of Diatomaceae chiefly of those found in "Elide" (Lower California) Guano. Quart. Jour. Mic. Sci. 8:11-21. *pl. 1. f. 10-14.* 1860.

730. ———. Upon a Diatomaceous Earth from Nottingham, Calvert county, Maryland. Proc. Am. Ass. Adv. Sci. 14:159-161. 1861.

A list of 36 diatoms is given, determined by Charles Stodder.

731. ———. The Preparation of Diatomaceae. The Lens. 1:197. 1872.

732. ———. How to Pick Out Diatoms in Mounting.—(Mo. Mic. Jour. 9:86. *1 f.* 1873.)

733. ———. A Monstrous Form of Aulacodiscus. Mo. Mic. Jour. 14:93. 1Ag1875.

734. ———. Aulacodiscus oregonus with two centres. Am. Jour. Mic. 1:82. *1 f.* 1876.

735. ———. The Preparation of Diatomaceae. B. W. Thomas' "Diatomaceae of Minnesota Inter-Glacial Peat." Geol. Nat. Hist. Surv. Minn. 20th Ann. Rep. for 1891. 307-316. 1893.

Same article as No. 731.

Johnston, C. See **Edwards, A. M., Johnston, C. and Smith, H. L.**

736. ———. **Jones, H. L.** List of Algae. Bull. Sci. Lab. Denison Univ. 2:115, 116. Ap1887.

A list of 34 species collected from the Licking reservoir and from ponds near Granville, Ohio.

737. **Jones, J. M.** On Ocean Drifts and Currents. Can. Nat. Geol. II. 1:37-45. F1864.

A note on *Fucus natans*.

738. **Jordan, D. S.** A Key to the Higher Algae of the Atlantic Coast, between Newfoundland and Florida. Am. Nat. 8:398-403. Jl. 479-493. Ag1874.

739. ———. *Fucus serratus* and *Fucus anceps*. Am. Nat. 9:309, 310. My1875.

Notes on specimens from Nova Scotia and Peak's Island.

740. **Joshua, W.** On some New and Rare Desmidiaceae. No. III. Jour. of Bot. 23:33. 1 pl. 1885.

A desmid from Jamaica.

741. **Julien, A. A.** Lithological Descriptions, etc., of 259 Specimens of the Huronian and Laurentian Rocks of the upper Peninsula. Geol. Surv. Mich. Upper Pen. (1869-1873.) 2:1-5. 127. 210. (Jl.) 1873.

Fucoidal impressions discovered in Carbonaceous shale and hemitite ochre.

742. **Julien, J.** Diatomees trouvees dans l'appareil digestif de la *Flustra spinosa*. Rap. sur les Bryozoaires. Miss. Sci. du Cap Horn. 92. pl. 15. f. 5. 1888. Paris.

743. **Kain, C. H.** Photographic copy of A. Schmidt's "Atlas der Diatomaceenkunde."—(Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. 3:254. O1884.)

744. ———. Diatoms Mounted in Canada Balsam and Balsam of Tolu. Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. 3:259. O1884.

745. ———. Notes on Diatoms. Bull. Torr. Bot. Club. 14:25-32. F1887.—(Am. Mo. Mic. Jour. 8:54. Mr1887.)

Names of 84 species of diatoms collected in Shark river, New Jersey, during a period of 6 or 7 years.

746. ———. New Fossil Deposits of Diatomaceae. Bull. Torr. Bot. Club. 14:57, 58. Mr1887.

Several species found in an artesian well at Cambridge, Maryland.

747. ———. Notes on Diatoms. Bull. Torr. Bot. Club. 14:141. Jl1887.

Lists 21 species collected by Dr. Geo. H. Taylor, from Tampa Bay, Florida.

748. **Kain, C. H.** Diatoms of Atlantic City and Vicinity. Bull. Torr. Bot. Club. 15:128-131. *pl.* 81. 2My1888.— (Am. Mo. Mic. Jour. 9:105, 106. Je1888.)

Lists 72 species commonly observed in this vicinity.

749. ———. Fresh Water Diatomaceae. N. L. Britton's "An Enumeration of the Plants Collected by Dr. H. H. Rusby in South America." 1885, 1886. 1. Bull. Torr. Bot. Club. 15:177-184. 2J11888.

Twenty-one species and varieties from Sorato, Bolivia.

750. ———. *Surirella ovata* Kuetzing. Bull. Torr. Bot. Club. 15:220. 2Ag1888.

Added to the list of diatoms from Sorata collected by Dr. H. H. Rusby.

751. ———. Diatomaceae. N. L. Britton's "Catalogue of Plants found in New Jersey." Geol. Surv. N. J. Final Rep. St. Geol. 2:431-467. 1889.

752. ———. Collecting Diatoms.—(Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. O. S. 8: N. S. 2:32. 1889.)

753. ———. Recent Contributions to the Literature of the Diatomaceae. Bull. Torr. Bot. Club. 18:11-13. 20Ja. 18:156, 157. 1My1891.

754. ———. Diatoms. Am. Mo. Mic. Jour. 13:71. Mr1892.

A criticism on F. B. Carter's articles.

755. **Kain, C. H.** and **Schultze, E. A.** On a Fossil Marine Diatomaceous Deposit from Atlantic City, N. J. Bull. Torr. Bot. Club. 16:71-76. *pl.* 89. 8Mr. 16:207-210. *pl.* 92-93. 1Ag1889.

The first article gives 107 species and varieties, of which 8 species and 1 variety are new to science. The second paper makes an addition of 32 species of which 6 species and 1 variety are new to science.

756. **Kean, A. L.** A New Method for the Microscopical Examination of Water. Science. 132. 15F1889.

757. **Kellicott, D. S.** Notes on Microscopic Life in the Buffalo Water Supply. Am. Jour. Mic. Pop. Sci. 3:250-252. N1878.

758. ———. Forms of Life observed in Well Water. The Microscope. 2:192-195. F1883.

One or two algae reported.

759. ———. The Coloration of Native Waters and the Causes. (The Microscope. 8:110. Ap1888.)

A paper read before the Buffalo Microscopical Club, Jan. 10, 1888.

Kelsey, F. D. See **Anderson, F. W.** and **Kelsey, F. D.**

760. **Kemp, A. F.** Notes on the Bermudas and their Natural History, with special reference to their Marine Algae. *Can. Nat. Geol.* 2:145-156. My1857.

761. ———. The Fresh Water Algae of Canada. *Can. Nat. Geol.* 3:331-345. *O.* 3:450-466. D1858.

Eleven species described in the first paper and 7 in the second.

762. ———. A Classified List of Marine Algae from the Lower St. Lawrence, with an Introduction for Amateur Collectors. *Can. Nat. Geol.* 5:30-42. F1860.

763. ———. On the Shore Zones and Limits of Marine Plants on the North-Eastern Coast of the United States. *Can. Nat. Geol.* 7:20-34. F1862.

The tidal coast of the United States is divided into six zones and 44 species of algae are noted as being found in them.

764. ———. Address before the Natural History Society of Montreal. *Can. Nat. Geol.* 8:68-71. F1863.

765. ———. Notice of *Fucus serratus* found in Pictou Harbour. *Can. Nat. Quart. Jour. Sci. N. S.* 5:349, 350. S1870.

766. **Kingsley, J. S.** The Cause of the Green Color of the European Oyster. *Am. Nat.* 20:297, 298. Mr1886.

767. **Kitton, F.** Exotic Diatoms in British Localities. *Sci. Gossip.* 140. 1Je1865.

Suggests that the forms found in the British Isles were brought there in the Peruvian guano used for manuring.

768. ———. List of Diatomaceae collected by Dr. David Lyall, R. N., of the Northwest Coast of British North America. Boundary Commission. 1858-59. *Jour. Linn. Soc. (Bot.)* 9:416, 417. 1867.

769. ———. Monmouth Deposit. *Sci.-Gossip.* 133, 134. 1Je. 156-158. 1Jl. 180, 181. 1Ag1867.

Description of diatoms from Maine, U. S.

770. ———. Maine Deposits. *Sci.-Gossip.* 85-87. *f.* 63-71. 1Ap1868.

771. ———. "Perley's Meadow" Deposit. *Sci.-Gossip.* 131-133. *f.* 125-137. 1Je1868.

Description of some diatoms from Maine, U. S.

772. ———. Notes on New York Diatoms. *Sci.-Gossip.* 109, 110. *f.* 79-81. 1My1869.

Describes *Fragilaria crotonensis* as new to science.

773. ———. New Diatoms. *Sci.-Gossip.* 61-63. *f.* 58-65. 1Mr1870.

The forms in Grunow's "Diatomaceae of the Novara Expedition."

774. **Kitton, F.** Remarks on *Aulacodiscus formosus*, *Omphalopelta versicolor*, etc., with Description of a New Species of *Navicula*. *Mo. Mic. Jour.* 10:6-9. 1J1873.

Diatoms from Peru and Bolivia. *N. perryana* given as new.

775. ———. A Description of some New Species of Diatomaceae. *Mo. Mic. Jour.* 10:205-207. 1N1873.

Six new species from Barbadoes.

776. ———. *Nitzschia curvula*. *Mo. Mic. Jour.* 10:241. 1N1873.

Note on confusion of specific names.

777. ———. New Diatoms. *Mo. Mic. Jour.* 12:218-220. *pl.* 81, 82. N1874.—(*Grevillea*. 3:72. D1874.)

A new genus of diatoms described, specimens of which were collected from Navy Bay, Panama, Campeche Bay.

778. ———. Number of Striae on the Diatoms on Moeller's Probe-Platte.—(*Mo. Mic. Jour.* 14:45, 46. 1Ag1875.)

A paper read before the Royal Microscopical Society.

779. ———. Diatomaceae in Slides of Santa Monica Deposit. (*Mo. Mic. Jour.* 16:232. 1N1876.)

Read before the Royal Microscopical Society, October 4, 1876.

780. ———. Note on the Rev. G. L. Mill's paper on Diatoms in Peruvian Guano. *Jour. Roy. Mic. Soc.* II. 2:476. 1882.

781. ———. The Preparation of Diatoms. *Am. Mo. Mic. Jour.* 3:153. Ag1882.

782. ———. Description of some New Diatomaceae found in the Stomachs of Japanese Oysters. *Jour. Quek. Mic. Club.* 2:16. 1884.—(*Jour. Roy. Mic. Soc.* 4:791. 1884.)

———. See **Cleve, P. T. and Kitton, F.**

———. See **Grunow, A. and Kitton, F.**

783. **Kitton, F. and Smith, H. L.** *Hyalodiscus subtilis* and *H. californicus*. *Am. Jour. Mic.* 3:247-250. 8 f. N1878.—(*Brebissonia*. 1:117-121. 28F1879.)

784. **Kjellman, F. R.** *Nova Ishafvets Algflora*. (Die Algenflora des noerdlichen Eismeers.) *Vega-Expeditionens Vetensk. Jakttagelser.* 3:1-430. 31 *pl.* 1883. Stockholm.

This work contains a complete account of the literature relating to the algae of Greenland and the American shores.

785. ———. *Om Beringhafvets algflora*. (Ueber die Algenflora des Beringmeeres.) *Bihang. Kongl. Svensk. Vet. Akad. Handl.* 23⁸:1-58. 7 *pl.* 1889.—(*Bot. Centralb.* 44:150. 1890.)—(*Jour. Roy. Mic. Soc.* 1891:74. F1891.)

786. **Kjellman, F. R.** Undersökning af Några till Släktet *Adenocystis* Hook. fil. et Harv. Hänföörda Alger. Bihang Kongl. Svensk. Vet. Akad. Handl. 15: Afd. 3¹. 1-20. 1 pl. (13F1889.) 1890.

787. **Knowlton, F. H.** A Resume of the Algo-Lichen Hypothesis. Am. Mo. Mic. Jour. 7: 101-105. Jel1886.

788. ———. Description of a New Fossil Species of the Genus *Chara*. Bot. Gaz. 13: 156, 157. 2 f. Jel1888.

Specimen obtained in Utah by Dr. White.

789. ———. Description of a Problematic Organism from the Devonian at the Falls of the Ohio. Am. Jour. Sci. III. 37: 202-209. Mr1889.

790. ———. Botany for 1887 and 1888. Ann. Rep. Bd. Regents Smiths. Inst. 1888¹: 475-496. 1890.

791. ———. Directions for collecting Recent and Fossil Plants. Smiths. Inst. Part B. Bull. 39. U. S. Nat. Mus. 1-46. 1891.

Directions given for collecting and mounting fresh water and marine algae.

792. ———. Description of a New Fossil Species of *Chara*. Bot. Gaz. 18: 141, 142. 3 f. Ap1893.

793. ———. A Review of the Fossil Flora of Alaska, with Descriptions of New Species. Proc. U. S. Nat. Mus. 17: 207-240. 1894.

Chondrites filiciformis Lesquereux.

794. **Kny, L.** Method of Studying Minute Forms of Pond Life.—(Am. Mo. Mic. Jour. 6: 38. F1885.)

795. **Koenig, A.** Diatoms from Railway Cutting near Gray's Ferry Road.—(Am. Nat. 20: 754. 1886.)

796. **Kuntze, O.** Revision von Sargassum und das sogenannte Sargasso-Meer. Engler's Bot. Jahrb. 1: 191-239. 1 pl. 1 map. 1881.

797. **K, A. F.** Letter to the Editor concerning Growth of Algae in a vase of River Water. Am. Mo. Mic. Jour. 2: 78. Ap1881.

798. **Lagerheim, G. de.** Bidrag till Amerikas Desmidié-Flora. (Beiträge zur Desmidiéen-Flora Amerikas.) Oefvers. Kongl. Vet. Akad. Foerhandl. (1885.) 225-255. pl. 27. 1886. —(Am. Jour. Sci. III. 31: 478, 479. Jel1886.)—(Bot. Centralb. 27: 83, 84. 1886.)—(Jour. Roy. Mic. Soc. 1887: 279. Ap1887.)

799. **Lagerheim, G. de.** Algologiska Bidrag. II. Ueber einige Algen aus Cuba, Jamaica und Puerto-Rico. Bot. Notiser. 193-199. 1887.

A list composed mostly of desmids.

800. ———. Kritische Bermerkungen zu einigen in den letzten Jahren beschriebenen Arten und Varietäten von Desmidiaceen. Oefvers. Kongl. Vet. Akad. Foerhandl. 535-541. 1887.

801. ———. Contribuciones a la flora algologica del Ecuador. I-II. Ann. Univ. de Quito. No. 27. 31. 1890.

Forty-two fresh water algae from the region of Quito.

802. ———. La "Yuyucha." Notarisia. 7:1376, 1377. 21Ja1892.

The native name in Quito for Nostoc ellipsosporum.

803. ———. Neue Arten der Gattung Phyllosiphon Kuhn. La Nuova Notarisia. 3:120-124. 1 pl. 1892.—(Jour. Roy. Mic. Soc. 1892:830. D1892.)

Descriptions of 3 new species from Ecuador.

804. ———. Ueber das Sammeln von Suesswasser-Algen in den Tropen. Zeits. wiss. Mik. 9:51-58. (26F.) 1892.

805. ———. Notiz ueber phycochromhaltige Spirochaeten. Berichte Deutsch. Bot. Gesell. 10:364, 365. (23 Jl.) 1892.—(Jour. Roy. Mic. Soc. 1893:224, 225. Ap1893.)

Two species of a new genus, Glaucospira, from Quito (Ecuador) are described.

806. ———. Ueber die Fortpflanzung von Prasiola (Ag.) Menegh. Berichte Deutsch. Bot. Gesell. 10:366-374. pl. 20. (23 Jl.) 1892.

807. ———. Trichophilus neniae Lagerh. n. sp., eine neue epizoische Alge. Berichte Deutsch. Bot. Gesell. 10:514-517. (30S.) 1892.—(Jour. Roy. Mic. Soc. 1893:219. Ap1893.)—(Zoe. 4:308, 309. O1893.)

A new species from Ecuador found growing upon the shell of Nenia.

808. ———. Die Schneeflora des Pichincha. Ein Beitrag zur Kenntniss der nivalen Algen und Pilze. Berichte Deutsch. Bot. Gesell. 10:517-534. pl. 28. (7O.) 1892.—(Jour. Roy. Mic. Soc. 1893:219. Ap1893.)

809. ———. Rhodochytrium nov. gen., eine Uebergangsform von den Protococcaceen zu den Chytridiaceen. Bot. Ztg. 51: Abt. 1. 43-52. pl. 2. 1893.

From Quito, Ecuador.

810. **Lanzi, M.** Le Thalle des Diatomees. Ann. Soc. Belg. Mic. 4: 1878.—(Jour. Roy. Mic. Soc. 2:38. 1879.)—(Am. Jour. Mic. 4:134-136. Je1879.)

811. **Lattimore, S. A.** Report on the Recent Peculiar Condition of the Hemlock Lake Water Supply. Ann. Rep. Exec. Bd. City Rochester for 1876. Continued in Ann. Rep. 1877.

812. **Lawson, G.** Botanical Society of Canada. Abstract of Recent Discoveries in Botany and the Chemistry of Plants. Seaweed as a Manure. Can. Nat. Geol. 6:70-73. F1861.

813. ———. Gulf-weed at Cape Sable. Can. Nat. Geol. II. 1:3. F1864.

814. ———. Diatoms of the South Pacific. Can. Nat. Geol. II. 1:14. F1864.

815. ———. On the Laminariaceae of the Dominion of Canada and adjacent Parts of British America. Trans. Nova Scotian Inst. Nat. Sci. 2⁴:109-111. (10Ja.) 1870.

Notes on 14 species.

816. ———. North American Laminariaceae.—(Can. Nat. Quart. Jour. Sci. N. S. 5:99-101. Mr1870.)

Read at meeting of Nova Scotian Institute.

817. **Le Conte, L. J.** Liquid from the Fountain of Blood, near Virtud, Honduras. Proc. Phil. Acad. Donations to Museum. 1858: ii. (20Ap1858.) 1859.

A vial of the liquid is donated to the Museum.

818. ———. Contamination of Water in Certain Storage Reservoirs on the Pacific Coast, and the Palliations resorted to. Proc. Am. W. W. Ass. 10th Ann. Meeting. Chicago, Ill. May 20-22. 1890.

819. ———. Some Facts and Conclusions Bearing upon the Relations existing between Vegetable and Animal growths and Offensive Tastes and Odors in Certain Water Supplies. Proc. Am. W. W. Ass. 11th Ann. Meeting. Philadelphia, Penn. Apr. 14-16. 1891.

820. **Leeds, A.** Reports on Water Supply of Philadelphia. Rep. Water Supt. 1883-1885.

821. ———. The American System of Purification of the Water Supplies of Cities. Trans. N. Y. Acad. Sci. 6:42-56 1886-1887.

Describes condition of water supply of Hoboken in 1884. Oscillarietorise covered surface in the reservoir.

822. ———. Report of the Committee on Animal and Vegetable Growths affecting Water Supplies. Proc. Am. W. W. Ass. 11th Ann. Meeting. Philadelphia, Penn. April 14-16.

1889. Second Report of the Committee. Proc. Am. W. W. Ass. 12th Ann. Meeting.

823. **Leffmann and Bean.** Examination of Water for Sanitary and Technical Purposes. P. Blackiston & Co. 1889. Philadelphia.

824. **Le Froy, J. H.** The Botany of Bermuda. Contr. Nat. Hist. Bermudas I: Bull. U. S. Nat. Mus. 25:35-121. 1884.

Chara foetida A. Br. noted from Mount Langton.

825. **Leidy, J.** On the Existence of Entophyta within healthy Animals as a Natural Condition. Proc. Phil. Acad. 4: 225-233. 9O1849.—(Ann. Nat. Hist. 5:71-76. 1850.)

826. ———. Descriptions (accompanied by drawings) of New Genera and Species of Entophyta. Proc. Phil. Acad. 4: 249, 250. 25D1849.

827. ———. Report of the Curators. Proc. Phil. Acad. 5:355. 30D1851.

States that 64 species of fresh water and marine algae have been added to the Botanical Collection of the Society by Mr. John Hooper of New York.

828. ———. Red Snow. Proc. Phil. Acad. 6:59. 20Ap 1852.

A specimen exhibited brought from the Arctic regions by Dr. E. K. Kane.

829. ———. Report of the Curators for 1864. Proc. Phil. Acad. 1864:289-291, 27D1864.

The collection of algae of Leo Lesquereux, comprising 700 species, purchased from the Central Sanitary Fair.

830. ———. *Euglena viridis*. Biol. and Mic. Dept. Phil. Acad. 1868:10, 11. 5O1868.

831. ———. Report of the Curators. Proc. Phil. Acad. 1870:151, 152. 27D1870.

A small collection of marine algae from Washington Territory donated by Mrs. S. Stork.

832. ———. On Circulatory Movement in *Vaucheria*. Proc. Phil. Acad. 1873:420. 23D1873.—(Am. Nat. 8:444. J11874.) (Nature. 10:218. 16J11874.)—(Grevillea. 3:31. S1874.)

833. ———. On the Mode of Growth of *Desmids*. Proc. Phil. Acad. 1874:15. 17F1874.—(Nature. 10:298. 13Ag1874.) —(Mo. Mic. Jour. 13:25. 1Ja1875.)

834. ———. On the Motive Power of Diatoms. Proc. Phil. Acad. 1874:143, 144. 15S1874.—(Am. Jour. Sci. Arts. III. 9:156. F1875.)—(Mo. Mic. Jour. 13:168. 1Ap1875.)

835. **Leidy.** Report of the Curators. Proc. Phil. Acad. 1874:230-233. 29D1874.

Fucoid remains on sandstone from Dauphin county, Pennsylvania, presented by Allen Walton.

836. ———. Report of the Curators for 1875. Proc. Phil. Acad. 1875:508-514. 28D1875.

A collection of 11 species of Californian algae presented by Miss S. P. Monks.

837. ———. Remarks on Pond Life. Proc. Phil. Acad. 1880:156-158. (13Ap1880.) 1881.

Volvox globator noted.

838. ———. Foraminifera in the Drift of Minnesota. Proc. Phil. Acad. 1884:22, 23. (29Ja1884.) 1885.

Fragments of marine diatoms reported.

839. **Lesley, J. P.** On Cambrian Fossil Life as Known. Geol. Surv. Penn. A Summary Description of the Geology of Pennsylvania. 1:192-198. 1892.

A few remarks upon sea-weeds.

840. ———. *Palaeophycus* and *Phytopsis*. Geol. Surv. Penn. A Summary Description of the Geology of Pennsylvania. 1:507. d. *pl.* 26, 31, 32. 1892.

841. ———. Utica and Hudson River Slate. Geol. Surv. Penn. A Summary Description of the Geology of Pennsylvania. 1:525-556. 1892.

Remarks on marine plants.

842. ———. The Fossils of No. III. (The Utica Slate.) Geol. Surv. Penn. A Summary Description of the Geology of Pennsylvania. 1:617-624. *pl.* 70, 71, 111. 1892.

Remarks on Peach bottom roofing slate fossil sea-weeds.

843. **Lesquereux, L.** Description of the Fossil Plants found in the Anthracitic and Bituminous Coal-Measures of Pennsylvania. Geol. Penn. 2:847-884. 1858.

A number of Fucoid forms are discussed and figured.

844. ———. On Fucoides in the Coal Formations. (1866.) Trans. Am. Phil. Soc. 13:313-328. 1869.—(Am. Jour. Sci. Arts. II. 42:264. S1866.)

845. ———. Fossil Plants. Geol. Surv. Ill. 4:377-508. 1870.

New species of Fucoides.—Chondrites colletti.

846. ———. Species of Fossil Marine Plants from the Carboniferous Measures. 7th Ann. Rep. Geol. Surv. Ind. for 1875. 134-145. *pl.* 1, 2. 1876.—(Am. Jour. Sci. Arts. III. 12:222. S1876.)—(Bot. Gaz. 2:65. D1876.)

Three new species of *Palaeophycus*, 1 of *Asterophycus* and 1 of *Conostichus* described.

847. **Lesquereux, L.** Principles of Paleozoic Botany. Ind. Dept. Geol. Nat. Hist. 13th Ann Rep. Part II. Paleontology. 1883:7-106. 1884.

848. ———. Marine Algae. Second Geol. Surv. Penn. Report of Progress P. Description of the Coal Flora of the Carboniferous Formation in Pennsylvania and throughout the U. S. 3:699-701. 827, 828. *pl. 88. f. 1.* 1884.

Dendrophycus desorii and Dictyophytum ramosum described as new.

849. ———. Remarks on some Fossil Remains considered as Peculiar Kinds of Marine Plants. Proc. U. S. Nat. Mus. 13:5-12. *pl. 1.* 1890.

Discussion of the "problematic organisms;" 3 new species described.

850. **Levick, J.** Volvox globator. Rep. and Trans. Birm. Nat. Hist. Mic. Soc. 1882.—(Bull. Torr. Bot. Club. 11:10. Ja1884.)

Levi-Morenos, D. See **Toni, G. B. de** and **Levi-Morenos, D.**

851. **Lewis, F. W.** Notes on new and rarer species of Diatomaceae of the United States. Proc. Phil. Acad. 1861: 61-71. *pl. 1, 2.* 26Mr1862 —(Quart. Jour. Mic. Sci. 2:155-161. 1862.)

852. ———. On some New and Singular Intermediate Forms of Diatomaceae. Proc. Phil. Acad. 1863:336-346. 1 *pl.* 29D1864.

Six new species named and described.

853. ———. On Extreme and Exceptional Variation of Diatoms, in some White Mountain Localities, etc. Proc. Phil. Acad. 1865:7-18. *pl. 1, 2.* 31Ja1865.

854. **Lewis, H. C.** On a New Fucoidal Plant from the Trias. Proc. Phil. Acad. 1880:293, 294. (24N1879.) 1881.

855. **Lewis, W. J.** Report on the Microscopical Examination of the Croton and Ridgewood Waters. 4th Ann. Rep. Metrop. Bd. Health. New York. 1869.

856. ———. Microscopical Examination of Potable Waters in the State of Connecticut. 5th Ann. Rep. Conn. St. Bd. Health for 1882. 215-232. 1883.

Samples of water from different towns examined. Algal contents discussed.

Line, J. E. See **Mallow, M. L., Rafter, G. W.** and **Line, J. E.**

857. **Lockwood, S.** The Life of a Diatom. Jour. N. Y. Mic. Soc. 2:135-142. D1886.—(Jour. Roy. Mic. Soc. 626. 1887.)

858. **Lockwood, S.** Raising Diatoms in the Laboratory. Jour. N.Y. Mic. Soc. 2:153-166. *pl.* 6, 7. D1886.—(Bot. Gaz. 12:113. My1887.)—(Jour. Roy. Mic. Soc. 1887:626. Ag 1887.)—(The Microscope. 7:315, 316. 1887.)

859. ———. Aberrant Forms in Cultivated Diatoms. Am. Mo. Mic. Jour. 14:269-273. 1 *pl.* O1893.

860. **Long, Emma de.** Crimson Snow. The Voyage of the Jeannette. The Ship and Ice Journals of George W. de Long. 2:447. 1883.

861. **Lord, J. K.** The Naturalist in Vancouver Islands and British Columbia.

The Appendix contains a list of 119 diatoms.

862. **Lyngbye, H. C.** Tentamen Hydrophytologiae danicae, continens omnia hydrophyta cryptogama Daniae, Holsatiae, Faeroae, Islandiae, Groenlandiae, hujusque cognita, systematice disposita, descripta et iconibus illustrata, adjectis simul speciebus norwegicis. Opus praemio ab universitate regia Havniensi ornatum, sumtu regio editum. Havniae, Gyldendal. 4. i-xxxii. 1-248. *pl.* 1-70. 1819. Hafniae.

863. **MacDougall, D. T.** Titles of Literature Concerning the Fixation of Free Nitrogen by Plants. Geol. and Nat. Hist. Surv. Minn. Bull. No. 9. 186-221. 27S1894.

864. **McKay, A. H.** Organic Silicious Remains in the Lake Deposits of Nova Scotia. Can. Rec. Sci. 1:236-244. 1885.

A list of 104 diatoms is given.

———. See Hay, G. U. and MacKay, A. H.

865. **MacKenzie, J. J.** A Preliminary List of Algae collected in the Neighborhood of Toronto. Proc. Can. Inst. III. 7:270-274. Ap1890.

One hundred and seven species enumerated.

866. **MacMillan, C.** Sexual Immobility as a cause of the development of the Sporophyte. Am. Nat. 25:22-25. Ja1891.

867. ———. The Limitation of the term "Spore." Bot. Gaz. 18:130-134. Ap1893.

868. ———. Archenema, Protonema and Metanema. Bot. Gaz. 19:19-24. 17Ja1894.

869. ———. Sphaeroplea annulina (Roth) Ag. in Minnesota. Bot. Gaz. 19:246, 247. 20Je1894.

870. **Maddox, R. L.** Cleaning Diatoms.—(Am. Nat. 6:188. Mr1872.)

871. **Magnus, P.** Sulla diffusione geografica della Sphaeroplea annulina (Roth) Ag. Notarisia. 5:1014-1016. 30Je1890.

872. **Magnus, P.** Nuova contribuzione alla conoscenza dell'area geografica della *Sphaeroplea annulina* Roth. *Notarisia*. **6**: 1215, 1216. 30Ap1891.

873. **Mallet, J. W.** Reports I, II, III, on Results of an Investigation made by Direction of the National Board of Health, as to the Chemical Methods in use for the Determination of Organic Matter in Potable Water. University of Virginia.

874. **Mallory, M. L., Rafter, G. W. and Line, J. E.** On *Volvox globator*, as the Cause of the Fishy Taste and Odor of the Hemlock Lake Water in 1888. *Ann. Rep. Exec. Bd. City of Rochester, N. Y. for 2 years ending Apr. 1st, 1889.* 1-10. 2 pl. 1889.

875. **Mann, A.** Diatoms: Their Classification, Life-History, Gathering and Preparation.—(*Am. Mo. Mic. Jour.* **11**:117, 118. My1890.)

876. **Mann, A., Jr.** Shark River Diatoms. *Sea Side Torch.* **4**:143. 1892.

877. ———. List of Diatomaceae from a Deep Sea Dredging in the Atlantic Ocean off Delaware Bay, by the U. S. Fish Commission Steamer Albatross. *Proc. U. S. Nat. Mus.* **16**: 303-312. 1893.—(*Am. Mo. Mic. Jour.* **14**:291. O1893.)

878. **Marmod, G.** Dry Preparations of Diatoms, etc., *Jour. Microg.* **2**:506. 1879.—(*Am. Jour. Mic.* **4**:176. S1879.)

879. **Martens, G. M. von.** *Conspectus Algarum. Brasiliae hactenus detectarum.* *Kjob. Vid. Medd.* **2**:297-314. 1870.

880. ———. *Algae Brasilienses circa Rio de Janeiro a clar. A. Glaziou, annis 1869 et 1870 collectae.* *Kjob. Vid. Medd.* **3**:144-148. (1871.) 1871-1872.

881. **Martindale, I. C.** Marine Algae of the New Jersey Coast and Adjacent Waters of Staten Island. *Mem. Torr. Bot. Club.* **1**:87-109. (11Je1889.) 24Ag1889.

———. *See Wolle, F. and Martindale, I. C.*

882. **Martius, K. F. P. von.** *Nova Genera et Species Plantarum, quas in itinere per Brasiliam annis 1817-20 suscepto collegit et descripsit.* **2**:1-148. pl. 101-200. 1826.

883. **Martius, K. F. P. von, Eschweiler, F. G. and Nees von Esenbeck, C. G.** *Algae, Lichenes, Hepaticae exposuerunt in Martius Flora Brasiliensis.* **1**¹:i-iv. 1-390. 1833.

884. **Maskell, W. M.** Note on *Micrasterias americana* Ralfs,

and its varieties. Jour. Roy. Mic. Soc. 1888:7-10. *pl.* 2. 14D1887.) F1888.

885. Mason, N. N. Cleaning Diatoms from Sand. N. Y. Mic. Soc. 5:116. O1889.—(Am. Mo. Mic. Jour. 11:65, 66. Mr1890.)—(Jour. Roy. Mic. Soc. 1890:112. 1890.)

886. Masee, George. Life-History of a Stipitate Fresh-water Alga. Jour. Linn. Soc. (Bot.) 27:457-462. *pl.* 12. 1891.
Describes development of *Dictyosphaerium ehrenbergianum*. Naeg.

887. Mathew, G. F. Cambrian Organisms in Acadia. Trans. Roy. Soc. Can. 7⁴:135-162. 4 *pl.* 1889.—(Can. Rec. Sci. 3:383-387. J11889.)

The flora of this series is stated to consist of sea-weeds, of which group, *Palaeochorda* is found in the lowest sandstone beds. Five species of algae, of which 4 are new to science, are described.

888. ———. Illustrations of the Fauna of the St. John Group. Trans. Roy. Soc. Can. 8⁴:123-166. 1891.

New genus *Medusichnites* includes forms called algae by Schimper.

889. Mauler, E. *Protococcus nivalis*.—(Am. Mo. Mic. Jour. 2:74. Ap1881.)

A letter containing facts concerning "red snow" of the Alps.

890. Mayall, J. Jr. Floegel's Researches on the Structure of the cell walls of Diatoms.—(Am. Nat. 18:747. J11884.)

891. Maze, H. and Schramm, A. *Essai de Classification des Algues de la Gaudeloupe*. 2nd Ed. 1-283. 1870-77. Basse-Terre, Gaudeloupe.

892. McElroy, S. Organic Life and Matter in Water. Proc. Am. W. W. Ass. 7th Ann. Meeting held at Minneapolis, Minn. July 13-15, 1887.

893. Mease, J. Fossil Furoid Impressions from Mifflin county, Pennsylvania. Proc. Phil. Acad. 2:8. (13F.) JaF1844.
Donated to Museum.

894. Meehan, T. Report of the Botanical Section. Proc. Phil. Acad. 1878:436-441. (31D1878.) 1879.

Fifty-four species of marine algae from California, collected by Henry Hemphill, presented to the conchological section of the Academy.

895. ———. Marine Algae. Proc. Phil. Acad. 1892:515. (27D1892.) 1893.

Two species received from Baron Ferdinand von Mueller added to the Museum.

896. Melville, J. C. Notes on the Marine Algae of South Carolina and Florida. Jour. of Bot. 4:258-265. 1875.

897. **Merrifield, Mary P.** Arctic Marine Vegetation. Nature. 12:55-58. 20My1875.

898. ———. Gulf-weed. Nature. 18:708-711. 31O1878.

899. ———. Wittrock's Snow and Ice Flora. Nature. 28:304, 305. 26Jl1883.

900. **Mertens, H.** Zwei botanisch-wissenschaftliche Berichte vom Dr. Heinrich Mertens, Naturforscher auf der gegenwärtigen Russischen Entdeckungsreise am Bord des Siniavin, Capt. v. Leutkens geschrieben im October 1827 in Kamtschatka, mitgetheilt durch den Vater, Prof. Mertens in Bremen, mit einigen Bemerkungen versehen von Dr. Adelbert v. Chamisso. Linnaea. 4:43-73. 1829. (Smiths. Contr. Knowl. Nereis Boreali-Americana. Part I. 85-87. Jl1851.)

A letter with remarks by Dr. A. v. Chamisso.

901. **Michels, J.** The Richmond Diatomaceous Earth. Michels' Science. 1:222. 30O1880.

902. **Migula, W.** Note on how to Prevent the Protoplasm of Algae from Contracting.—(Am. Mo. Mic. Jour. 7:217. N1886.)

903. **Miller S. A. and Dyer, C. B.** Contributions to Palaeontology. Jour. Cin. Soc. Nat. Hist. 1:24-40. *pl. 1, 2.* Ap1878.

A number of new species of fossil algae described.

904. **Mills, F. W.** An introduction to the Study of the Diatomaceae.—(Am. Mo. Mic. Jour. 14:297, 298. O1893.)

905. **Mills, H.** Motion of Diatoms. Am. Mo. Mic. Jour. 3:8, 9. Ja1882.—(Bot. Centralb. 11:43, 44. 1882.)

906. ———. Microscopic Organisms in the Buffalo Water Supply and in the Niagara River. Proc. Am. Soc. Mic. 165-175. 1882. Buffalo.

907. **Mills, H. F.** Filtration of Sewage and of Water, and Chemical Precipitation of Sewage at the Experiment Station of the State Board of Health of Massachusetts in 1888 and 1889. Mass. St. Bd. Health. Rep. Water Supply and Sewerage. Part II. 1-704. (Algae 47, 613, 653.) 1890.

908. **Mills, L. G.** Diatoms from Guano. Sci.-Gossip. 148. 1Jl1865.

909. ———. Processes and Inflation in Diatoms. Sci.-Gossip. 103. 1My1867.

A specimen from Upper Bolivian Guano.

910. ———. On the Manipulation and Preparation of Objects for the Microscope.—(Mo. Mic. Jour. 1:139, 140. 1F 1869.)

Observations on the treatment of Peruvian guano, given at the meeting of the Natural History Society of Armagh, Jan. 13, 1869.

911. **Mills, L. G.** Guano Diatoms. *Sci.-Gossip.* 55-57. *f.* 52-56. 1Mr1870.

912. ———. Diatoms from Peruvian Guano.—(*Jour. Roy. Mic. Soc.* II. 1:865. *pl.* 11. 1881)

913. **Minn, C. E.** Infusorial Earth. *Ann. Rep. Bd. Regents Smiths. Inst.* 1873:64. 1874.

Specimens from Fort Woodworth, D. T., added to collections.

914. **Mitchell, G. O.** *Volvox globator*.—(*Am. Mo. Mic. Jour.* 12:215. S1891.)

Specimens exhibited of the plant found for the first time in 12 years, at meeting of the San Francisco Microscopical Society, July 15, 1891.

915. **Mitchell, Margaret O.** On the Structure of *Hydroclathrus Bory*. *Phyc. Mem. Part II.* 53-57. *pl.* 14, 15. My1893.
Specimens collected at Anguilla.

916. **Moebius, M.** Ueber einige Suesserwasser-und-Luft-algen in Porto-Rico gesammelte. *Hedwigia.* 27:221-249. 3 *pl.* 1888.—(*Bull. Torr. Bot. Club.* 15:326, 327. 4D1888.)—(*Jour. Roy. Mic. Soc.* 1889:97. F1889.)

A new genus and species—*Phyllactidium tropicum*, and 1 new species of *Microcoleus*.

917. ———. Bearbeitung der von H. Schenck in Brasilien gesammelten Algen. *Hedwigia.* 28:309-347. 2 *pl.* 1889.—(*Bull. Torr. Bot. Club.* 17:19. 15Ja1890.)—(*Jour. Roy. Mic. Soc.* 1890:216. Ap1890.)—(*Notarisia.* 5:984-986. Ap1890.)

A description of 64 species.

918. ———. *Algae Brasilienses a cl. Dr. Glaziou collectae.* *Notarisia.* 5:1065-1090. 1 *pl.* 31Ag1890.

Eighty-two species enumerated.

919. ———. Ueber einige brasilianische Algen. *Berichte Deutsch. Bot. Gesell.* 10:17-26. *pl.* 1. (19Ja.) 1892.

920. ———. Ueber einige brasilianische Algen. *Hedwigia.* 34:173-176. *pl.* 2. 19Je1895.

921. **Moles, J. J.** Cleaning Diatoms. *Eng. Mechanic.* 6D1889.—(*Am. Mo. Mic. Jour.* 11:86. Ap1890.)

922. **Moller, —.** Diatom Plates.—(*Am. Mo. Mic. Jour.* 14:89. Mr1893.)

923. **Montagne, J. F. C.** *Prodromus Florae Fernandesianae.* Pars prima, sistens enumerationem plantarum cellularium quas in Insula Juan Fernandez à cl. Bertero collectas describi edique curavit. *Ann. Sci. Nat.* II. 3:347-356. 1835.

Four species of algae named.

924. **Montagne, J. F. C.** Sertum patagonicum. Cryptogames de la Patagonie. 4to. Part I. 7:1-19. *pl.* 1-7. (Algae.) Paris. 1839. D'Orbigny, A. Voyage dans l'Amerique meridionale, execute dans les annees 1826-33. Bot. Part II. Florula Boliviensis. Cryptogames de la Bolivia, recueillies par Alcide D'Orbigny. 4to 7:1-119. *pl.* 1-3. 1839. Paris.

925. ———. Prodromus generum, specierumque Phycearum novarum, in itinere ad polum antarcticum ab illustri Dumont d'Urville peracto collectarum, notis diagnosticis tantum hac evulgatarum, descriptionibus vero fusioribus nec non iconibus analyticis jam jamque illustrandarum. Gide. 8vo. 1-16. 1842. Paris.

926. ———. Plantes cellulaires du Voyage au Pole Sud et dans l'Oceanie sur les corvettes l'Astrolabe et La Zelee, sous le commandement de Monsieur Dumont d'Urville. 1837-40. Gide. 8vo. i-xiv. 1-349. *pl.* 1-20. 1845. Paris.

927. ———. Historia fisica politica y natural de la isla de Cuba por D. Ramon de la Sagra. Botanica. Cryptogamia o plantas celulares. A. Bertrand. 4to. 9:1-328. *pl.* -20. 1845. Paris.

928. ———. Plantes cellulaires de l'ile de Cuba.

The same work as the preceding, written in the French language.

929. ———. Cryptogamia Guyanensis, seu Plantarum cellularium in Guyana gallica annis 1835-1849 a cl. Leprieur collectarum enumeratio universalis. Note sur la station insolite de quelques floridees dans les eaux douces et courantes des ruisseaux des montagnes a la Guyane. (addressée à l'Academie des Sciences le 15 mai 1850.) Ann. Sci. Nat. III. 14:283-309. 1850.—(Comptes Rendus. 30:604-606. 1850.)—(Reprinted 8vo. 1-202. *pl.* 1-4. 1855. V. Masson. Paris.)

Enumerates 76 species.

930. ———. Diagnoses Phycologicae, seu quibus characteribus discriminandae sunt species Lichenum Algarumque nonnullae novae, in tomo Florae Chilensis octavo nondum typis mandato descriptae. Ann. Sci. Nat. III. 18:302-319. 1852.

Thirteen species of algae from Chili are described.

931. **Moore, A. Y.** Resolution of Amphipleura pellucida by Central Light. The Microscope. 3:49, 51. 1882.—(Jour. Roy. Mic. Soc. 4:143. 1884.)

932. ———. Coating Diatoms with Silver. The Microscope. 4:157-165. 1884.—(Jour. Roy. Mic. Soc. 829. 1884.)

933. **Morehouse, G. W.** *Amphipleura pellucida* in dots. *Am. Nat.* 7:316, 317. My1873. 8:443, 444. J11874.

934. ———. Resolution of *Frustulia saxonica* into Rows of Dots. *Am. Nat.* 7:443, 444. J11873.

935. ———. On the Structure of Diatoms. *Am. Nat.* 8:309-316. My1874.—(*Mo. Mic. Jour.* 12:19-25. 1J11874.)

936. ———. Silica films and the Structure of Diatoms. —(*Mo. Mic. Jour.* 15:38-40. 1Ja1876.)

Read before the Memphis Microscopical Society.

937. ———. The Marking of *Frustulia saxonica*. *Cin. Med. Jour.* Je1876.—(*Mo. Mic. Jour.* 16:92, 93. 1Ag1876.)

938. **Morley, E. W.** Measurement of Moeller's Probe Platte. —(*Am. Nat.* 9:428-430. Je1875.)

Read before the Memphis Microscopical Society, April 15, 1875.

939. **Morris, G. C.** How to Arrange Diatoms. *Am. Nat.* 10:502, 503. Ag1876.—(*Mo. Mic. Jour.* 16:316. 1D1876.)

940. ———. Letter on Cleaning Diatomaceous Earths, Sea-weeds, etc.—(*Am. Mo. Mic. Jour.* 1:38. F1880.)

941. **Moseley, H. N.** On the Marine Algae of St. Thomas and the Bermudas. *Jour. Linn. Soc. (Bot.)* 14:311, 312. (27Je 1873.) 1875.

942. ———. Notes on the Vegetation of Bermuda. *Jour. Linn. Soc. (Bot.)* 14:317-321. (18D1873.) 1875.

A few remarks upon the algae of the island.

943. ———. Notes on Plants collected at Fernando de Noronha (Sept. 1st and 2d, 1873.) *Jour. Linn. Soc. (Bot.)* 14:359-362. (16Ap1874.) 1875.

States that 24 species of marine algae were obtained.

944. ———. Notes on Plants collected in the Islands of the Tristan d'Acunha Group. (1874.) *Jour. Linn. Soc. (Bot.)* 14:377-384. (7My1874.) 1875.

A few observations on algae.

945. **Mottier, D. M.** *Pleodorina* in Indiana. *Bot. Gaz.* 19:383. 15S1894.

946. **Mueller, C.** Diatoms and how to Collect them. *Am. Mo. Mic. Jour.* 6:230, 231. D1885.—(*Jour. Roy. Mic. Soc.* 153. 1886.)

Translation of a private letter.

947. **Mueller, C. J.** Index to Diatoms figured in this Journal from 1853 to 1867. *Quart. Jour. Mic. Sci.* 10:179-187. 1870.

948. **Murray, G.** *Valonia ovalis*. Jour. of Bot. 25:379 1887.

Bermudas.

949. ———. Catalogue of the Marine Algae of the West Indian Region. Jour. of Bot. 26:193-196. 1888. 27:237-242. 257-262. 298-305. 1889.—(Jour. Roy. Mic. Soc. 1890:217. Ap1890.)

950. ———. Algae. H. N. Ridley's "Notes on the Botany of Fernando Noronha." Jour. Linn. Soc. (Bot.) 27:75-80. 1891.

About 53 species are recorded including those taken from Professor Dickie's list in the Journal of the Linnaean Society. 14:363.

951. ———. On New Species of *Caulerpa*, with Observations on the Position of the Genus. Trans. Linn. Soc. (Bot.) II. 3:207-213. *pl.* 53. *f.* 3-6. (5Mr1891.) O1891.—(Jour. Roy. Mic. Soc. 1892:240. Ap1892.)

C. phyllaphlaston is described as a new species from Yucatan.

952. On the Structure of *Dictyosphaeria* Decne. Phyc. Mem. Part I. 16-20. *pl.* 6. Ap1892.

Some of the material studied was collected from American localities.

953. ———. On *Halicystis* and *Valonia*. Phyc. Mem. Part II. 47-51. *pl.* 13. My1893.

Remarks on specimens from Bermuda.

954. ———. A Comparison of the Marine Floras of the Warm Atlantic, Indian Ocean, and the Cape of Good Hope. (Rep. 62nd meeting Brit. Ass. Ag1892. 775. 1893.)—Phyc. Mem. Part II. 65-70. My1893.

American regions include Florida, Bahamas and Bermudas.

955. ———. Fossil Algae. Sci. Progress. 2:37-47. S1894.

Remarks on American forms.

956. ———. Calcareous Pebbles formed by Algae. Phyc. Mem. Part III. 74-77. *pl.* 19. Ap1895.

Pebbles found in a pond on the shore of Lake Michigan.

957. ———. and **Barton, Ethel S.** A Comparison of the Arctic and Antarctic Marine Floras. Phyc. Mem. Part III. 83-98. Ap1895.

American regions are included.

958. **Murray, J.** On the Sea-bottom Deposits observed during the Cruise of the Challenger, in a Report to Prof. Wyville Thomson. Am. Jour. Sci. Arts. III. 12:255-270. O1876.

959. ———. Report on Deep-Sea Deposits based on the Specimens collected during the Voyage of H. M. S. Challenger

in the Years 1872-76. Voyage H. M. S. Challenger. Deep-sea Deposits. 1-496. 1891.

Numerous descriptions of diatoms and calcareous algae.

960. **Murray, J. and Renard, A.** On the Nomenclature, Origin, and Distribution of Deep-sea Deposits. U. S. Comm. Fish and Fisheries. Part XIII. Rep. Comm. for 1885. 759-786. 1887.

Diatom ooze discussed.

961. **Nathorst, A. G.** Fossil Algae. Nature. 28:52, 53. 17My1883.

Nees von Esenbeck, C. G. See **Martius, K. F. P. von, Eschweiler, F. G. and Nees von Esenbeck, C. G.**

962. **Neil, J.** Cleaning Diatoms with Glycerine. Am. Nat. 11:121, 122. F1877.—(Mo. Mic. Jour. 17:161. 1Mr1877.)

963. **Nelson, R. S. and Duncan, —.** On some points in the Histology of Certain Species of Corallinaceae. Trans. Linn. Soc. (Bot.) II. 1:197-209. pl. 26, 27. D1876.

Some specimens from the Bermudas.

964. **Nevins, R. D.** Diatoms from Washington Territory Am. Mo. Mic. Jour. 6:97, 98. My1885.

965. ———. Notes on the Habitat of Diatoms. Am. Mo. Mic. Jour. 15:270, 271. S1894.

966. **Newberry, J. S.** The Ancient Lakes of Western America: their Deposits and Drainage. Am. Nat. 4:641-660. Ja1871.

Fresh-water diatomaceae reported to be found by Professor Bailey in the chalk-like deposits.

967. ———. Fossil Plants of the Triassic Rocks of New Jersey and the Connecticut Valley. Monographs of the U. S. Geol. Surv. Dept. Int. 14:77-95. 1888.

Dendrophycus triassicus is described as new.

968. ———. Devonian Plants from Ohio. Jour. Cin. Soc. Nat. Hist. 12:48-56. (2S1889.) O1889.

969. **Newcomer, F. S.** Bleaching Diatoms. Breaking down Barbados Earth. The Microscope. 6:—. 1885.

970. ———. Cleaning and Arranging Diatoms.—(Proc. Am. Soc. Mic. 9th Ann. Meeting 128-130. 1886.)—(Zeits. wiss. Mik. 4:527. 1887.)—(Jour. Roy. Mic. Soc. 1887:844. O1887.)

971. **Nichols, Mary A.** Abnormal Fruiting of *Vaucheria*. Bot. Gaz. 22:269-271. pl. 21. Je1895.

Specimens collected near Cayuga lake, New York.

972. **Nichols, W. R.** Chemical Examinations of water from the Nashua River Basin. C. F. Folsom's "Pollution of Streams." 8th Ann. Rep. Mass. St. Bd. Health. 48-51. 1877.
Leptothrix found.

973. ———. Water Supply considered mainly from a Chemical and Sanitary Standpoint. J. Wiley & Sons, 1883. New York.

———. See **Farlow, W. G., Nichols, W. R. and Burgess, E. S.**

974. **Nicholson, T.** On the Red Snow of the Arctic Regions. Mag. Nat. Hist. 2:321-323. 1829.

975. **Nordstedt, C. F. O.** Fam. Desmidiaceae in Eug. Warming Symbolae ad Floram Brasiliae centralis cognoscendam. Part 5. Vid. Medd. 1:195-234. 1870.

976. ———. Desmidieae arctoae. Oefvers. Kongl. Vet. Akad. Foerhandl. 32:13-43. 1875.—(Hedwigia. 15:12-15. 19-25. 1876.)

977. ———. Nonnullae algae aquae dulcis brasilienses. Oefvers. Kongl. Vet. Akad. Foerhandl. 34:15-28. 1877.—(Hedwigia. 17:77-79. 84-88. 1878.)—(Am. Jour. Sci. Arts. III. 15:225, 226. Mr1878.)

978. ———. De Algis et Characeis. I. De Algis nonnullis praecipue Desmidieis, inter Utricularias Musei Lugdun-Batav. Act. Univ. Lund. 16:1-14. 1 pl. 15N1880.

979. ———. Algas de la republica Argentina. Bol. Acad. Nacion Cienc. Repub. Argent. 4:1882. Buenos Ayres.

980. ———. Algologiska Smasaker III. Bot. Notiser. 46-51. 1882.—(Bot. Centralb. 11:81. 1882)—(Bot. Jahresb. 10:304, 305. 1884.)

Algae from Argentine and Patagonia.

981. ———. Physiographische gesellschaft zu Lund. (Zeichnungen von 2 neuen abweichenden arten der gattung Bulbochaete vor.)—(Bot. Centralb. 16:95. 1883.)

One species collected in Brazil.

982. ———. Desmidieer samlade af Sv. Berggren under Nordenskiöld'ska expeditionen till Groenland 1870. (Die. von Sv. Berggren auf der Nordenskiöld'schen Expedition nach Groenland 1870 gesammelten Desmidieen.) Oefvers. Kongl. Vet. Akad. Foerhandl. 5-13. pl. 7. 1885.

983. ———. De Algis et Characeis. Acta Univ. Lund. Lunds. Univ. Ars-Skrift. 25:1-41. pl. 1. 1888.

Two new desmids from Brazil and other algae from North and South America.

984. **Nordstedt, C. F. O.** Einige Characeen-bestimmungen. Hedwigia. 27:181. 1 pl. 1888.

From Cuba.

———. See **Wittrock V. B.** and **Nordstedt, C. F. O.**

985. **Norris, W.** Diatomaceous Earth from Santa Monica. —(Am. Mo. Mic. Jour. 10:45. F1889.)

Specimens exhibited before San Francisco Microscopical Society, Oct. 24, 1888.

986. ———. Photographs of Diatoms from Illinois and California.—(Am. Mo. Mic. Jour. 12:190. Ag1891.)

Presented to San Francisco Microscopical Society at meeting of June 1, 1891.

987. **Northrop, J. I.** and **Northrop, Alice B.** Plant Notes from Tadousac and Temiscouata county, Canada. Bull. Torr. Bot. Club. 17:27-32. 5F1890.

Two species of Chara.

988. **Nott, E. S.** Cleaning Diatoms. Proc. Am. Soc. Mic. 11:149.—(Am. Mo. Mic. Jour. 11:31. F1890.)

989. **Oliver, F. W.** On the Obliteration of the Sieve-tubes in Laminariaceae. Ann. of Bot. 1:95-117. pl. 8, 9. N1887.

Discussion of Nereocystis luetkeana and statement that it is found on the northwest coast of North America.

990. **Olney, S. T.** Algae Rhodiaceae. A List of Rhode Island Algae. 1-13. 1871. Providence, R. I.—(The Lens. 1:129-135. 1872.)

991. **Oltmanns, F.** Ueber einige parasitische Meeresalgen. Bot. Ztg. 207-215. pl. 7. f. 1-10 16D1894.

Describes Acrochaete parasitica as new. From Greenland.

992. **O'Meara, E.** Notes on Bermuda Diatoms.—(Quart. Jour. Mic. Sci. N. S. 14:316. 1874.)

Specimens shown at the Dublin Microscopical Club, Jan. 22, 1874.

993. ———. Diatoms from a Fresh-water Deposit found in Vancouver's Island.—(Quart. Jour. Mic. Sci. N. S. 15:409, 1875.)

Reported at Dublin Microscopical Club March 18, 1875.

994. ———. New Aulacodiscus shown.—(Quart. Jour. Mic. Sci. N. S. 18:104. 1878.)

Dublin Microscopical Society June 21, 1877.

995. ———. Aulacodiscus solitarius exhibited.—(Quart. Jour. Mic. Sci. N. S. 18:105. 1878.)

Dublin Microscopical Society July 19, 1877.

996. ———. Diatoms from the Arctic Seas exhibited. (Quart. Jour. Mic. Sci. N. S. 18:214. 1878.)

997. **O'Meara, E.** New Species of *Craspedodiscus*, *C. febigeri*, exhibited.—(Quart. Jour. Mic. Sci. N. S. 18:350. 1878.)
Dublin Microscopical Society March 21, 1878.

998. **Onderdonk, C.** Motion of Diatoms. *Am. Mo. Mic. Jour.* 4:61, 62. Ap1883.—(The Microscope. 5:205, 206. 1885.)
—(Jour. Roy. Mic. Soc. II. 6:111, 112. F1886.)

999. ———. Movement of Diatoms. *The Microscope.* May 1887.—(Bull. Torr. Bot. Club. 14:172. Ag1887.)

The motion of diatoms is considered to be due to rythmic action of living protoplasm.

1000. ———. The Movements of Diatoms. *The Microscope.* 10:225-229. Ag1890.—(Am. Mo. Mic. Jour. 11:283. D1890.)

1001. ———. Notes on the Diatoms of the Florida Coast. *The Microscope.* 12:78. 1892.

Notes 1 new species.

1002. **Osborn, H. L.** *Protococcus*—An Elementary Study in Biology. *Am. Mo. Mic. Jour.* 9:183-186. O1888.

1003. **Osler, W.** Canadian Diatomaceae. *Can. Nat. Quart. Jour. Sci. N. S.* 5:142-151. Je1870.

A list of 110 species is given.

1004. **Owen, Maria L.** Plants of Nantucket. 8vo. 1-87. 1888.—(Bull. Torr. Bot. Club. 15:244, 245. 2Ag1888.)

Ten Characeae and 110 marine algae.

1005. **Packard, A. S. Jr.** The Sea weeds of Salt Lake. *Am. Nat.* 13:701-703. N1879.

Three species of algae determined by W. G. Farlow.

1006. **Pammel, L. H.** *Beggiatoa alba* and the Dying of Fish in Iowa. *Proc. Iowa. Acad. Sci.* 1887, 1888, 1889:90, 91. Ja1890.

1007. **Parker, F. W.** Infusorial Earth. *Miner. Res. U. S.* 1893:678, 679. 1894.

1008. **Parker, G. H.** Report upon the Organisms, excepting the Bacteria, Found in the Waters of the State, July 1887 to June 1889. *Mass. St. Bd. Health. Rep. Water Supply and Sewerage.* Part I. 581-676. 1890.

1009. **Partridge, T.** On Diatoms. *Jour. Post. Mic. Soc.* 1:22-25. Mr1882.

A discussion of the uses of diatomaceous earths. etc., mention being made of deposits in different parts of America.

1010. **Payne, C. L.** List of Algae from Granville, Ohio. *Bull. Denison Univ.* 4:132. D1888.

Additions to the list of H. L. Jones (2:115, 116. Ap1887.) A possible new species is described—*Spirogyra herricki*.

1011. **Peck, C. H.** Reports of State Botanist of New York. (1869.) 51.—(Grevillea. 1:14. J1872.)

New American Polysiphonia.

1012. **Pell, R. L.** Sea-weed as a Manure. Am. Inst. Trans. 320-326. 1860-61.

1013. **Pelletan, J.** Bibliographie des Diatomees par M. F. Habirshaw. Jour. Microg. 3:4:5: 1879-1881.

1014. ———. Diatomacees. Mission Scietifique du Cap Horn. Jour. Microg. 12:354. 1888.

1015. **Penhallow, D. P.** Notes on Devonian Plants. Trans. Roy. Soc. Can. 7⁴:19-30. *pl. 1, 2.* 1889.—(Can. Rec. Sci. 3:430-432. J1889.)—(Jour. Roy. Mic. Soc. 1890:366. Je1890.)

Gives a complete revision of the genus Nematophyton. Five species are probably the entire number in the genus.

Penhallow, D. P. See **Dawson, W.** and **Penhallow, D. P.**

1016. **Perry, G. W.** Arthrocladia villosa Duby. Bull. Torr. Bot. Club. 10:106. S1883.

1017. **Peters, J. E.** Arthrocladia villosa Duby. Bull. Torr. Bot. Club. 12:62. Je1885.

1018. **Peticolas, C. L.** The Richmond Diatomaceous Earth. Am. Jour. Mic. 2:17, 18. F1877.—(Cin. Med. News. Ag1878.) —(Mo. Mic. Jour. 17:294. 1Je1877.)

1019. ———. Diatoms. New York Tablet. 18My1878.

1020. ———. Some New Slides from the Richmond, Virginia, Diatomaceous Earth. Am. Jour. Mic. 5:133, 134. Je1880.

Fifty-two species of diatoms listed.

1021. ———. Diatoms. Leonard's Med. Jour, O1883.

1022. ———. New Slides of Diatoms. Am. Mo. Mic. Jour. 4:234. D1883.

1023. ———. New Diatoms from the Maryland Artesian Wells, the most Interesting and Beautiful found since the Discovery of the Celebrated Santa Monica Earth, with Notes on New Deposits. 1885. Richmond, Va.

1024. ———. Two New Preparations of Richmond Diatoms. Mic. Bull. . F1885.

1025. ———. Notes on the Diatomaceous Formations of Virginia in Connection with some Recent Discoveries made in the Excavation of the Eighth Street Tunnel at Richmond. The Microscope. 8:327-330. N1888.—(Bull. Torr. Bot. Club. 16:32. 12Ja1889.)

1026. **Peticolas, C. L.** Mounted Diatoms.—(The Microscope. 9:311. O1889.)—(Am. Mo. Mic. Jour. 11:42. F1890.)

Specimens from Santa Monica, Cal., and Richmond, Va. exhibited before the San Francisco Microscopical Society, August 28, 1889.

1027. ———. Notes on the Fossil Marine Diatom Deposit from Artesian Wells at Atlantic City, N. J. Am. Mo. Mic. Jour. 11:32, 33. F1890.—(Bull. Torr. Bot. Club. 17:106. 10Ap1890.)—(Notarisia. 5:1029, 1030. 30Je1890.)

A brief addition to the account given in No. 755.

1028. **Petit, P.** Spirogyra des Environs de Paris.—(Am. Mo. Mic. Jour. 1:216, 217. N1880.)

The Reviewer states that most of the species described are found in America.

1029. ———. Preserving Conferva and Desmids. Jour. Roy. Mic. Soc.—(Am. Mo. Mic. Jour. 2:75. Ap1881.)—(Am. Jour. Mic. 6:137. J11881.)

1030. ———. Diatomacees recoltees dans le Voisinage du Cap Horn. Mission Sci. du Cap Horn. (Bot.) 5: 1 pl. (1882, 1883.) 1888.

Thirteen new species.

1031. **Pfitzer, E.** The Vegetable Nature of Diatoms.—(Am. Nat. 6:684, 685. N1872.)

1032. **Piccone, A.** Notizie preliminari intorno alle alghe della "Vettor Pisani" raccolte dal Sig. C. Marcacci. Revista Ital. Sci. Nat. appl. 1: fasc. 3. 1885.—(Nuovo Gior. Bot. Ital. 17:185-188. 1885.)

Species from Brazil.

1033. ———. Nuove Alghe del viaggio di circumnavigazione della "Vettor Pisani" R. Accad. Linc. Anno. cclxxxvi. 1-57. 1889. Rome.

1034. ———. Alcune specie di alghe del Mar di Sargasso. Rend. Linc. 6: 1889. Rome.

1035. **Pieters, A. J.** On the Study of Fresh-water Algae. Asa Gray Bull. No. 4. 1894.

1036. **Pike, N.** Check List of Marine Algae, Based on Specimens collected on the Shores of Long Island 1839-1885. Bull. Torr. Bot. Club. 13:105-114. (1-10.) J11886.

1037. ———. On Preparing, Preserving and Mounting Objects of Natural History for the Microscope. The Microscope. 10:266-268. S1890.

Pitt, W. H. See Grote, A. R. and Pitt, W. H.

Planchon, J. E. See Triana, J. and Planchon, J. E.

1038. **Plummer, J. T.** Suburban Geology, or Rocks, Soil and Water, about Richmond, Wayne county, Indiana. *Am. Jour. Sci. Arts.* 44:281-313. 4 f. JaFMr1843.

Four species of *Fucoides* are figured and discussed.

1039. **Pont, P. R. B. de.** J. Brun's Preparation of Diatoms. *Jour. of Microg.*—(*The Microscope.* 2:191. F1883.)

1040. **Porter, E. D.** Investigations of Supposed Poisonous Vegetation in the Waters of some of the Lakes of Minnesota. Fourth Bien. Rep. Bd. Regents Univ. of Minn. Suppl. I. Rep. Dept. Agric. Univ. of Minn. 95, 96. 1887.

1041. **Poteat, W. L.** A Preliminary List of North Carolina Desmids. *Jour. Elisha Mitchell Sci. Soc.* 5:1-4. 1888.—(*The Microscope.* 9:123, 124. Ap1889.)

Eighty-one species listed.

1042. **Pound, R.** The Algae, Fungi and Lichens. *Am. Nat.* 23:178. F1889.

———. *See* **Smith, J. G.** and **Pound, R.**

1043. **Preston, E. B.** Diatomaceous Earth. *Cal. St. Min. Bureau.* 10th Ann. Rep. St. Miner. 1890:282. 1890.

Mentions a deposit in Lassen county.

1044. **Prinz, W.** Notes on Manner of obtaining Sections of Diatoms.—(*Bot. Gaz.* 9:32. F1884.)

1045. **Provancher, L.** *Flora Canadienne, ou Description de toutes les Plantes des Forets, Champs, Jardins, et Eaux du Canada.* 8vo. 2 vol. i-xxix. 1-842. 1862. Quebec.

1046. **Puiggari, J. J.** Noticia sobre algunas Cryptogamas nuevas halladas en Apiahy, provincia de San Pablo en el Brasil, *Anales Soc. cien. Argentin.* II: entr. 4. 1-16. 1881.—(*Bot. Centralb.* 8:161. 1881.)

1047. **Puysegur, M.** and **Ryder, J. A.** On the cause of the Greening of Oysters. With a Supplementary Note on the Coloration of the Blood Corpuscles of the Oyster. *U. S. Comm. Fish and Fisheries.* Part X. Rep. Comm. 1882. 793-805. 1884.

1048. **Queen, T. W.** Glass Discs for arranging Diatoms. *Mic. Bull.* 2:24. 1885.

1049. **Quekett, E. J.** Observations on the Species of Fossil Animalcules discovered at Petersburg in Virginia. *Lond. Phys. Jour.* 1:140. 1846.

1050. **Quekett, J.** On the presence, in the Northern Seas, of Infusorial Animals analogous to those occurring in a Fossil

State at Richmond in Virginia. *Mic. Jour. and Struct. Rec.* 2:353-360. *pl. 12.* 1842. London.—(*Ann. Nat. Hist.* 9:66. 1842.)

1051. **Rafinesque-Schmaltz, C. S.** Prospectus of two intended Works on North American Botany.—(*Am. Jour. Sci. Arts.* 40:221-241. Ap1841.)

A number of new genera, among them, *Merasperma*, which belongs to the *Confervaceae*, were to be described.

1052. ———. *Precis des Decouvertes et Travaux Somiologiques.* 1-55. 1814.

Several new American genera and species of algae described.

1053. **Rafter, G. W.** On the Use of the Microscope in Determining the Sanitary Value of Potable Water, with Special Reference to the Study of the Biology of the Water of Hemlock lake. *Proc. Rochester Acad. Sci. Mic. Section.* 1886.—(*Am. Mo. Mic. Jour.* 8:140. J1887.)

1054. ———. How to Study the Biology of a Water Supply. *Proc. Rochester Acad. Sci. Mic. Section.* 1887.—(*Am. Mo. Mic. Jour.* 8:140. J1887.)

1055. ———. On the Micro-organisms of Hemlock lake Water. *Proc. Rochester Acad. Sci. Mic. Section.* 1888.—(*Am. Mo. Mic. Jour.* 9:87-92. My1888.)

1056. ———. *Photomicrographs.*—(*Am. Mo. Mic. Jour.* 9:113. Je1888.)

Specimens of *Pleurosigma* and *Cymbella*.

1057. ———. The Fresh-water Algae and their Relation to the Purity of Public Water Supplies. *Trans. Am. Soc. Civ. Eng.* 483-557. 9 *pl.* 1889.—(*Eng. and Build. Rec.* 20:115, 116. 131. 1889.)—(*Jour. Roy. Mic. Soc.* 1890:489. Ag1890.)

1058. ———. Deterioration of Water in Reservoirs, its Causes and Prevention. 14th Ann. Rep. N. J. St. Bd. Health. 111-122. 1890.

A number of harmful algae are discussed.

1059. ———. Biological Examination of Potable Water. *Proc. Rochester Acad. Sci.* 1:34-44. (10Mr.) 1890.—(*Am. Mo. Mic. Jour.* 13:55-62. Mr1892.)

A description of methods and apparatus with reference to microscopical examination.

1060. ———. The Microscopical Examination of Potable Water. D. Van Nostrand & Co. 1892. New York.

1061. ———. Some of the Circumstances affecting the Quality of a Water Supply. *Proc. Am. W. W. Ass.* 12th Ann. Meeting. held at New York. May 17-20. 1892.

1062. **Rafter, G. W.** On some Recent Advances in Water Analysis and the Use of the Microscope for the Detection of Sewage Contamination.—(Am. Mo. Mic. Jour. 14:127-139. My1893.)

Read before the Buffalo, N. Y., Microscopical Club, Dec. 12, 1892.
Ninety forms of algae stated to have been found in the water of Hemlock lake.

———. See Mallory, M. L., Rafter, G. W. and Line, J. E.

1063. **Rand, E. L.** Flora of Mount Desert Island, Maine. Fourth Annual Supplement to the Preliminary List. Hectograph print 1-7. 1892.

Includes a list of algae determined by F. S. Collins and I. Holden.

1064. **Rand, E. L.** and **Redfield, J. H.** Flora of Mount Desert Island, Maine. A Preliminary Catalogue of the Plants growing on Mount Desert and the adjacent islands. With a Geological Introduction by W. M. Davis and a new map of Mount Desert Island. 8vo. 1-286.—(Algae. 227-249.) John Wilson & Son. 1894. Cambridge.

Two species of *Nitella* and 140 species and 6 varieties of other algae.

1065. **Ratray, J.** A Revision of the Genus *Aulacodiscus* Ehrb. and of some Allied Genera. Jour. Roy. Mic. Soc. 1888: 337-382. *pl.* 5-7. Je. 1888: 861-920. *pl.* 12-16. D1888.

A number of American forms named.

1066. ———. Diatomaceae. Notes on the Botany of Fernando Noronha. Jour. Linn. Soc. 27:81-86. 1891.

Forty-six species from Fernando Noronha and 15 species from guano from Rat Island noted.

1067. **Ravenel, H. W.** A Catalogue of the Natural Orders of Plants, inhabiting the Vicinity of the Santee Canal, S. C. as represented by Genera and Species; with Observations on the Meteorological and Topographical Conditions of that Section of Country. Proc. Am. Ass. Adv. Sci. Third Meeting, Mar. 1850. 2-17. (12Mr.) 1850.

Twenty-five species of algae.

1068. ———. *Nitella praelonga*. A. Braun. Bull. Torr. Bot. Club. 6:82. Mr1876.

Notes occurrence in South Carolina.

1069. **Redfield, J. H.** Conservator's Report for 1888. Proc. Phil. Acad. 1888:449, 450. (25D1888.) 1889.

Reports that during the past year 229 species of lichens, fungi and algae have been added to the herbarium.

1070. ———. Conservator's Report for 1891. Proc. Phil. Acad. 1891:500-502. (29D1891.) 1892.

States that 120 species of algae from New England and California have been received during the year from F. S. Collins, Malden, Massachusetts.

Redfield, J. H. See **Rand, E. L.** and **Redfield, J. H.**

1071. **Rein, J. J.** Ueber die Vegetations-Verhaeltnisse der Bermudas-Inseln. (1873.) Nat. Gesell. Bericht. 131-153. 1872-1873. Senckenberg.

1072. **Reinsch, P. F.** Contributiones ad Algologiam et Fungologiam. 4to. 1:i-xii. 1-103. 1875. Leipzig.

Contains descriptions of 3 desmids new to the United States and notes on some sea-weeds.

1073. ———. The Microscopic Organic World in the Drinking Water of Boston. Boston *Evening Transcript*. 15D1877.

1074. ———. Saprolegniae and Parasites in Desmid Cells. (Am. Nat. 12:318. My1878.)

Observation on Cochituate water of Boston.

1075. ———. Beobachtungen ueber entophyte und entozoische Pflanzenparasiten. Bot. Ztg. 37:17-24. 33-43. pl. 1. 1879.

Specimens collected at Cape Cod, North America.

1076. ———. Ein neues Genus der Chroolepideae. Bot. Ztg. 37:361-366. pl. 3. (A). 6Je1879.

Acroblaste is the name given to the new genus. The plant described was collected in Buzzard's Bay, Massachusetts.

1077. ———. Ueber das Palmellaceen Genus Acanthococcus. Berichte Deutsch. Bot. Gesell. 4:237-244. pl. 11, 12. (22Je.) 1886.

Describes forms from the United States.

1078. ———. Species et Genera nova Algarum ex insula Georgia australi. Berichte Deutsch. Bot. Gesell. 6:144-156. (16Mr.) 1888.—(Bull. Torr. Bot. Club. 17:18, 19. 15Ja1890.)

New species of 11 known genera and 3 new genera each with a single species are described.

1079. ———. Die Suesswasseralgenflora von Sued-Georgien. G. Neumayer's "Die internationale Polarforschung 1882 bis 1883." Die deutschen Expeditionen. 2:329-365. 4 pl. 1890.

Seventy-four species listed.

1080. ———. Zur Meeresalgenflora von Sued-Georgien. G. Neumayer's "Die internationale Polarforschung 1882 bis 1883." Die deutschen Expeditionen. 2:366-449. 19 pl. 1890.

Sixteen new species described.

1081. **Remsen, I., Hyatt, A. and Farlow, W. G.** Report on a Peculiar Condition of the Water of Boston, in November, 1881, with notes. Boston City Document. 143. 1881.—(Am. Mo. Mic. Jour. 2:236-238. D1881.)

Note on the "cucumber taste."

Renard, A. See **Murray, J. and Renard, A.**

Renauld, F. See **Delamare, E., Renauld, F. and Cardot, J.**

1082. **Richards, H. M.** Notes on *Zonaria variegata* Lam'x. Proc. Am. Acad. Arts. Sci. N. S. 17:83-92. 1 pl. (11Je.) 1890.—(Jour. Roy. Mic. Soc. 1891:378. Je1891.)

A specimen from Bermuda described.

1083. ———. On the Structure and Development of *Choreocolax polysiphoniae* Reinsch. Proc. Am. Acad. Arts. Sci. N. S. 18:46-63. 1 pl. (12My.) 1891.—(Jour. Roy. Mic. Soc. 1891:778. D1891.)

1084. **Richter, P.** Note on Minnesota Algae.—(Bot. Gaz. 19:425. 17O1894.)

The Minnesota alga studied by him and pronounced a form of *Gloio-trichia*. *G. echinulata* (Engl. Bot.) P. Richt.

1085. **Ridley, H. N.** Notes on the Botany of Fernando Noronha. Jour. Linn. Soc. (Bot.) 27:1-86. (7Je1888.) 1891.

A list of algae is given by G. M. Murray. A list of diatoms by J. Rattray. *Nitella cernua* A. Br. was found in a lake at Caracas.

1086. **Ries, H.** Diatoms. Clay Industries of New York. Bull. N. Y. St. Mus. 3:119, 120, 122, 129, 136. 2 pl. Mr1895.

A number of species named.

1087. **Riner, W. W.** Arranging Diatomaceae. Am. Nat. 8:371-373. f. 79, 80. Je1874.

1088. ———. Mounting Diatoms. Am. Nat. 8:568. S1874.

1089. ———. A Fine Diatom. Am. Jour. Mic. 4:61. Mr1879.—(Brebissonia. 2:33, 34. 28S1879.)

1090. **Ringueberg, E. N. S.** New Fossils from the Four Groups of the Niagara Period of Western New York. Proc. Phil. Acad. 1884:144-150. pl. 2. f. 1. (27My1884.) 1885.

Sphirophyton archimedes described as new.

1091. ———. Some New Species of Fossils from the Niagara Shales of Western New York. Proc. Phil. Acad. 1888:131-137. pl. 7. f. 1. (27Mr1888.) 1889.

Fucoid forms described.

1092. **Ritchie, A. S.** Aquaria Studies. Part II. Can. Nat. and Quart. Jour. Sci. N. S. 5:165-171. Je1870.

A few species of algae mentioned.

1093. **Robinson, J.** The Flora of Essex county, Massachusetts. Essex Inst. 1-200. 1880. Salem.—(Bot. Gaz. 6:187, 188. Mr1881.)

1094. **Rogers, R. E.** Infusorial Earth from Richmond and Rappahannock river, Virginia. Proc. Phil. Acad. 1859:iii. (3My1859.) 1860.

Specimens presented.

1095. **Rogers, W. B.** On the Limits of the Infusorial Stratum in Virginia. Am. Jour. Sci. Arts. 45:313, 314. J1843.

1096. ———. On Fossil Infusoria. Am. Jour. Sci. Arts. 46:141, 142. OND1843.

Fourteen species of diatoms, additional to Professor Bailey's list, noted.

1097. ———. Geology of the Virginias.—(Am. Jour. Sci. III. 30:357-374. N1885. III.3 1:193-202. Mr1856.)—(Am. Mo. Mic. Jour. 7:115. Je1886.)

1098. **Romeo, N. A.** Pleurosigma angulatum. Am. Jour. Mic. and Pop. Sci. 5:137, 138. Je1880.

1099. **Rominger, C.** Palaeozoic Rocks. Geol. Surv. Mich. Upper Peninsula. (1869-1873.) 1³:1-102. 1873.

A number of fucoid forms noted.

1100. **Rose, J. N.** Nostoc. and Penicillium in $\text{NaC}_2\text{H}_3\text{O}_2$. Bot. Gaz. 10:280. My1885.

1101. ———. Notes on the Conjugation of Spirogyra. Bot. Gaz. 10:304-306. 1 pl. J1885.

1102. **Rosenvinge, L. K.** Beiträge zur Kenntniss der Gattungen Ulothrix und Conferva. Bot. Tidsskr. III. 3:114-134. 1879-80.

Specimens from Greenland.

1103. ———. Om Spirogyra groenlandica, nov. spec., og dens Parthenosporedannelse. Oefvers. Kongl. Vet. Akad. Foerhandl. 40:n. 8. 37-47. pl. 8. 1884.—(Bot. Centralb. 20:165. 1884.)—(Jour. Roy. Mic. Soc. II. 5:285. Ap1885.)

Describes a new species of Spirogyra from Greenland, collected by Fries in 1871.

1104. ———. Les Algues marines du Groenland. Ann. Sci. Nat. VII. 19:53-164. f. 1-57. 1894.

1105. **Rothpletz, A.** Ueber die Bildung der Oolithe. Bot. Centralb. 51:265-268. 1892.—(Jour. Roy. Mic. Soc. 1892: 839. D1892.)

Calcareous stones from the shore of Great Salt Lake in Utah found to be covered with Gloeocapsa and Gloeotheca.

1106. **Russell, J. L.** Sea-weeds. *Am. Nat.* 2:225-235. J11868.

A popular discussion.

1107. ———. The Sea-weeds at Home and Abroad. *Am. Nat.* 4:274-297. *f.* 69-75. J11870.

1108. **Ryder, J. A.** The Protozoa and Protophytes considered as the Primary or Indirect Source of the Food of Fishes. (2d Ed. revised.) U. S. Comm. Fish and Fisheries. Part IX. Rep. Comm. for 1881. 755-770. 1884.

1109. ———. An Account of Experiments in Oyster Culture and Observations Relating thereto. Second Series. U. S. Comm. Fish and Fisheries. Rep. Comm. for 1882. 763-778. 1884.

1110. ———. The Polar Differentiation of Volvox, and the Specialisation of possible Anterior Sense-organs. *Am. Nat.* 23:218-221. Ap1889.

1111. ———. On the Fore and Aft Poles, the Axial Differentiation and a Possible Anterior Sensory Apparatus of Volvox minor. *Proc. Phil. Acad.* 1889:138-140. (21My 1889.) 1890.

1112. ———. On the cause of the Greening of the Oyster and its presumed Algous Endoparasites. *Proc. Phil. Acad.* 1892:352. (15N1892.) 1893.

Investigations resulted in the finding of desmids, diatoms and the spores of Ulva.

———. See **Puysegur, M.** and **Ryder, J. A.**

Saccardo, F. See **Toni, G. B. de,** and **Saccardo, F.**

1113. **Saccardo, P. A.** The Number of Plants. *Atti Cong. Bot. Internat.* 1892.—(*Am. Nat.* 28:173-180. F1894.) Translated by Roscoe Pound.

The total number of species of algae known is placed at 12,178.

1114. **Sadler, J.** List of Arctic Cryptogamous Plants, etc., Collected by Robert Brown, Esq., during the Summer of 1861, on the Islands of Greenland, in Baffin's Bay and Davis Straits. *Trans. Bot. Soc. Edinb.* 7:374, 375. 1863.

1115. **Safford, W. E.** Botanizing in the Strait of Magellan. *Bull. Torr. Bot. Club.* 15:15. 5Ja1888.

Collected 14 species of marine algae.

1116. **Sargent, F. L.** Guide to the Recognition of the Principal Orders of Cryptogams and the commoner and more easily distinguished New England Genera, with a Glossary. C. W. Sever. 1-39. 1886. Cambridge.—(*Bot. Gaz.* 11:283-285. O1886.)

Two genera of Characeae and genera among 3 orders of marine algae.

1117. **Sargent, F. L.** On the Schwendener Theory of the Constitution of Lichens. *Am. Mo. Mic. Jour.* 8:21-25. F1887.

1118. **Saunders, D.** Protophyta-Phycophyta. Univ. of Neb. Fl. Neb. Published by the Botanical Seminar. 1¹:15-68. *pl. 1-22.* 15Ag1894.

1119. **Schaarschmidt, J.** Specimen Phycologae Aequatoriensis. *Mag. Noevenytani Lapok.* 5:17-24. 1881. Klausenburg.—(*Hedwigia.* 21:93. 1882.)

Specimens from Ecuador.

1120. ———. Three Desmids new to the United States. *Bull. Torr. Bot. Club.* 12:51. My1885.

Notes descriptions of Desmids in Reinsch's *Cont. Alg. et Fung* (No. 1072 above) and names *Cosmarium reinschii* as new.

1121. **Schively, Mary A.** *Hormactis quoyii.* *Proc. Phil. Acad.* 1890:497. (30D1890.) 1891.

Specimens of this marine alga both mounted and in alcohol presented to the museum.

1122. **Schmidle, W. von.** Einige Algen aus Denver, Colorado, U. S. A. *Hedwigia.* 34:84, 85. 1 f. 8Ap1895.

Thirteen species named including 1 new species and 1 new variety of *Cosmarium*.

1123. **Schmidt, A.** *Atlas der Diatomaceen-Kunde.* 1885.—

The work contains occasional figures of new American species.

1124. **Schmitz, F.** Die systematische Stellung der Gattung *Thorea* Bory. *Berichte Deutsch. Bot. Gesell.* 10:115-142. (17Mr.) 1892.

1125. **Schneck, J.** Catalogue of the Flora of the Wabash Valley below the Mouth of White river, and Observations thereon. 7th Ann. Rep. Geol. Surv. Ind. 1875. 504-576. 1876.—(*Bot. Gaz.* 2:65. D1876.)

Lists *Chara polyphylla* from the Wabash river.

1126. **Schneider, A.** Mutualistic Symbiosis of Algae and Bacteria with *Cycas revoluta*. *Bot. Gaz.* 19:25-32. *pl. 3, 4.* 17Ja1894.

Eight genera of algae were represented in the greenish coating of the leaves of *Cycas* and *Nostoc* in the root tubercles.

1127. **Schofield, J. R.** Notes on the Flora of the Artesian Well. Publications of the Nebraska Academy of Sciences. 2:23, 24. 1892.

Conferva martialis Hanst., *Protococcus frustulosus* (Carm.) de Toni, *Oscillaria gracillima* Kg. and 2 diatoms were found in the well at Lincoln, Nebraska.

Schramm, A. See Maze, H. and Schramm, A.

1128. **Schultze, E. A.** Five Species of *Triceratium*. Jour. N. Y. Mic. Soc. 2:110. *pl.* 4, 5. J1886.

Figures of specimens of the Barbadoes material.

1129. ———. A Descriptive List of Staten Island Diatoms. Bull. Torr. Bot. Club. 14:69-73. *pl.* 66. Ap. 14:109-114. *pl.* 69. Je1887. 16:98-104. *pl.* 90. Ap1889.

A description of 45 Naviculas and 3 species of *Stauroneis*.

1130. ———. Note on a Variety of *Asteromphalus roperianus* Grev. Bull. Torr. Bot. Club. 14:96. My1887.

1131. ———. *Synedra pulchella* Kuetz. var. *abnormis* Macchiati. Bull. Torr. Bot. Club. 16:164, 165. 1 f. 8Je1889.

———. See **Kain, C. H.** and **Schultze, E. A.**

1132. **Scoresby, W.** Color of Sea-water. — (Am. Jour. Sci. Arts. 6:198, 199. 1823.)

1133. **Seaman, W. H.** Mounting Mediums with High Refractive Indices. Am. Mo. Mic. Jour. 7:21-24. F1886.

1134. ———. Remarks on Particular Relations of certain Marine Algae.—(Am. Mo. Mic. Jour. 8:19. Ja1887.)

From paper read before the Washington Microscopical Society at the 52d meeting.

1135. ———. The Microscopic Life of the District (of Columbia.)—(Am. Mo. Mic. Jour. 11:165. J1890.)

Read before the Washington, D. C., Microscopical Society May 13th.

1136. **Sedgewick, W. T.** Recent progress in Biological Water Analysis. Jour. N. E. W. W. Ass. S1889.

1137. ———. Utilisation of Surface Water for Drinking —Purposes. Jour. N. E. W. W. Ass. 33-39. S1890.)

1138. ———. A Report on the Biological Work of the Lawrence Experiment Station, including an account of Methods employed and Results obtained in the Microscopical and Bacteriological Investigations of Sewage and of Water. Mass. St. Bd. Health. Rep. Water Supply and Sewerage. Part II. 795-862. 1890.

1139. **Seeman, B.** The Botany of the Voyage of H. M. S. Herald, under the Command of Capt. Henry Kellett, R. N., during the years 1845-51. Part I. 4to. 1-56. *pl.* 1-10. London. —(Am. Jour. Sci. Arts. II. 14:428. N1852.)

Twelve algae recorded from different points in America.

1140. **Setchell, W. A.** Concerning the Structure and Development of *Tuomeya fluviatilis* Harv. Proc. Am. Acad. Arts. Sci. 25:53-68. 1 *pl.* (9 Ap.) 1890.—(Jour. Roy. Mic. Soc. 1891: 378. Je1891.)

1141. **Setchell, W. A.** Concerning the Life History of *Saccorhiza dermatodea* (De la Pyl.) J. Ag. Proc. Am. Acad. Arts. Sci. 26:177-217. *pl. 1, 2.* (10Je.) 1891.—(Jour. Roy. Mic. Soc. 1892:829. D1892.)

1142. ———. On the Classification and Geographical Distribution of the Laminariaceae. Trans. Conn. Acad. 9:333. 1893. Reprint.

1143. **Seward, A. C.** Algae as Rock-Building Organisms. Sci. Progress. 2:10-26. S1894.

Reference to deposits and growths in America.

1144. **Seymour, A. B.** Marine Algae. St. Nat. Hist. Soc. Ill. 7J11884.)—(Science. 4:123. 8Ag1884.)

1145. **Shaeffer, P. W.** Impressions of Algae in Old Red Sandstone. Proc. Phil. Acad. 8:iv. (11Mr1856.) 1857.

Eleven specimens from Schuylers county, Penn., are donated.

1146. **Shaler, N. S.** The Geology of Cape Ann, Massachusetts. U. S. Geol. Surv. 9th Ann. Rep. 539-611. (20Je1888.) 1889.

Discusses the effect of sea-weed on movement of pebbles.

1147. **Sharp, H.** On Mounting Diatoms in Lines and Patterns.—(The Microscope. 3:26-28. Ap1883.)—(Am. Mo. Mic. Jour. 4:132, 133. J11883.)

1148. **Shaw, W. R.** *Pleodorina*, a new Genus of Volvocineae. Bot. Gaz. 19:279-283. *pl. 27.* 16J11894.

Describes genus and 1 species.

1149. **Shultz, C. S.** *Volvox globator*. Am. Jour. Mic. 3:91. Ap1878.

1150. ———. Note on *Peridinium* and *Asterionella*. Jour. N. Y. Mic. Soc. 1:190. (19Je.) J11885.

1151. **Silliman, B.** United States Exploring Expedition. Am. Jour. Sci. Arts. 44:393-408. JaFMr1843.

Sea-weeds collected.

1152. **Slack, H. J.** Mr. Stodder's Remarks on *Eupodiscus argus*. Mo. Mic. Jour. 9:186, 187. 1Ap1873.

———. See **Ernst, A.** and **Slack, H. J.**

1153. **Sloane, H.** *Catalogus plantarum, quae in insula Jamaica sponte proveniunt vel vulgo coluntur cum earundem synonymis et locis natalibus; adjectis aliis quibusdam, quae in insulis Maderae, Barbados, Nieves et St. Christophori nascuntur, seu Prodrumi historiae naturalis Jamaicae.* Brown. Part I. 1-232. 1696. London.

1154. **Sloane, H.** An Account of 4 sorts of strange Beans, frequently cast on shore on the Orkney Isles, with some conjectures on the Manner of their being brought thither from Jamaica. *Phil. Trans. Roy. Soc.* **19**:103-105. 1696.

1155. ———. A Voyage to the Islands Madera, Barbados, Nieves, S. Christophers and Jamaica, with the Natural History of the Herbs and Trees, Four-footed Beasts, Fishes, Birds, Insects, Reptiles, etc., of the last of those Islands; etc. 2 vol. printed by B. M. for the author. 1707-25. Folio. 1:i-cliv. 1-264. *pl.* 1-156. 1707. 2:i-xviii. 1-499. *pl.* 157-274. 1725. London.

1156. **Smiley, C. W.** Rinnbock's Slide of Arranged Diatoms, Chirodota Wheels, Synapta Plates, Synapta Anchors, etc. *Am. Mo. Mic. Jour.* **9**:199-200. 1 *pl.* N1888.

1157. ———. The Reddening of Codfish. *Am. Mo. Mic. Jour.* **10**:128-130. J1889.

1158. ———. Note on Diatom Multiplication. *Am. Mo. Mic. Jour.* **13**:42. F1892.

1159. ———. To work the Diatomaceous Earth sent out by this Journal. *Am. Mo. Mic. Jour.* **13**:122, 123. M1892.

1160. ———. To mount Diatoms "Dry." *Am. Mo. Mic. Jour.* **13**:123. M1892.

1161. ———. Diatoms—A new London Dealer. *Am. Mo. Mic. Jour.* **14**:57. F1893.

1162. ———. Objects seen under the Microscope. XI. Red Snow. *The Microscope. N. S.* **2**:50, 51. Ap1894.

1163. **Smiley, R. W.** Reference List of Original Articles Relative to Diatoms Published in the American Monthly Microscopical Journal—Volumes I-XII. *Am. Mo. Mic. Jour.* **12**:270-272. D1891.

1164. **Smith, A. H.** The Railway Cutting at Gray's Ferry Road. *Proc. Phil. Acad.* **1886**:253, 254. (4M1886.) 1887.

States that numerous genera and species of diatoms are contained in the blue clay of this region.

1165. **Smith, A. L. and Whitting, Frances G.** Notes on the Sori of *Macrocystis* and *Postelsia*. *Phyc. Mem. Part III.* 84-87. *pl.* 20. Ap1895.

The plant examined was collected at Santa Cruz, California.

1166. **Smith, B. B.** Additions to the Flora of Kansas. *Trans. Kan. Acad. Sci.* (1891-92.) **13**:96-103. 1893.

Three species of Characeae noted.

1167. **Smith, H. E.** Report on the Sanitary Condition of the New Haven Water Supply, in May, 1894. 17th Ann. Rep. Conn. St. Bd. Health. 266-268. 1895.

Statements made concerning odors produced by certain algae.

1168. ———. Report of the Investigations of Rivers Pollution and Water Supplies. 17th Ann. Rep. Conn. St. Bd. Health. 269-297. 1895.

Genera of algae listed.

———. See **Williston, S. W., Smith, H. E.** and **Lee, T. G.**

1169. **Smith, H. L.** Notes on Diatomaceae found near Gambia, O. Trans. Mic. Soc. N. S. 8:33-35. (15N1859.) 1860.

1170. ———. Spectroscopic examination of the Diatomaceae. Am. Jour. Sci. Arts. II. 48:83, 84. J11869.—(Can. Nat. N. S. 4:372, 373. 1869.)

1171. ———. The Bailey Collection of Diatomaceae in the Museum of the Boston Society of Natural History. The Lens. 1:228. 1872.

1172. ———. A Conspectus of the Families and Genera of Diatomaceae. The Lens. 1:1. 72. 154. 1872.—(Mo. Mic. Jour. 7:177. 1Ap. 8:34, 35. 1J1872. 9:35, 36. 1Ja. 9:114-117. 1Mr. 9:165-167. 1Ap. 9:219-221. 1My1873.)—(Am. Nat. 6:318. My1872.)—(Grevillea. 1:63, 64. O1872.)

1173. ———. Conspectus of the Diatomaceae: The Genus *Amphora*. The Lens. 2:63. 3 pl. 1873. (Grevillea. 2:24-26. Ag1873.)

1174. ———. Archebiosis and Heterogenesis. The Lens. 2:19. Ja1873.—(Sci.-Gossip. 9:153. 1873.)

1175. ———. The Silicious Shelled Bacillaria or Diatomaceae. The Lens. 2:129. 199. 1873.

1176. ———. On the Preparation of Diatomaceae. The Lens. 2:209. 1873.—(B. W. Thomas' "Diatomaceae of Minnesota Inter-glacial Peat." Geol. Nat. Hist. Surv. Minn. 20th Ann. Rep. 1891. 317-320. 1893.)

1177. ———. Who first Examined the Diatomaceae? The Lens.—(Mo. Mic. Jour. 10:273. 1D1873.)

States that O. F. Mueller in 1773 described and figured a *Gomphonema* as *Vorticella pyrraria*.

1178. ———. Letter on *Frustulia saxonica* and other Diatoms.—(Mo. Mic. Jour. 15:278-281. 1Je1876.)

1179. ———. A Letter concerning Diatoms written to J. Deby.—(Hedwigia. 17:41-44. Mr1878.)

1180. **Smith, H. L.** Description of New Species of Diatoms. *Am. Quart. Mic. Jour.* 1:12-18. *pl.* 3. O1878.—(Grevillea. 7:54-56. D1878.)

Ten new species described.

1181 ———. Diatomaceae v. Desmidiaceae. *Michel's Science.* 1:7. 3J1880.

Note on letter by Dr. J. Hogg, which is also quoted.

1182. ———. A letter written to J. Deby concerning the Movement of Diatoms.—(*Am. Mo. Mic. Jour.* 1:182. O1880.)

1183. ———. On the Preparation and Cleaning of Diatoms. *Am. Jour. Mic.* 5:257, 258. D1880.

1184. ———. Monobromide of Naphthaline and Wax-cells. *Am. Mo. Mic. Jour.* 2:49. Mr1881.

Extract of a letter from Herr E. Weissflog of Dresden. Mounting methods for diatoms.

1185. ———. Deep Sea Soundings and the Influence of Microscopical Algae on Deep Sea Life, with a few Remarks on Evolution. *Proc. Am. Soc. Mic.* 3d Ann. Meeting. 17-37. (18Ag.) 1881.

1186. ———. Fineness of Striation as a Specific Character of Diatoms. *Am. Mo. Mic. Jour.* 2:221-223. D1881.

1187. ———. *Rhizosolenia eriensis* and *R. gracilis*. *Proc. Am. Mic.* 4:—, Ap1882.

1188. ———. Desmids and Diatoms. *Am. Mo. Mic. Jour.* 3:84, 85. My1882.—(*Jour. Roy. Mic. Soc. II.* 2:546. 1882.)

1189. ———. New Mounting Media. *Am. Mo. Mic. Jour.* 5:71. Ap1884. 6:161-163. S1885.—(*Jour. Roy. Mic. Soc.* 4:476. 1884. 5:1097. 1885.)

1190. ———. Mounting Media of High Refractive Index. *Proc. Am Soc. Mic.* 8th Ann. Meeting 86-90. 1885.

1191. ———. Directions for using the Stannous Chloride Medium in mounting Diatomaceae. *Mic. Bull.* 2:46. 1885.

1192. ———. Newest Medium for Mounting Diatoms. *Jour. N. Y. Mic. Soc.* 1:102. (20Mr.) Ap1885.

1193. ———. Fastening of Diatoms by Heat. *Jour. N. Y. Mic. Soc.* 1:123. 1885.

1194. ———. A new Mounting Medium of high Refractive Index. *Am. Mo. Mic. Jour.* 7:3, 4. Ja1886.

1195. ———. New High Refractive Media. *Jour. N. Y. Mic. Soc.* 2:75. 1886.

1196. **Smith, H. L.** A Contribution to the Life History of the Diatomaceae. Part I.—(Proc. Am. Soc. Mic. 30-66. 5 pl. 1886-1887.) Part II.—(Proc. Am. Soc. Mic. 126-167. 6 pl. 1887.)—(Bull. Torr. Bot. Club. 14:170, 171. Ag1887.)—(The Microscope. 7:274. S1887.)

1197. ———. List of Species and some Notes upon them. B. W. Thomas' "Diatomaceae of Minnesota Inter-glacial Peat." 20th Ann. Rep. 1891. 293-306. 1893.

1198. ———. The Study of "Difficult" Diatoms. Am. Nat. 6:444. J11872.

———. See **Edwards, A. M., Johnston, C. and Smith, H. L.**

———. See **Kitton, F. and Smith, H. L.**

1199. **Smith, J. G. and Pound, R.** Flora of the Sand Hill Region of Sheridan and Cherry counties and List of Plants collected on a Journey through the Sand Hills in July and August, 1892. Bot. Surv. Neb. 2:5-30. 1893.

Five species of algae named.

1200. **Smith, T.** Notes on the Biological Examination of Water, with a few Statistics of Potomac Drinking Water.—(Am. Mo. Mic. Jour. 7:61-64. Ap1886.)

Abstract of a communication presented to the Biological Society of Washington, Mar. 20, 1886.

1201. **Smith, T. F.** On the Structure of the Pleurosigma Valve. Jour. N. Y. Mic. Soc. 7:61-73. pl. 26, 27. (2Ja.) Ap1891.

1202. **Smith, U. C.** Hydrodictyon. Proc. Phil. Acad. 1893:580. (26D.) OND1893.

Specimen added to Museum.

1203. **Sollas, W. J.** Cutting Sections of Diatoms. The Microscope. 4:139. 1884.—(Zeit. wiss. Mik. 1:624. 1884.)

1204. **Southwick, E. B.** Protococcus viridis. Jour. N. Y. Mic. Soc. 2:1-8. pl. 2, 3. (18D1885.) Ja1886.

A list of trees affected by P. viridis in Central Park.

1205. **Spalding, V. M.** Development of the Sporocarp of Griffithsia bornetiana. (Proc. Am. Ass. Adv. Sci. 39:327. (Ag1890.) J11891.)

1206. **Spegazzini, C.** Characeae platenses. Anal. Soc. Cient. Argent. 15:218-231. 1883.

Five new species.

1207. **Stalker, M.** Report on the Waterville Cattle Disease. Fourth Bien. Rep. Bd. Regents Univ. of Minn. Suppl. I. Rep. Dept. Agric. Univ. of Minn. 105-108. 1887.

1208. **Stanley, F. F.** Collection of Photographs of Diatoms. (Moeller's Diatomaceen Typen-Platten. etc.) Swampscott, Massachusetts.

1209. **Stearns, F. P.** Quality of ground Water, "Presence of Crenothrix." Mass. St. Bd. Health Rep. 368-371. 1890.

1210. ———. The Pollution and Self Purification of Streams. Report on Water Supply and Sewerage Part I. Mass. St. Bd. Health. 785-802. (Algae 801, 802.) 1890.

1211. ———. Suggestions as to the Selection of Sources of Water Supply. 22nd Ann. Rep. Mass. St. Bd. Health. 333-371. 1891.

Remarks upon Crenothrix.

1212. **Stearns, F. P.** and **Drown, T. M.** Discussion of Special Topics relating to the Quality of Public Water Supplies. Rep. Water Supply and Sewerage Part I. Mass. St. Bd. Health. 717-782. (Algae 731, 747, 770.) 1890.

1213. **Sternberg, G. M.** Motion of Diatoms. Am. Mo. Mic. Jour. 2:227. D1881.

1214. **Stodder, C.** On Two New Species of Stauroneis, *S. baconiana* and *S. pellucida*. Proc. Boston Nat. Hist. Soc. 7: 26-28. 1859-61.

1215. ———. Report on Slides of Diatomaceae.—(Trans. Mic. Soc. 9:25-28. 1861.)

Mounted by E. Samuels for the Boston Society of Natural History and presented to the Microscopical Society of London.

1216. ———. On the Structure of the Valve of the Diatomaceae. Proc. Boston Nat. Hist. Soc. 9:2-5. 1863.—(Quart. Jour. Mic. Sci. 3:214. 1863.)

1217. ———. On Diatomaceous Earth from Randolph, Mass. (1863.) Proc. Boston Nat. Hist. Soc. 9:319, 320. 1865.

1218. ———. On Specimens of Deep Sea Soundings. (1864.) Proc. Boston Nat. Hist. Soc. 10:13. 1866.

1219. ———. Note on *Rhabdonema mirificum*. Proc. Boston Nat. Hist. Soc. 10:101, 102. 1866.

1220. ———. Report upon the Collection of Diatomaceae from the Alpine Summits of the White Mountains of New Hampshire. Proc. Boston Nat. Hist. Soc. 75. 1867.

1221. ———. On Infusorial Earth from Peru. (1866.) Proc. Boston Nat. Hist. Soc. 11:75-79. 1868.

1222. ———. On a Recent Gathering of Diatomaceous Mud from Pleasant Beach, Cohasset. (1867.) Proc. Boston Nat. Hist. Soc. 11:132-134. 1868.

1223. **Stodder, C.** Nobert's Test Plate and Modern Microscopes. (1867.) *Proc. Boston Nat. Hist. Soc.* **11**: 338-340. 1868. *Am. Nat.* **2**: 93-101. Ap1868.—(*Quart. Jour. Mic. Sci.* **8**: 131-138. 1868.)

1224. ———. Report of an Investigation of Soundings made in Ten Fathoms of Water off the Coast of Maine, near Mount Desert Island. *Proc. Boston Nat. Hist. Soc.* **11**: 439, 440. 1868.

1225. ———. Presence of Microscopic Bodies in Water. *Boston Jour. Chem. Ag.* 1870.—(*Mo. Mic. Jour.* **4**: 318, 319. 1D 1870.)

1226. ———. On the Microscopical Contents of the Atmosphere of Boston. *Proc. Manchester Lit. Phil. Soc.* **10**: 207, 208. 1871.

1227. ———. The Structure of *Eupodiscus argus*. *The Lens.* **2**: 29. 5 f. 1873.

1228. ———. Structure of Diatoms. *Am. Nat.* **7**: 701, 702. N1873.

1229. ———. Remarks on the locality of the Bermuda Tripoli. *Mo. Mic. Jour.* **14**: 265. 1875.

1230. ———. Examination of Mud from Oyster Beds, Charleston, S. C. *Proc. Boston Nat. Hist. Soc.* **17**: 182. (11N1874.) 1875.

Several species of diatoms found.

1231. ———. Remarks on *Frustulia saxonica*, *Navicula rhomboides* and *Navicula crassinervis*.—(*Mo. Mic. Jour.* **15**: 265. 1Je1876.)

Read before the Royal Microscopical Society.

1232. ———. A Contribution to Microgeology. *Proc. Boston Nat. Hist. Soc.* **18**: 206-209. (8D1875.) 1875, 1876. —(*Am. Jour. Sci. Arts.* III. **11**: 493, 494. Je1876.)—(*Mo. Mic. Jour.* **16**: 219. 1O1876.)

A list of 50 diatoms from the infusorial deposit at Richmond, Virginia.

1233. ———. Mounting Diatoms in Situ. *Am. Jour. Mic.* **2**: 142, 143. O1877.—(*Jour. N. Y. Mic. Soc.* **3**: 71, 72. O1887.)

1234. ———. Bermuda Diatoms. *Am. Jour. Mic.* **2**: 157. N1877.

1235. ———. A New Diatom.—(*Jour. Roy. Mic. Soc.* **2**: 937. 1879.)

1236. ———. Notes on Diatomaceae from Santa Monica, California. *Am. Jour. Mic.* **4**: 13-15. Ja1879.

Twenty-six species listed, 3 of which are probably new to science

1237. **Stodder, C.** About Diatoms. *Am. Mo. Mic. Jour.* 1:113, 115. Je1880.

1238. ———. A letter on Cleaning Diatoms without destroying their Adherence to each other. *Am. Mo. Mic. Jour.* 2:98. My1881.

1239. ———. Notes on Diatomaceae from Tampa Bay, Florida. *Am. Mo. Mic. Jour.* 4:30-33. F1883.

1240. **Stodder, C. and Greenleaf, R. C.** Organisms found in the Mud from the Bottom of Mystic Pond, Medford, near Boston. *Proc. Boston Nat. Hist. Soc.* 8:119-121. 1861-62.

1241. **Stokes, A. C.** Sphagnum, Desmids, Rhizopods and Eels. *Am. Mo. Mic. Jour.* 3:152, 153. Ag1882.

Names 27 species of algae from southern New Jersey.

1242. ———. Key to the Desmidiæ. *Am. Mo. Mic. Jour.* 7:109-114. Je. 7:125-131. Jl. 7:144-148. Ag. 7:163-169. S1886.

1243. ———. Notes on the Study of Algae. *The Microscope.* 10:145-148. My. 10:213-217. Jl1890.

1244. ———. Diatoms in Abundance. *The Microscope.* 10:151-153. My1890.

1245. ———. A Note on Closterium. *The Microscope.* 10:168-171. Je1890.

1246. ———. Acknowledgement of Slides of Diatoms. *The Microscope.* 10:217, 218. Jl1890.

1247. ———. Analytical Keys to the Genera and Species of the Fresh Water Algae and the Desmidiæ of the United States, founded on the Classification of the Rev. Francis Wolle's Monographs. 1-117. 1 pl. 1893.—(*Am. Nat.* 27:739, 740. Ag1893.)—(*Am. Mo. Mic. Jour.* 14:297. O1893.)

1248. ———. Notes on the Chromatophores of *Astrophyllum sylvaticum* Lindb. (*Mnium cuspidatum* Hedw.), and of some other Plants. *Bull. Torr. Bot. Club.* 21:396-406. 29S 1894.

Incidental notes on the microscopical appearances of diatoms.

1249. **Stowell, C. H.** Gleanings from the Journal of the Royal Microscopical Society for June. *The Microscope.* 3:104-106. Ag1883.

Note on the preparation of marine algae.

1250. ———. Mounting the Diatomaceae. *The Microscope.* 4:280-282. D1884.

1251. ———. *Volvox globator*. Keeping Alive and Mounting. *The Microscope.* 5:275. D1885.

1252. **Stowell, C. H. and Stowell, Louisa A.** Beads of *Amphipleura pellucida*. *The Microscope*. 5:91. 1885.—(*Jour. Roy. Mic. Soc.* 5:533. 1885.)

1253. **Strasburger, G.** "Moist Chamber."—(*Am. Mo. Mic. Jour.* 2:35. F1881.)

1254. **Sturgis, W. C.** On the Carpologic Structure and Development of the Collemaceae and allied Groups. *Proc. Am. Acad. Arts. and Sci.* 25:15-52. *pl. 1-8.* 9Ap1890.

Some discussion of the algal members of these groups.

1255. **Sullivan, J.** Letter concerning the Discovery of Bermuda Tripoli. *Proc. Boston Nat. Hist. Soc.* 17:422, 423. 10F1875.

1256. **Sullivan, W. S. and Wormley, T. G.** On the Measurement of the Striae of Diatoms. *Am. Jour. Sci. Arts. II.* 27:249-252. My1859.

1257. ———. On Nobert's Test-Plate and the Striae of Diatoms. *Jour. Mic. Soc.* 1:112-117. 1861.—(*Am. Jour. Sci. Arts. II.* 31:12-17. My1861.)

1258. **Sutton, H. J.** Some Schuylkill River Inhabitants.

A small list of algae is included.

1259. **Swan, J. G.** Kelp Parchment, prepared for printing. *Ann. Rep. Bd. Regents Smiths. Inst.* 1886²:715. 1889.

A specimen of this material, the first made in the United States, was presented to the National Museum.

1260. **Swingle, W. T.** *Cephaluros mycoidea* and *Phyllosiphon*, two species of parasitic algae new to North America. (*Proc. Am. Ass. Adv. Sci.* 42:260. (Ag1893.) 1894.)

The first form is from central Florida, the second from the Dells of the Wisconsin river.

1261. **S, J. C.** Pond Life in Winter. *Am. Mo. Mic. Jour.* 4:62, 63. Ap1883.

Names 9 species of algae from Bangor, Maine.

1262. **Taylor, G. H.** Water-washed Diatoms. *Proc. Am. Soc. Mic.* 207, 208. 1885.

1263. ———. Cleaning Diatoms from Marine Muds. *Proc. Am. Soc. Mic.* 208-210. 1885.

1264. ———. Marine Diatomaceae.—(*Am. Mo. Mic. Jour.* 8:95, 96. My1887.)

1265. ———. Diatoms from Tampa Bay. *Am. Mo. Mic. Jour.* 8:96. My1887.

A letter to the editor.

1266. ———. Letter on Method of Cleaning Diatoms. *Bull. Torr. Bot. Club.* 14:141-143. J11887.—(*Jour. Roy. Mic. Soc.* 1887:844. O1887.)

1267. **Terry, W. A.** Cleaning Diatoms. *Am. Mo. Mic. Jour.* 8:44-46. Mr. 8:69-71. Ap1887.—(*Jour. Roy. Mic. Soc.* 1887: 676. 1887.)

1268. ———. Notes on Diatoms and other Algae of New Haven Harbor and Adjacent Waters. *Am. Mo. Mic. Jour.* 9:225-227. D1888.—(*Bull. Torr. Bot. Club.* 16:33. 12Je1889.)

1269. ———. Motions of Certain Diatoms and Oscillaria. *Am. Mo. Mic. Jour.* 10:81-83. Ap1889.—(*Jour. Roy. Mic. Soc.* 1889:566. 1889.)

1270. ———. A Search for Diatoms in Boston Harbor, in September, 1889. *Am. Mo. Mic. Jour.* 11:35-37. F1890.—(*Notarisia.* 5:1030, 1031. 30Je1890.)

1271. ———. A Letter about Diatoms. *The Microscope.* 10:285-287. S1890.

1272. ———. A Letter about the Movement of Diatoms, Oscillaria, etc. *The Microscope.* 10:349, 350. N1890.

1273. ———. Diatoms of the Connecticut Shore. I-VII. *Am. Mo. Mic. Jour.* 13:185-189. Ag. 13:230-232. O. 13:253-256. N1892. 14:45-48. F. 14:140-143. My1893. 15:74-83. Mr1894. 16:41-47. F1895.

1274. ———. How to find Diatomaceous Earth. *Am. Mo. Mic. Jour.* 15:168-171. Je1894.

1275. **Thomas, B. W.** Microscopical Examination of the Water of Lake Michigan. 3rd Ann. Rep. Dept. Pub. Works. 1879. Chicago.—(*Am. Nat.* 13:534, 535. Ag1879.)

1276. ———. Diatomaceae of Minnesota Inter-glacial Peat. *Geol. Nat. Hist. Surv. Minn.* 20th Ann. Rep. 1891. 290-320. 1893.—(*Bull. Torr. Bot. Club.* 20:224. 10My1893. One hundred species listed.)

1277. **Thomas, B. W.** and **Chase, H. H.** Diatomaceae of Lake Michigan as collected during the last 16 years from the Water Supply of the City of Chicago. Pamphlet 1-3. 1886. Chicago.—(*Notarisia.* 2:328-330. 1887.)

Presented to the State Microscopical Society of Illinois, 1886.

1278. **Thomson, W. C.** The Challenger Soundings.—(*Mo. Mic. Jour.* 12:245-250. 1N1874. 13:245, 246. 1Je1875.)

1279. ———. The Atlantic. A Preliminary Account of the General Results of the Exploring Voyage of H. M. S. "Challenger" during the year 1873 and the early part of the year 1876. 1:1-391. (Algae 284.) 2:1-329. (Algae 290.) 1878.

1280. **Tilden, Josephine E.** List of Fresh-water Algae collected in Minnesota during 1893. Geol. Nat. Hist. Surv. Minn. Bull. No. 9. 25-31. 16Ja1894.

Lists 89 species.

1281. ———. Note on the Development of a Filamentous Form of Protococcus in Entomostracan Appendages. Bot. Gaz. 19:334, 335. *pl* 30. 15Ag1894.

1282. ———. List of Fresh-water Algae Collected in Minnesota during 1894. Geol. Nat. Hist. Surv. Minn. Bull. No. 9. 228-237. 5Mr1895.

Continues the list of No. 1280 to 201 species.

1283. ———. The Study of the Algae. Minn. Mag. 1: 146-152. Je1895.

1284. **Toni, J. B. de.** Ueber einige Algen aus Feuerland und Patagonien. Hedwigia. 28:24-26. 1889.

A list of 16 species collected by Dr. Carl Spegazzini.

1285. ———. Boodlea Murray et De-Toni nuovo genere di Alghe a fronda reticolata. Malpighia. 3:14-17. 1889.

1286. ———. Sopra du Alghe Sud Americane. Malpighia. 3:67, 68. 1889.

1287. **Toni, G. B. de and Levi-Morenos, D.** Algæ nonnullæ quas in circumnavigationis itinere ad Magellani fretum anno 1884 legit A. Cuboni. Bull. Soc. Ven. Trent. di Padova. 4: No. 1. 1887.

1288. **Toni, G. B. de and Saccardo, F.** Revisione di alcuni generi di Cloroficee epifite. La Nuova Notarisia. 1:3-20. 3 *pl*. 1890.

America-Porto Rico.

1289. **Torell, O.** Bidrag till Sparagmitetagens geognosi och paleontologi. Lund Acta Univ. 4: (Math.) No. 13. 1867.

Eophyton.

1290. **Torrey, J.** Microscopical Examination of the Croton Water. Ann. Rep. Croton Aqueduct. 28-33. (1859.) 1860. New York.

1291. **Trelease, W.** Biology of the Conjugatae. Bot. Gaz. 10: 256-258. Ap1885.

1292. ———. The Working of the Madison Lakes. Trans. Wisconsin Acad. Sci. Art and Letters. 7:121-129. *pl* 10. 1889. —(Bull. Torr. Bot. Club. 17:81. 10Mr1890.)

A description of the vegetation included in scum formed upon lakes, comprising some algal forms.

1293. **Triana, J. and Planchon, J. E.** *Prodromus Florae Novo Granatensis ou Enumeration des Plantes de la Nouvelle-Grenade avec Description des Especies Nouvelles.* Ann Sci. Nat. IV. 20:223-300. (Charae 230.) 1863.

Chara sejuncta A. Br. described by W. Nylander.

1294. **Truan y Luard, A. and Witt, O. N.** *Die Diatomaceen der Polycystinenkreide von Jérémie in Hayti, Westindien.* 1888.—(Zeits. wiss. Mik. 5:110-113. 1888.)—(Bot. Centralb. 36:225, 226. 1888.)

1295. ———. *Photographs of Diatoms.*—(Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. and Wesley Nat. Soc. O. S. 9:166. 1890.)

Description of method of photographing in work on the fossil diatoms of Hayti.

1296. **Tuomey, M.** *Notice of the Discovery of a New Locality of the "Infusorial Stratum."* Am. Jour. Sci. Arts. 44:339-341. JaFMr1843.

1297. **Turner, D.** *Fuci, sive plantarum Fucorum generi a botanicis adscriptarum icones, descriptiones et historia.* 1808-19. 4 vol. gr. 4to. 1:1-164. *pl. 1-71.* 1808. 2:1-162. *pl. 72-134.* 1809. 3:1-148. *pl. 135-196.* 1811. 4:1-153. *pl. 197-258.* 1819.

1298. **Turner, W. B.** *On some New and Rare Desmids.* Jour. Roy. Mic. Soc. II. 5:933-940. *pl. 15-16.* D1885.—(Bull. Torr. Bot. Club. 12:133. D1885.)

Describes 24 algae new to North America of which 20 are new species or varieties.

1299. ———. *Staining Desmids.* The Microscope. 5:275. D1885.

1300. ———. *Process for Mounting Desmids.* Jour. Roy. Mic. Soc.—(Am. Mo. Mic. Jour. 7:58. Mr1886.)

1301. **Twitchell, G. B.** *Remarks on a variety of Nostoc pruniforme.* Jour. Cin. Soc. Nat. Hist. 9:253-255. (5O.) Ja1886.

Specimens from Idaho.

1302. **Underwood, L. M.** *Report of the Botanical Division of the Indiana State Biological Survey.* Proc. Ind. Acad. Sci. 1893. 13-19. Ag1894.

States that about 200 species of algae, represented by about 300 specimens, are contained in the Underwood herbarium.

1303. **Unger, F.** *Synopsis Plantarum fossilium.*—(Am. Jour. Sci. Arts. II. 2:136. J11846.)

The number of species of fossil algae then known is given as 119.

1304. **Veeder, M. A.** *Organisms in Ice from Stagnant Water.* Am. Nat. 14:388, 389. My1880.

1305. **Verrill, A. E.** Brief Contribution to Zoology from the Museum of Yale College. XXVI. Results of Recent Dredging Expeditions on the Coast of New England. No. 4. Am. Jour. Sci. Arts. III. 7:38-46. Ja1874.

Twelve species of algae included in reports.

1306. **Vorce, C. M.** Some Observations on the Minute Forms of Life in the Waters of the Lakes. 1880. Cleveland, Ohio.

Read before the Kirtland Society of Natural Sciences.

1307. ———. Forms observed in Water of Lake Erie. Proc. Am. Soc. Mic. 51-60. *pl.* 7. (9Ag.) 1881. 187-196. 1 *pl.* 1882.

The list includes a large number of algal forms.

1308. ———. The Motion of Diatoms. Am. Mo. Mic. Jour. 3:43-45. Mr1882.

1309. ———. Remarks on *Stephanodiscus niagarae*. Proc. Am. Soc. Mic. 139-141. 1885.—(Jour. Roy. Mic. Soc. II. 6: 660, 661. Ag1886.)

1310. ———. The Affinities of *Raphidodiscus*. The Microscope. 9:132-138. *pl.* 6. My1889.

1311. ———. The Classification of Diatoms. Am. Mo. Mic. Jour. 12:150. J11891.—(Bull. Torr. Bot. Club. 19:67. 10F1892.)

A criticism of Rev. F. B. Carter's paper with remarks upon 3 genera.

1312. **Wadsworth, M. E.** Algae and Spray-markings. Science. 1:39. 16F1883.

1313. **Wagstaff, E. H.** An Unknown Plant Am. Mo. Mic. Jour. 5:220. N1884.

1314. **Wahl, W. B.** Diatoms in Infusorial Earth being Absorbed by Roots of Corn.—(Mo. Mic. Jour. 16:156-160. *pl.* 155. 1S1876.)

"Forms of diatoms found in Col. Kunkel's straw."

1315. **Walcott, C. D.** *Discophycus*. Trans. Alb. Inst. 10:19. 1879.

1316. **Wales, —.** Observations on Resolution of *Amphipleura pellucida*. Jour. N. Y. Mic. Soc. 1:103. (20Mr.) Ap1885.

Walker, W. C. See Chase, H. H. and Walker, W. C.

1317. **Walker, J.** A useful Collecting Device. The Microscope. 372-374. D1889.

1318. **Waller, E.** Report on Croton Water during the years 1876-1877.—(Am. Mo. Mic. Jour. 2:238. D1881.)

1319. **Wallich, G. C.** Note on Desmidiaceae of Greenland. *Mo. Mic. Jour.* 1:130. 1F1869.

Names 27 species. *Cosmarium* and *Staurostrum* predominate.

1320. **Walmsley, W. H.** Photomicrograph of *Rinnboeck*. *The Microscope.* 5:181. 1885.

1321. ———. The Preparation of Desmids.—(*Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. and the Wesley Nat. Soc. O. S.* 9:133. 1890.)

1322. ———. Preservation of Algae.—(*The Microscope.* 10:152. My1890.)

1323. **Walther, J.** The Formation of Structureless Chalk by Sea-weeds. *Science.* 7:575, 576. 25Je1886.—(*Jour. Roy. Mic. Soc. II.* 6:1023, 1024. D1886.)

States that recent observations on the chalk-secreting algae of the Mediterranean may throw light on the formation of the chalk beds of western Kansas.

1324. **Wanner, A.** The Discovery of Fossil Tracks, Algae, etc., in the Triassic of York county, Pennsylvania. *Geol. Surv. Penn. Ann. Rep. for 1887.* 21. 11 *pl.*

1325. **Ward, L. F.** Guide to the Flora of Washington and Vicinity. 1-237. (144.) 1881.

Lists 2 species of *Chara* and 2 of *Nitella*.

1326. ———. The Fossil Flora of the Globe. *Bot. Gaz.* 9:169-174. ON1884.

Abstract of paper read by the author before the American Association for the Advancement of Science. Philadelphia, 1884.

1327. ———. Synopsis of the Flora of the Laramie Group. *U. S. Geol. Surv. 6th Ann. Rep.* 399-557. (549.) *pl. 31. f. 1, 2.* 1885.

Fucus lignitum from Montana and Wyoming, noted and figured.

1328. ———. The Geographical Distribution of Fossil Plants. *U. S. Geol. Surv. 8th Ann. Rep.* 663-960. 1889.

Notes the finding of species of *Fucoides*, etc., from Quebec, New York State, and other localities in North America.

1329. ———. Report on the Department of Fossil Plants in the United States National Museum, 1888. *Ann. Rep. Bd. Regents Smiths. Inst.* 1888²:189-190. 1890.

1330. ———. Report on the Department of Recent Plants in the United States National Museum. 1888. *Ann. Rep. Bd. Regents Smiths. Inst.* 1888²:191-193. 1890.

1331. **Ward, R. H.** Separating Diatoms. *Am. Nat.* 7:637. *f. 153.* O1873.

1332. **Ward, L. F.** Handling Diatoms.—(Am. Nat. 8:697, 689. N1874.)

Notes from "A Useful Hint," given by Capt. Lang of the Reading Microscopical Society.

1333. ———. Fixing Diatoms.—(Am. Nat. 8:701, 702. N 1874.)

1334. ———. Coarse Lines on Diatoms.—(Am. Nat. 9:126. F1875.)

1335. ———. Preserving Algae.—(Am. Nat. 9:252. Ap 1875.)

Mr. T. Palmer's method is given.

1336. ———. Mounting Selected Diatoms.—(Am. Nat. 9: 252. Ap1875.)

1337. ———. Coloring Matter of "Red Snow."—(Am. Nat. 9:575. O1875.)

1338. ———. An Easy Nitzschia. (N. curvula.) Am. Nat. 10:566, 567. S1876.

1339. ———. Collecting Diatoms.—(Am. Nat. 10:567. S1876.)

Mr. J. Redmayne's method.

1340. ———. Diatoms as Fertilizers. Am. Nat. 10:754. D1876.

1341. ———. Organisms in Rochester Hydrant Water. Am. Nat. 11:441, 442. J1877.

Notes 10 species of algae.

1342. **Warren, R. S.** The Preparation of Diatoms. Am. Mo. Mic. Jour. 3:111-115. Je1882.

1343. ———. Cleaning Diatoms. Reply to Mr. Kitton. Am. Mo. Mic. Jour. 3:225, 226. D1882.

1344. **Watt, A. P.** A Provisional Catalogue of Canadian Cryptogams. Can. Nat. and Geol. N. S. 2:390-404. O1865.
Chara vulgaris Linn. and C. flexilis Linn. noted.

1345. **Webber, H. J.** The Fresh-water Algae of the Plains. Am. Nat. 23:1011-1013. N1889.

A list of algae collected in a day's trip in the Sand Hill region of Nebraska: 10 species of desmids, 13 of diatoms and 15 of other algae

1346. ———. Catalogue of the Flora of Nebraska. Protophyta—Anthophyta. Report of the Botanist on the Grasses and Forage Plants, and the Catalogue of Plants. [Extracted from the Report of the Nebraska State Board of Agriculture for 1889.] 35-162. (Algae 44-50. 92.) 1890. Lincoln, Nebraska.

One hundred and four algae listed including 2 Charas and 1 Nitella.

1347. **Webber, H. J.** Appendix to the Catalogue of the Flora of Nebraska. Contributions from the Shaw School of Botany. No. 9. Trans. Acad. Sci. St. Louis. 6:1-47. (8-11. 20.) 12Mr1892.

Names 2 species of *Chara*, 3 of *Nitella* and 27 of other algae.

1348. **Weber van Bosse, A.** Etude sur les Algues Parasites des Paresseux. Nat. Verh., Holland, Maatsch. der Wetenschappen Haarlem. 2 *pl.* 1887.—(Bull. Torr. Bot. Club. 15:25. 5Ja1888.)

1349. **Weed, W. H.** Formation of Travertine and Silicious Sinter by the Vegetation of Hot Springs. U. S. Geol. Surv. 9th Ann. Rep. 613-676. *pl.* 78-87. 1889.—(Bull. Torr. Bot. Club. 18:27, 28. 20Ja1891.)—(Am. Jour. Sci. III. 41:158, 159. F1891.)

States that thermal spring vegetation is entirely algal and in Yellowstone regions occurs only at a temperature below 185° F.

1350. ———. The Diatom Marshes and Diatom Beds of the Yellowstone National Park. Bot. Gaz. 14:117-120. My1889.—(Mic. Bull. 6:17. 1889.)—(The Microscope. 9:217, 218. J11889.)—(Jour. Roy. Mic. Soc. 1889:794. 1889.)

Enumerates 11 species.

1351. ———. The Vegetation of Hot Springs. Am. Nat. 23:394-400. My1889.

1352. ———. Note on Sinter-forming Algae. Am. Jour. Sci. III. 37:501. Je1889.

1353. ———. The Geological Work of Mosses and Algae. Am. Geol. 7:48-55. Ja1891.

1354. **Weir, F. W.** Cleaning Recent Diatomaceous Material. The Microscope. 9:1-4. Ja1889.

1355. ———. A New Diatom Mounting Medium. Am. Mo. Mic. Jour. 11:86. Ap1890

1356. **Wells, S.** The Structure of *Eupodiscus argus*. Mo. Mic. Jour. 9:110, 111. *pl.* 11, 1Mr1873.

Description of specimens from Buzzard's Bay, Mass.

1357. ———. The Markings of *Frustulia saxonica*.—(Mo. Mic. Jour. 16:169, 170. 1O1876.)

Read before the Royal Microscopical Society.

1358. **West, W.** Desmids of Maine. Jour. of Bot. 26:339, 340. N1888.

Adds 73 species to Professor Harvey's list.

1359. **West, W.** List of Desmids from Massachusetts. U. S. A. Jour. Roy. Mic. Soc. 1889:16-21. *pl.* 2, 3. F1889.

Enumerates 84 species and 5 varieties and forms, with 2 new species and several new varieties.

1360. ———. The Fresh-water Algae of Maine. Jour. of Bot. 27:205-207. 1889. 29:353-357. 1891.—(Bull. Torr. Bot. Club. 17:41. 5F1890.)

Describes 1 new species and 2 new varieties, in the first paper, and 3 new species in the second.

1361. **West, W. and West, G. S.** On some Fresh-water Algae from the West Indies. Jour. Linn. Soc. (Bot.) 30:264-280. *pl.* 13-16. 10J11894.

Names 60 species.

1362. ———. New American Algae. Jour. of Bot. 33:52. F1895.

Describes 1 new variety and 2 new species.

1363. ———. Some Recently Published Desmidiaceae. Jour. of Bot. 32:65-70. Mr1895.

Descriptions of some American forms criticised.

1364. **White, C. A.** The Invertebrate Fossils collected in Portions of Nevada, Utah, Colorado, New Mexico and Arizona, by Parties of the Expeditions of 1871, 1872, 1873, and 1874. Eng. Dept. U. S. Army. Rep. U. S. Geog. Surv. West of the One Hundredth Meridian. (Palaeontology.) 4¹:32-34. (1874.) 1877.

Cruziana linnarssoni White, and *C. rustica* White are described from Arizona as new to science.

1365. **White, M. C.** Discovery of Microscopic Organisms in the Silicious Nodules of the Palaeozoic Rocks of New York. Am. Jour. Sci. Arts. 33:385, 386. My1862. Illustrated.—(Can. Nat. Geol. 7:281-283. Ag1862.)

Desmids and diatoms found.

1366. **Whitfield, R. P.** Preliminary Report on the Palaeontology of the Black Hills. U. S. Geog. and Geol. Surv. Rocky Mt. Region. 1-49. J11877.

1367. ———. Preliminary Descriptions of New Species of Fossils from the Lower Geological Formations of Wisconsin. Ann. Rep. Geol. Surv. Wis. for 1876. 50-89. 1877.

Palaeophycus plumosus described as new.

1368. ———. Species from the Potsdam Sandstone. Geol. Wis. Surv. of 1873-1879. 4:169-193. 1882.

Palaeophycus plumosus described from Mendota, Wisconsin.

1369. **Whitfield, R. P.** List of Wisconsin Fossils. Geol. Wis. Surv. of 1873-1879. 1:362-375. 1883.

Thirteen fossil algae listed.

1370. ———. On New Forms of Marine Algae from the Trenton Limestone, with Observations on *Buthograptus laxus* Hall. Bull. Am. Mus. Nat. Hist. 6:351-358. *pl. 11*. D1894.
—(Am. Geol. 15:183, 184. Mr1895.)

Three new genera and 3 new species described.

1371. **Whitman, C. O.** Preparation of Marine Algae. Am. Nat. 17:456, 457. Ap1883.

1372. **Whitney, J. D.** Ueber Californischen Bacillarien-Gebirge. Berlin, monatsb. Akad. 124-139. 1872.

Whitting, Frances G. See **Smith, A. L.** and **Whitting, Frances G.**

1373. **Wilbur, C. L.** Desmid Fishing. The Microscope. 6:169-171. Ag1886.

1374. **Wildeman, E. de.** Trentepohlia. Bull. Soc. R. Bot. Belg. 27¹:79-83. 27²:22-24. 136-144. 178-182. 1 *pl.* 1888.
—(Jour. Roy. Mic. Soc. 1889:420, 421. Je1889.)

Two new species from Chile described.

1375. ———. Encore quelques mots à propos de l'*Hansgirgia flabelligera* de Toni. Comp. Rend. Soc. Roy. Bot. de Belgique. 28:36, 37. 1889.

1376. ———. *Trentepohlia pittieri*. Notarisia. 9:6, 7. 1894.

A new species from Costa Rica.

1377. **Wille, N.** Bidrag til Sydamerikas Algflora. I-III. —(Bihang till k. Svenska Vet. Akad. Handl. 8:1-64. *pl. 1-3*. 1884.)

1378. **Wiley, H.** A Sea-weed new to our Coast. Am. Nat. 6:767. D1872.

Hildenbrandia rosea Kunze noted as occurring at Mt. Desert, Massachusetts.

1379. **Williams, A., Jr.** Infusorial Earth. U. S. Geol. Surv. Miner. Res. U. S. 479, 480. 1883.

Nevada and California given as localities for the material.

1380. ———. Infusorial Earth. U. S. Geol. Surv. Miner. Res. U. S. 1883 and 1884. 720, 721. 1885.

The substance occurs in many places in California and Nevada. It is of some economical value being used chiefly by soap manufacturers. Notes on deposits in Maryland and Virginia.

1381. **Williams, T. A.** The Status of the Algo-Lichen Hypothesis. Am. Nat. 23:1-8. Ja1889.

1382. **Williamson, W. C.** On some of the Microscopical Objects found in the Mud of the Levant and other Deposits; with Remarks on the Mode of Formation of Calcareous and Infusorial Silicious Rocks. (1845.) Manchester Phil. Soc. Mem, 8:1-128. 1848.

Diatoms of Bermuda and Virginia studied.

1383. ——— Deep-sea Researches. Mo. Mic. Jour. 13:126-128. 1Mr1875.

Virginia, Bermudas, and West Indies.

1384. **Williston, S. W.** Cause of the Bad Smell in the Meriden (Connecticut) Reservoir. Meriden *Daily Jour.* 1N 1889.

1385. ———. *Uroglena volvox* Ehr. The Microscope. 10: 81, 82. Mr1890.

1386. **Williston, S. W., Smith, H. E. and Lee, T. G.** Report on the Examination of Certain Connecticut Water Supplies. 14th Ann. Rep. St. Bd. Health Conn. for year ending Nov. 30, 1891. 231-406. 1892.

A large number of algae listed.

1387. **Willson, L. A.** To preserve Algae. The Microscope. (Smiley.) N. S. 3:44. Mr1895.

1388. **Wilson, G. H.** Report on Health of Town of Meriden, Connecticut. 12th Ann. Rep. St. Bd. Health Conn. for 1889. 68, 69. 1890.

Volvox and other algae cause the water from the reservoir to have a "fishy" taste during the fall.

1389. **Wilson, P. B.** Silica of Grasses and other Plants carried up as Diatoms or other Silicious Grains, and not in solution or as soluble Silicates. Am. Jour. Sci. Arts. III. 11:373, 374. My1876.—(Mo. Mic. Jour. 16:92. 1Ag1876.)—Am. Jour. Sci. Arts. III. 12:400. N1876.)

1390. **Winchell, A.** Notice of a Small Collection of Fossils from the Potsdam Sandstone of Wisconsin and the Lake Superior Sandstone of Michigan. Am. Jour. Sci. Arts. II. 37: 226-232. Mr1864.

Two new species of *Palaeophycus* described from the red sandstone of Lake Superior.

Witt, O. N. See **Truan, y Luard, A. and Witt, O. N.**

1391. **Witt, W. G. de.** *Pithophora kewensis*. Jour. N. Y. Mic. Soc. 1:218. (20N.) D1885.

1392. **Wittrock, V. B.** Oedogoneae Americanae hucusque cognitae. Bot. Notiser. 133. 1878.—(Hedwigia. 17:178-181. D1878.)

1393. ———. Om snoens och isens flora, särskildt i de arktiska trakterna. A. E. Nordenskiöld's "Studier och forskningar, föranledda af mina resor i höga Norden." 1883. Bot. Gesell. 7Mr1883.—(Bot. Centralb. 14:158, 159. 1883.) —(Am. Mo. Mic. Jour. 5:139. J11884.)—(Nature. 30:638-640. 30O1884.)

1394. **Wolle, F.** Fresh-water Algae. Bull. Torr. Bot. Club. 6:121-123. N1876. Part II. 6:137-141. Mr1877. Part III. 6:181-189. N1877. Part IV. 7:43-48. Ap1880. Part V. 8:37. 1881. Part VI. 9:25-30. pl. 13. Mr1882. Part VII. 10:13-21. pl. 27. F1883. Part VIII. 11:13-17. pl. 44. F1884. Part IX. 12:1-6. pl. 47. Ja1885. Part X. 12:125-129. pl. 51. D1885.

First paper: Thirty species believed to be new to the United States and 10 new to science. Collected mostly within twenty miles of Bethlehem, Pennsylvania. Second paper: Addition of 100 species to the United States lists. Third paper: Notes 150 forms new to the United States and 24 new species. Fourth paper: Lists 90 new to the United States and 18 new to science. Fifth paper: 81 species new to United States, of which 4 are new to science. Sixth paper: 70 species enumerated as being new to United States, 15 new species and varieties. Seventh paper: 77 species and varieties new to United States, of which 31 are entirely new. Eighth paper: 38 species and varieties new to North America, of which 20 are new. Ninth paper: Nearly 50 species and varieties new to the flora of the United States, 15 entirely new. Tenth paper: 26 new species and varieties new to United States of which 14 are new to science.

1395. ———. A Nostoc the Matrix of Scytonema. Bull. Torr. Bot. Club. 6:217, 218. 1 pl. Ap1878.

1396. ———. Fresh-water Algae. Bot. Gaz. 3:68-70. Ag1878.

1397. ———. Fresh-water Algae. Synopsis of Discoveries and Researches in 1878. Bull. Torr. Bot. Club 6:281-288. JaF1879.

About 125 species new to the United States listed.

1398. ———. Dubious Character of some of the Genera of Fresh-water Algae. Am. Quart. Mic. Jour. 1:205-208. pl. 18. (24F.) Ap1879.—(Brebissonia. 1:185-188. 30Je1879.)

1399. ———. Fallacious Appearances among the Fresh-water Algae. Am. Mo. Mic. Jour. 1:21, 22. f. 2. F1880.—(Bot. Centralb. 6:37. 1881.)

1400. **Wolle, F.** Cell-multiplication in *Chantransia violacea* Kg. Am. Mo. Mic. Jour. 1:43-45. *f. 13.* Mr1880.

1401. ———. Notes on Fresh-water Algae (*Cylindrocapsa*.) Am. Mo. Mic. Jour. 1:83, 84. My1880.—(Bot. Centralb. 6:37. 1881.)

1402. ———. Notes on Fresh-water Algae (*Bulbochaete*.) Am. Mo. Mic. Jour. 1:121, 122. *f. 22.* Jl1880.—(Bull. Torr. Bot. Club. 7:100. S1880.)

1403. ———. New American Desmids. Bull. Torr. Bot. Club. 7:91. *pl. 5.* Ag1880.

Explanation of plate.

1404. **W(olle), F.** Cooke's "Desmids new to Britain."—(Am. Mo. Mic. Jour. 2:116, 117. Je1881.)

Notes on occurrence of same species in America.

1405. **Wolle, F.** Rotifer Nests. Am. Mo. Mic. Jour. 3:101, 102. Je1882.

Notes occurrence of 3 species of *Spirogyra* near Harrisburg, Penn., and *Vaucheria geminata* with rotifer galls.

1406. ———. Fresh-water Algae. Am. Mo. Mic. Jour. 3:147, 148. Ag1882.

Discussion of the synonymy of *Mastigocladus laminosus*.

1407. ———. Cooke's "British Fresh-water Algae."—(Am. Mo. Mic. Jour. 4:76. Ap1883.)

Notes of species found also in America.

1408. ———. Desmids of the United States and List of American Pediastrums with Eleven Hundred Illustrations on Fifty-Three Colored Plates. 8vo. 1-168. *pl. 1-53.* 1884. Bethlehem, Penn.—(Am. Mo. Mic. Jour. 5:116. Je1884. 5:129, 130. Jl1884.)—(Jour. Mic. Nat. Sci.: Jour. Post. Mic. Soc. 3:254, 255. O1884.)—(Am. Nat. 18:1042-1044. O1884.)—(Nature. 31:292, 293. 29Ja1885.)

1409. ———. First Contribution to the Knowledge of Kansas Algae. Bull. Washburn Lab. Nat. Hist. 1:17, 18. S 1884. Second Contribution. 1:62-64. Ja1885. Third Contribution. 1:174, 175. Jl1886. Fourth Contribution. 2:64. 1889.

In the first, second and third papers are noted 30 species of algae; in the fourth 23 diatoms from Arlington, Reno county are listed.

1410. ———. Fresh-water Algae. Bot. Gaz. 11:148. Je 1886.

Directions for collecting.

1411. **Wolle, F.** - Fresh-water Algae of the United States; (Exclusive of the Diatomaceae) complementary to Desmids of the United States; with 2,300 Illustrations Covering One Hundred and Fifth-one Plates, a few Colored, Including Nine Additional Plates of Desmids. i-xix. 21-364. 1887. 2: *pl.* 54-210. 1887. Bethlehem, Penn.

1412. ———. Desmids of the Pacific Coast. Bull. Cal. Acad. Sci. 2:432-437. 16Je1887. Second Paper. Proc. Cal. Acad. Sci. II. 1¹:79, 80. Je1888.

The first article contains a list of 82 desmids and 14 other algae collected by Mrs. Hansen and Miss Haggin near lake Tahoe, August, 1886. The second article gives 17 desmids not contained in previous list, and 7 other algae. Collections made at Donner, Truckee and Reno, Nevada, September, 1887.

1413. ———. *Nostoc pruniforme*. Bot. Gaz. 15:24. Ja 1890.

1414. ———. Diatomaceae of North America, Illustrated with Twenty-three Hundred Figures from the Author's Drawings on One Hundred and Twelve Plates. i-xiii. 15-47. *pl.* 1-112. 1890. Bethlehem, Penn.—(Am. Nat. 25:484, 485. My1891.) Bethlehem, Penn.

1415. **Wolle, F. and Martindale, I. C.** Algae—Fresh-water and Marine Forms. Britton's "Catalogue of Plants found in New Jersey." Geol. Surv. N. J. Final Rep. St. Geol. 2:384-430. and 602-615. 1889.—(Bull. Torr. Bot. Club. 17:159-163. 9Je 1890.

A large number of species listed.

1416. **Wood, H. C.** Observations on the Life-history of some Siphonaceous Fresh-water Algae. Proc. Phil. Acad. 1867:93. (6Ag.) 1867.

1417. ———. Fresh-water Algae in Hot Springs. Proc. Phil. Acad. 1867:125. 15O1867.

Remarks upon an alga from Mono county, California, said to grow in water of a temperature from 120-136° F.

1418. ———. A Botanical Excursion in my Office. Am. Nat. 1:517-530. 8f. D1867.

1419. ———. Notes on some Algae from a Californian Hot Spring. Am. Jour. Sci. Arts. II. 46:31-34. J11868—(Ann. Mag. Nat. Hist. 2:231-234. 1868.)—(Quart. Jour. Mic. Sci. 8:250-254. 1868.)

1420. ———. Manner in which *Schizomeris leibleinei* produces its Zoospores. Biol. and Mic. Dept. Phil. Acad. 1868: 11, 12. (19O.) 1868.

1421. **Wood, H. C.** Description of a new Species of *Palmella*. Biol. and Mic. Dept. Phil. Acad. 1868:12, 13. (16N.) 1868.

Palmella jesseni described. Remarks also made on a probable *Chantransia* found on stones in a creek.

1422. ———. New Species of *Sirosiphon*. Biol. and Mic. Dept. Phil. Acad. 1869:1, 2. (18Ja.) 1869.

Describes 4 species new to North America, and 3 entirely new.

1423. ———. *Nostochopsis*. A Probable new Genus of Fresh-water Algae. Biol. and Mic. Dept. Phil. Acad. 1869:2, 3. (1F.) 1869.

One species described.

1424. ———. An Undescribed Species of *Oedogonium*. Biol. and Mic. Dept. Phil. Acad. 1869:4. (3My.) 1869.

Names the species *O. mirabile*.

1425. ———. On *Oedogonium huntii* (1867.) Proc. Am. Phil. Soc. 10:333-335. 1869.

1426. ———. Desmids from the White Mountains. Biol. and Mic. Dept. Phil. Acad. 1869:15-19. (15N.) 1869.

The collection embraces 23 species, new and old. 8 new species described.

1427. ———. *Nostoc cristatum*. Biol. and Mic. Dept. Phil. Acad. 1869:20. (20D.) 1869.

1428. ———. Algae. Rep. U. S. Geol. Explor. Fortieth Parallel. (Botany.) 5:415. 1871.

Notes concerning 5 species of which one *Ulva, merismopedioides*, is new to science.

1429. ———. Prodomus of a Study of the Fresh-water Algae of Eastern North America. (1869.) Proc. Am. Phil. Soc. 11:119-145. 1871.—(Grevillea. 3:43, 44. S1874.)

1430. ———. A Contribution to the History of the Fresh-water Algae of North America. (1872.) Smiths. Cont. Knowl. 19³:i-viii. 1-262. pl. 1-21. 1874.—(Grevillea. 2:54-57. O1873. 72-76. N1873. 2:92-96. D1873.)—(Am. Jour. Sci. Arts. III. 5:391. My1873.)

1431. **Woods, A. F.** Notes on the Canon Flora of Sioux county, with List of Plants Collected in July and August, 1892. Bot. Surv. Neb. 2:31-46. 1893.

Lists 7 species of desmids. 28 of diatoms, and 13 of other algae.

1432. ———. *Coleochaetaceae*, *Characeae*. Univ. of Neb. Fl. Neb. Published by the Botanical Seminar. 1²:119-128. pl. 23-36. 15Ag1894.

1433. Woodward, A. and Thomas, B. W. The Microscopical Fauna of the Cretaceous in Minnesota, with Additions from Nebraska and Illinois. Geol. Nat. Hist. Surv. Minn. The Geology of Minnesota. Final Rep. Palaeontology. 31:23-54. (30N1891.) 1895.

States that more than 100 species of fresh-water Diatomaceae were found in samples of interglacial peat from Blue Earth county, Minn.

Woodward, A. See Gratacap, L. P. and Woodward, A.

1434. Woodward, J. J. Memorandum on the *Amphipleura pellucida*. Am. Jour. Sci. Arts. III. 1:345, 346. My1871.—(Mo. Mic. Jour. 6:43, 44. 1J11871.)

1435. ———. On the Double Markings of *Triceratium*. The Lens. 1:100. 1 pl. 1872.

1436. ———. Notes on *Frustulia saxonica* as a Test of High Power Definitions. The Lens. 1:233. 1 pl. 1872.

1437. ———. The Use of *Amphipleura pellucida* as a Test-object for High Powers. Am. Nat. 6:193-197. pl. 4. Ap1872.—(Mo. Mic. Jour. 8:204, 205. 1O1872.)

1438. ———. On the Spurious Lines of Diatoms. Am. Nat. 10:60. Ja1876.—(Mo. Mic. Jour. 15:144. 1Mr1876.)

An account given at the Washington Philosophical Society.

1439. ———. Observations suggested by the Study of *Amphipleura pellucida* mounted in Canada Balsam by Lamp-light and Sunlight with Various Objectives. Am. Jour. Mic. and Pop. Sci. 4:141-149. J1AgS1879.

1440. ———. Photographs of Diatoms. Jour. N. Y. Mic. Soc. 1:123. 1885.

1441. Woodworth, W. M. The Apical Cell of *Fucus*. Ann. of Bot. 1:203-211. pl. 10. F1888.—(Jour. Roy. Mic. Soc. 1888:621, 622. Ag1888.)

The species especially investigated was *F. furcatus* of the New England coast.

1442. Woolman, L. On the Discovery of Diatoms in Artesian Wells at Atlantic City, N. J. Mic. Bull. 5:41. 1888.

1443. ———. Artesian Wells, Atlantic City, N. J. Geol. Surv. N. J. Ann. Rep. St. Geol. 1889. 89-99. 1889.

A discussion of the diatomaceous layers.

1444. ———. An Outcrop of Fossil Diatoms near Shiloh, N. J. Mic. Bull. 12. 1890.

1445. ———. Communications containing Data with regard to Diatomaceous Clays, etc., J. G. Smock's Artesian and other Bored Wells. Geol. Surv. N. J. Ann. Rep. St. Geol. 1890. 259-283. 1891.

1446. **Woolman, L.** Geology of Artesian Wells at Atlantic City, N. J. *Proc. Phil. Acad.* 1890:132-147. (25Mr1890.) 1891. 1890:444. (30D1890.) 1891.

In first paper 149 species of diatoms were named, determined by C. H. Kain and E. A. Schultze. A description of the various diatomaceous layers is furnished. The second article gives a list of Naviculas accidentally omitted in the former paper.

1447. ———. Marine and Fresh-water Diatoms and Spongespicules from the Delaware River Clays of Philadelphia. *Proc. Phil. Acad.* 1890:189-191. (17Je1890.) 1891.

1448. ———. A Review of Artesian Well Horizons in Southern New Jersey. *Geol. Surv. N. J. Ann. Rep. St. Geol.* 1891. 223-232. 1 pl. 1892.

1449. ———. Artesian Wells in Southern New Jersey. *Geol. Surv. N. J. Ann. Rep. St. Geol.* 1892. 275-311. 1893.

1450. ———. Artesian Wells and Water Horizons in Southern New Jersey, with Economical, Geological and Palaeontological Notes. *Geol. Surv. N. J. Ann. Rep. St. Geol.* 1893. 389-421. 1894.

Wormley, T. G. See **Sullivant, W. S.** and **Wormley, T. G.**

1451. **Wyman, J.** Observations and Experiments on Living Organisms in Heated Water. *Am. Jour. Sci. Arts.* II. 44:152-169. S1867.

Describes a number of hot springs with observations upon the organisms inhabiting them.

1452. ———. Fresh-water Algae and Diatomaceae of Minneapolis, Minn. *Am. Mo. Mic. Jour.* 4:18. Ja1883.

Names 21 species.

1453. **W., W. A.** Mounts of Fresh-water Algae.—(The Microscope. 5:12. Ja1885.)

1454. **Zeller, G.** Algae brasilienses circa Rio de Janeiro a Dr. A. Glaziou collectae. *Warming's Symbolae ad Flor. Bras. Central Cognos.* 22:426-432. *Vidensk. Medd. Nat.* (1876.) 1876-77.

1455. **Anonymous.** Sargasso Weeds. *Phil. Mag. and Ann.* D1830—(Am. Jour. Sci. Arts. 20:181. J11831.)

1456. ———. Where to search for Diatoms. *The Lens.* 1:106. 1872.

1457. ———The Diatom Hoax. (*Pleurosigma angulatum.*) —(Am. Nat. 6:121. F1872.)

1458. **Anonymous.** Diatoms as Food for Plants with cuts of Forms of Diatoms found in Col. Kunkel's Straw. *Am. Jour. Mic.* 1:105. 1876.

1459. ———. Typical Specimens of the Diatomaceae. *Am. Jour. Mic.* 2:7, 8. Ja1877.

1460. ———. The Fossil Earth of Richmond, U. S. A. *Am. Nat.* D1877.—(*Mo. Mic. Jour.* 17:100. 1F1877.)

1461. ———. A Roundabout Walk to Church. *Am. Jour. Mic.* 3:157, 158. J11878.

Nine species of algae reported from Chicago.

1462. ———. *Volvox globator*.—(*Am. Jour. Mic.* 4:20, 21. Ja1879.

1463. ———. The Effect on Health of certain Algae in the Mystic Water Supply. 1st Ann. Rep. Mass. St. Bd. Health, Lunacy and Charity. 1879. Supp. Cont. Rept. and Papers on Pub. Health. 155-160. 1880.

1464. ———. Catalogue of the Cryptogams of the Vicinity of Buffalo. *Bull. Buff. Soc. Nat. Sci.* 1883.

1465. ———. St. Thomas, Virgin Islands. The Voyage of H. M. S. Challenger. Narrative. 1¹: (Algae 127.) 1885.

Calcareous sea-weeds described.

1466. ———. Gigantic Sea-weeds.—(*The Microscope.* 6:259. N1886.

A specimen more than 1.500 feet long brought to Montevideo from the Atlantic near the Equator.

1467. ———. The Diatom, *Heliopelta*. *Jour. N. Y. Mic. Soc.* 3:24. Ap1887.

Description of a specimen contained in the Society's cabinet.

1468. ———. Algae Growing on Animals.—(*Am. Nat.* 22:1028. N1888.)—(*The Microscope.* 9:60. F1889.)

Three species of algae stated to have been recently found on the hairs of sloths.

1469. ———. Examinations of Water Supplies and Rivers. Report on Water Supply and Sewerage. Part I. Mass. St. Bd. Health. 1-383. 1890.

1470. ———. A Classification of the Drinking Waters of the State. Report on Water Supply and Sewerage. Part I. Mass. St. Bd. Health. 679-716. (Algae. 686.) 1890.

1471. ———. Examinations of Water Supplies and Rivers. 22nd Ann. Rep. Mass. St. Bd. Health. 67-331. 1891.

1472. **Anonymous.** Examinations of Water Supplies and Rivers: Water Supplies. 23rd Ann. Rep. Mass. St. Bd. Health. 61-252. 1892.

The algal forms are classified under three groups: Diatomaceae, Cyanophyceae and Algae.

1473. ———. Examinations of Water Supplies and Rivers. 23rd Ann. Rep. Mass. St. Bd. Health. 255-336. 1892.

Algae are listed.

1474. ———, Water Supply and Sewerage. Advice to Cities and Towns. 24th Ann. Rep. Mass. St. Bd. Health. 1-71. 1893.

Note on Anabaena.

1475. ———. Examination of Water Supplies. 25th Ann. Rep. Mass. St. Bd. Health. 93-337. 1894.

The algae found in each locality listed.

1476. ———. Examination of Rivers. 25th Ann. Rep. Mass. St. Bd. Health. 341-366. 1894.

Algae listed from the different localities.

1477. ———. Additions to the Reported Flora of Nebraska made during 1893. Univ. of Neb. Botanical Survey of Nebraska. Conducted by the Botanical Seminar. III. Report for 1893. 5-20. 18Je1894. Lincoln, Nebraska.

ADDENDA.

1478. **Ardissone, F.** Le Alghe cosmopolite. Rendiconti del Istituto (Reale) Lombardo di scienze e lettere II. 27: Fasc. 19. 1894.

1479. **Arnott, G. A. W.** What are Marine Diatoms? Quart. Jour. Mic. Sci. 7:170-178. 1859.

One of Ehrenberg's species from Oregon alluded to.

1480. ———. Bermuda Tripoli. Quart. Jour. Mic. Sci. 7:254. 1859.

Notes upon its history.

———. See **Hooker, W. J.** and **Arnott, G. A. W.**

1481. **Bailey, J. W.** Microscopical Examination of Deep Soundings from the Atlantic Ocean. Quart. Jour. Mic. Sci. 3:89-91. 1855.

1482. **Barber, C. A.** Nematophycus storriei, nov. sp. Ann. of Bot. 6:329-338. *pl.* 19, 20. (14Mr1892.) D1892.

1483. **Barker, —**. Petalonema alatum, Berkeley, from the Falls of Niagara, exhibited.—(Quart. Jour. Mic. Sci. N. S. 17:561. 1877.)

Dublin Microscopical Club, Mar. 15, 1877.

1484. **Boergesen, F.** Desmidiaceae brasiliae: Symbolae ad Fl. Bras. Centr. cognosc. ed. E. Warming particula xxxiv. Vid. Medd. Nat. For. 929-958. (24-533.) *pl.* 2-5. 1890.

Bory de St. Vincent, J. B. G. M. See **Brongniart, A.** and **Bory de St. Vincent, J. B. G. M.**

1485. **Briggs, S. A.** Rhizosolenia eriensis H. L. Smith. The Lens. Ja1872.—(Grevillea. 1:14. J11872.)

1486. **Brightwell, T.** On the genus Triceratium, with Descriptions and Figures of the Species. Quart. Jour. Mic. Sci. 1:245-252. *pl.* 4. (Je) 1853.

1487. ———. On the Filamentous, Long-horned Diatomaceae, with a Description of Two New Species. Quart. Jour. Mic. Sci. 4:105-109. *pl.* 7. 1856.

Chaetoceros peruvianum from Callao, Peru, is described as new.

1488. ———. Further Observations on the Genus Triceratium, with Descriptions and Figures of New Species. Quart. Jour. Mic. Sci. 4:272-276. *pl.* 17. 1856.

Material from Barbadoes earth. Other American localities.

1489. ———. Remarks on the Genus "Rhizosolenia" of Ehrenberg. Quart. Jour. Mic. Sci. 6:93-95. *pl.* 5. 1858.

1490. ———. Further Observations on the Genera Triceratium and Chaetoceros. Quart. Jour. Mic. Sci. 6:153-155. 1858.

1491. ———. On some of the Rarer or Undescribed Species of Diatomaceae. Part I. Quart. Jour. Mic. Sci. 7:179-181. *pl.* 9. 1859. Part II. Quart. Jour. Mic. Sci. 8:93-96, *pl.* 5, 6. 1860.

Several American localities.

1492. ———. On the Rarer and Undescribed Species of Diatomaceae. Errata et Corrigenda. Quart. Jour. Mic. Sci. 8:139. 1860.

1493. **Brongniart, A.** Exposition Chronologique des Periodes de Vegetation et des Flores Diverses qui se sont succede a la surface de la Terre. Ann. Sci. Nat. III. 11:285-338. 1849.

1494. **Brongniart, A.** and **Bory de St. Vincent, J. B. G. M.** Botanique du Voyage autour du monde sur la Coquille exec. par Duperry. Cryptogames. 2: *pl.* 1-100. 1829. Paris.

1495. **Dawson, W.** The Genus Prototaxites. Geol. Surv. Can. Fossil Plants. 16-20. 1871.

1496. **De La Pylaie, A. J. M. Bernard** Quelques observations sur les productions de l'île de Terre-Neuve, et sur quelques Algues de la cote de France appartenant au genre Laminaire. Ann. Sci. Nat. 4:174-184. *pl.* 9. 1824.

1497. **Desfontaines, R. L. and Mirbel, C. F.** Rapport sur la Flore des Malouines de M. D'Urville.—(Ann. Sci. Nat. 6:469–476. 1825.)

Read before the Royal Academy of Sciences, Oct. 24, 1825.

1498. **Du Petit-Thouars, A.** Melanges de Botanique et de Voyages. Premier Receuil. 1811. Paris.

Twenty-one species of algae collected at Tristan da Cunha.

1499. **Edwards, A. M.** Different Diatoms on the same Stipes. Quart. Jour. Mic. Sci. N. S. 15:63, 64. 1875.

1500. **Ehrenberg, C. G.** Ueber die weitere Entwicklung der Kenntniss des Gruensandes als gruener Polythalamien-Steinkerne, ueber braunrothe und corallrothe Steinkerne der Polythalamien Kreide in Nordamerika, und ueber den Meeresgrund aus 12900 Fuss tiefe. Mb. Berl. Akad. 172. 8Mr1855.

1501. ———. De la toba fitolitaria del valle de Toluca por el Senor Ehrenberg. Traducccion comunicada por el Senor Doctor Burkart a Don Antonio del Castillo con encargo de corregirla para su publicacion en Mexico. La Naturaleza. 3:118. (1 Lam.) 1874.

1502. **Forbes, S. A.** The Food of Fishes. Studies of the Food of Birds, Insects and Fishes, made at the Illinois State Laboratory of Natural History at Normal, Illinois. 18–65. N1880.

1503. ———. On the Food of Young Fishes. Studies of the Food of Birds, Insects and Fishes, made at the Illinois State Laboratory of Natural History, at Normal, Illinois. 66–79. N1880.

1504. ———. The Food of Illinois Fishes. Ill. St. Lab. Nat. Hist. The Natural History of Illinois. Bull. No. 2. 71–86.

1505. **Gaudichaud, C.** Rapport sur la Flore des iles Malouines.—(Ann. Sci. Nat. 5:89–110. *pl.* 2–3. 1825.)

Read before the Academy of Sciences, May 16.

1506. **Greville, R. K.** Note on a Structure observed in *Surirella*. Quart. Jour. Mic. Sci. 7:116, 117. *1 f.* 1859.

A specimen from Californian guano.

1507. ———. On *Plagiogramma*. Quart. Jour. Mic. Sci. 7:207–211. *pl.* 10. 1859.

Californian guano furnished specimens.

1508. ———. On *Campylodiscus*, &c. Trans. Mic. Soc. N. S. 8:29–32. *pl.* 1. 1860.

Several new species from Jamaica.

1509. **Greville, R. K.** A Monograph of the Genus *Asterolampra*, including *Asteromphalus* and *Spatangidium*. Trans. Mic. Soc. N. S. 8:102-124. *pl. 3, 4.* and *f. 1, 2.* (14Mr.) 1860.

Material obtained from a deposit in the United States.

1510. ———. Descriptions of New and Rare Diatoms. Series I. Trans. Mic. Soc. N. S. 9:39-45. (12Mr.) *pl. 4.* 1861. Series II. N. S. 9:67-73. *pl. 8.* (12Je.) 1861. Series III. N. S. 9:73-77. *pl. 9.* (12Je.) 1861. Series IV. N. S. 9:79-87. *pl. 10* (12Je.) 1861. Series V. N. S. 10:18-29. *pl. 2, 3.* (11D1861.) 1862. Series VI. N. S. 10:89-96. *pl. 9.* 1862. Series VII. Quart. Jour. Mic. Sci. N. S. 2:231-236. *pl. 10.* 1862. Series VIII. Trans. Mic. Soc. N. S. 11:13-21. *pl. 1.* 1863. Series IX. N. S. 11:63-76. *pl. 4, 5.* (13My.) 1863. Series X. Quart. Jour. Mic. Sci. N. S. 3:227-237. *pl. 9, 10.* 1863. Series XI. N. S. 12:8-14. *pl. 1, 2.* 1864. Series XII. N. S. 12:81-86. (10F.) *pl. 10, 11.* 1864. Series XIII. N. S. 12:87-94. *pl. 12, 13.* (11My.) 1864. Series XIV. N. S. 13:1-10. *pl. 1, 2.* (9N1864.) 1865. Series XV. N. S. 13:24-34. *pl. 3, 4.* (8Mr.) 1865. Series XVI. N. S. 13:43-75. *pl. 5, 6.* (10My.) 1865. Series XVII. N. S. 13:97-105. *pl. 8, 9.* (14Je.) 1865. Series XVIII. N. S. 14:1-9. *pl. 1, 2.* (8N1865.) 1866. Series XIX. N. S. 14:77-86. *pl. 8, 9.* (14Mr.) 1866. Series XX. N. S. 14:121-130. *pl. 11, 12.* (9My.) 1866.

Description of new species from Barbadoes deposit, slides of which were supplied by Mr. J. T. Norman, and also material obtained from different localities in North and South America.

1511. ———. A Monograph of the Genus *Auliscus*. Trans. Mic. Soc. N. S. 11:36-53. *pl. 2, 3.* (11Mr.) 1863.

1512. **Hooker, W. J. and Arnott, G. A. W.** The Botany of Captain Beechey's Voyage; comprising an Account of the Plants collected by Messrs. Lay and Collie, and other Officers of the Expedition, during the Voyage to the Pacific and Behring's Strait, performed in his Majesty's ship Blossom, under the command of Captain F. W. Beechey, R. N., F. R., and A. S., in the Years 1825, 26, 27 and 28. 1-485. (Algae. 54. 77. 78. 110. 134. 163-165. 406-409.) 1841.

Two species of algae from Chili; 2 from Society Islands; 1 from Sandwich Islands; 1 from Kotzebue's Sound; 24 from California; 25 additional from California.

1513. **Kitton, F.** New Diatoms from Panama.—(Quart. Jour. Mic. Sci. N. S. 15:99. 1875.)

Given before the Microscopical Society, Oct. 7, 1874.

1514. **Kjellman, F. R.** Ueber die Beziehungen der Flora des Bering-Meeres zu der des Ochotskischen Meeres. Bot. Sekt. Naturvet. Studentsällsk. i Upsala. 25O1888.—(Bot. Centralb. 41:167-170. 198, 199. 1890.)

1515. **Lamouroux, C. V. F.** Memoire sur la Geographie des plantes marines.—(Ann. Sci. Nat. 7:60. 1826.)

Read before the Royal Academy of Sciences, Feb. 21, 1825.

1516. **Lapham, I. A.** Plants of Wisconsin. Proc. Am. Ass. Adv. Sci. Second Meeting. Ag1849. 19-59. 1850.

Chara vulgaris Willd. reported.

1517. **Leidy, J.** A Flora and Fauna within Living Animals. Smiths. Cont. Knowl. 5²:1-54. *pl. 1-10.* (D1851.) 1853.

Mirbel, C. F. See Desfontaines, R. L. and Mirbel, C. F.

1518. **Montagne, J. F. C.** Cryptogamae brasilienses seu Plantae cellulares quas in itinere per Brasiliam à celeb. Auguste de Saint-Hilaire collectas recensuit observationibusque nonnullis illustravit. Ann. Sci. Nat. II. 12:42-55. 1839.

Lists 46 species of algae.

1519. ———. Description de plusieurs nouvelles especes de Cryptogames decouvertes par M. Gaudichaud dans l'Amerique meridionale. Ann. Sci. Nat. II. 2:73-79. 1834.

Describes *Ceramium dasytrichum*.

1520. ———. Centurie de Plantes cellulaires exotiques nouvelles. Ann. Sci. Nat. II. 8:345-370. 1837.

Twenty-six species of algae described from American localities.

1521. ———. Seconde centurie de Plantes cellulaires exotiques nouvelles. Decades 1 et II. Ann. Sci. Nat. II. 13:193-207. 1840.

Nine species of algae described.

1522. ———. Sixieme Centurie de Plantes cellulaires nouvelles, tant indigenes qu'exotiques. Decades III. a VI. Ann. Sci. Nat. III. 11:33-66. 1849.

Algae nos. 53-60. habitat: Labrador, United States, Yucatan, etc.

1523. ———. Huitieme Centurie de Plantes cellulaires nouvelles, tant indigenes qu'exotiques, Decades IV et V. Ann. Sci. Nat. IV. 7:134-153. 1857. Decades IX et X. Ann. Sci. Nat. IV. 12:167-192. 1859.

South American localities.

1524. ———. Neuvieme Centurie de Plantes cellulaires nouvelles tant indigenes qu'exotiques. Decades I et II. Ann. Sci. Nat. IV. 14:167-185. 1860.

1525. **Norman, G.** On some Undescribed Species of Diatomaceae. Trans. Mic. Soc. N. S. 9:5-9. *pl.* 2. (14N1860.) 1861.
Aulacodiscus sollittianus from Nottingham, Maryland, described as new.
1526. **O'Meara, E.** On Stauroneis phyllodes (Ehrenb.) Kuetz., Rabenh.—(Quart. Jour. Mic. Sci. N. S. 17:102. 1877.)
Exhibited before the Dublin Microscopical Club, July 13, 1876.
1527. ———. Undescribed Species of Craspedodiscus.—(Quart. Jour. Mic. Sci. N. S. 17:106. 1877.)
Example from fossil earth from Delaware and Maryland shown before the Dublin Microscopical Club, Sept. 21, 1876.
1528. ———. Brightwellia johnsoni exhibited.—(Quart. Jour. Mic. Sci. N. S. 17:304. 1877.)
Before the Dublin Microscopical Club, Feb. 15, 1877.
1529. ———. Characters of Craspedodiscus elegans.—(Quart. Jour. Mic. Sci. N. S. 17:465. 1877.)
Specimen from Maryland deposit shown before the Dublin Microscopical Club, May 24, 1877.
1530. ———. Navicula mossiana. n. s., O'M., exhibited.—(Quart. Jour. Mic. Sci. N. S. 18:346. 1848.)
Dredged from Discovery Bay, 81° 43' N. Dublin Microscopical Club, Jan. 17, 1878.
1531. ———. Some Arctic Diatoms, amongst which Biddulphia balaena, which appears rather to be a Triceratium.—(Quart. Jour. Mic. Sci. N. S. 18:349. 1878.)
Shown before Dublin Microscopical Club, Feb. 27, 1878.
1532. ———. Docidium nodosum, American example exhibited.—(Quart. Jour. Mic. Sci. N. S. 18:350. 1878.)
Before the Dublin Microscopical Club, March 21, 1878.
1533. **Palmer, J. L.** Colour of the Sea. Quart. Jour. Mic. Sci. N. S. 8:178, 179. 1868.
1534. **Roper, F. C. S.** On the Genus Biddulphia and its Affinities. Trans. Mic. Soc. N. S. 7:1-24. 1859.
American localities.
1535. ———. On Triceratium arcticum. Trans. Mic. Soc. N. S. 8:55-58. *lf.* 1860.
Specimens from Vancouver's Island.
1536. **Rylands, T. G.** On the Markings of Diatomaceae. Quart. Jour. Mic. Sci. 8:25-28. 1860.
Remarks concerning Dr. Greville's Article on "Diatomaceae in Californian Guano."

1537. **Seymour, A. B.** Herbarium Indexes for all the Groups of Cryptogams. 27 sheets. Blue prints 8x10. S1892. Cambridge, Mass.—(Bot. Centralb. 53:144. 1893.)

1538. **Sollitt, J. D.** On the Measurement of the Striae of Diatoms. Quart. Jour. Mic. Sci. 8:48-51. 1860.

Criticisms of the observations of W. S. Sullivant and T. G. Wormley.

1539. **Suhr, J. N. von.** Beiträge Zur Algen-Kunde Flora. 19:337-350. 14Je1836.—(Ann. Sci. Nat. II. 7:171-176. 1837.)

American localities.

1540. **Wallich, G. C.** On the Silicious Organisms found in the Digestive Cavities of the Salpae, and their Relation to the Flint Nodules of the Chalk Formation. Trans. Mic. Soc. N. S. 8:36-55. *pl.* 2. (14D1859.) 1860.

Remarks upon the Triceratium semicirculare of Mr. Brightwell obtained from the Bermuda deposit.

1541. **Webber, H. J.** On the Antheridia of Lomentaria. Ann. of Bot. 5:226, 227. *f.* 2, 3. Ap1891.

A study at Woods Holl, Massachusetts of material collected in Vineyard Sound.

1542. **Webster, W. H. B.** Account of the Natural Productions of Staten Land and Cape Horn. Edinb. Jour. Sci. 1:26-31. Ja1830.—(Am. Jour. Sci. Arts. 18:188-190. 1830.)

States that the sea-weeds about Staten Land are very large and contain iodine, while those of the Shetland Isles are extremely meagre in amount and variety.

1543. **West, T.** Remarks on some Diatomaceae, new or imperfectly described, and a new Desmid. Trans. Mic. Soc. N. S. 8:147-153. *pl.* 7. 1860.

American localities.

1544. **Wolle, F.** Turner's "New Desmids of the United States."—(Bull. Torr. Bot. Club. 13:56-60. Ap1886.)

Reviews Mr. Turner's paper in the Journal of the Royal Microscopical Society, 1885.

EXSICCATAE.

1. **Allen, T. F.** Characeae Americanae exsiccatae. Fol. Fascicle I-IV. No. 1—. 1880—. New York.
2. **Areschoug, J. E.** Phyceae extra-europeae exsiccatae. Fascicle I-III. No. 1-90. 1854-1856. Upsala, Sweden.
3. **Collins, F. S., Holden, I. and Setchell, W. A.** Phycotheca Boreali-Americana. A collection of Dried Specimens of the Algae of North America. Fascicle I. No. 1-50. F1895. Fascicle II. No. 50-100. Mr1895. Malden, Mass.
4. **Farlow, W. G., Anderson, C. L. and Eaton, D. C.** Algae Exsiccatae Americae Borealis curantibus. Fascicle I-V. No. 1-230. 1877-1889. Boston, Mass.
5. **Hauck, F. and Richter, P.** Phycotheca universalis, Sammlung getrockneter Algen sämtlicher Ordnungen und aller Gebiete. Fascicle I-V. No. 1-250. 1885-1889. Leipzig.
Specimens from California, Massachusetts, New Jersey and other American localities.
6. **Rabenhorst, L.** Die Algen Europas. Dec. 1-257. 1861-1878. Dresden, Germany.
Contains collections made by Francis Wille.
7. **Sintenis, P.** Plantae Portoricensis. (1884-87.)
Six species of Characeae.
8. **Smith, H. L.** Species Diatomacearum Typicae Studiis. 1874—. Geneva, New York.
9. **Tilden, Josephine E.** American Algae. Century I. No. 1-100. D1894. Minneapolis, Minn.
Algae from Minnesota.
10. **Wittrock V. B. and Nordstedt, C. F. O.** Algae Aquae Dulcis Exsiccatae Praecipue Scandinavicae, Quas Adjectis Algis Marinis Chlorophyllaceis et Phycochromaceis Distribuerunt. Fascicle 1-25. No. 1-1200. 1877-1893. Stockholm, Sweden.
Specimens from Greenland, United States, West Indies, Brazil, Uruguay and Argentine.

CORRECTIONS.

108. ———. *Add*—(Quart. Jour. Mic. Sci. 2:288–290. 1854. 3:93, 94. 1855.)

110. ———. *Add*—(Quart. Jour. Mic. Sci. 3:91, 92. 1855.)

115. ———. *Add*—(Quart. Jour. Mic. Sci. 4:302, 303. 1856.)

Duncan. *See* Nelson, R. S. and Duncan, —.

429. ———. *Add*—(Quart. Jour. Mic. Sci. N. S. 12:71. 1872.)

651. ———. *For* Hitchcock, C. H. *read* Hitchcock, R.

669. ———. *For* Hitchcock, C. H. *read* Hitchcock, R.

686. ———. *For* Hitchcock, C. H. *read* Hitchcock, R.

774. ———. *Add*—(Quart. Jour. Mic. Sci. N. S. 14:101. 1874.)

Read before the Royal Microscopical Society, June 4, 1873.

Lee, T. G. *See* Williston, S. W., Smith, H. E. and Lee, T. G.

1174. ———. *Add*—(Quart. Jour. Mic. Sci. N. S. 13:357–366. 1873.)

Reprinted with some corrections from the Lens, Jan., 1873.

UNIVERSITY OF ILLINOIS - URBANA

N30112104613044A