

THE BROOKLYN INSTITUTE
OF ARTS AND SCIENCES.

1902-1903.

THE
FIFTEENTH YEAR BOOK
OF
THE BROOKLYN INSTITUTE
OF ARTS AND SCIENCES.

**FOUNDED 1824.
RE-CHARTERED 1824, 1843, 1862.
THE PRESENT CHARTER GRANTED IN 1890.**

1902-1903

CONTAINING
THE NAMES OF THE OFFICERS AND OF MEMBERS,
COPIES OF THE CONSTITUTION AND BY-LAWS,
A BRIEF HISTORY OF THE INSTITUTE, AN
ACCOUNT OF THE WORK OF 1902-1903,
AND A COPY OF THE LAWS RE-
LATING SPECIFICALLY TO
THE CORPORATION.

“For the People, by the People.”

**BROOKLYN:
PUBLISHED BY THE INSTITUTE.**

1903.

same for the Museums, the accounts of which are kept entirely separate from the Institute Account.

The President and Director submitted Annual Reports on the work and needs of the Institute, large portions of which are included in the foregoing accounts of the work of the year.

THE BIOLOGICAL LABORATORY

[Located at Cold Spring Harbor, L. I.]

FOURTEENTH SEASON.

BOARD OF MANAGERS.

Hon. EUGENE G. BLACKFORD,	<i>President.</i>
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Prof. EDMUND B. WILSON, Ph.D.	EDWARD THOMPSON.

THE BOARD OF INSTRUCTION.

CHARLES BENEDICT DAVENPORT, Ph.D., Associate Professor of Zoölogy, The University of Chicago, *Director of the Laboratory.*
 DUNCAN STARR JOHNSON, Ph.D., Assistant Professor of Botany, Johns Hopkins University. *In charge of Cryptogamic Botany.*
 CHARLES PETER SIGERFOOS, Ph.D., Associate Professor of Zoölogy, University of Minnesota. *In charge of Embryology.*

- HENRY SHERRING PRATT, Ph.D., Associate Professor of Zoölogy, Haverford College. *In charge of Comparative Anatomy.*
- NELSON FITHIAN DAVIS, Ph.D., Assistant Professor of Biology, Bucknell University. *In charge of Bacteriology.*
- Mrs. GERTRUDE CROTTY DAVENPORT, S.B., Past Instructor in Zoölogy, Kansas State University. *In charge of Microscopic Methods.*
- HARRY NICHOLS WHITFORD, Ph.D., Assistant in Botany, University of Chicago. *In charge of Phanerogamic Botany.*
- ALFRED GOLDSBOROUGH MAYER, Ph.D., Curator of Natural Science Collections, Museum, Brooklyn Institute. *Lecturer in Entomology.*
- JOSEPH HORACE FAULL, B.A., Lecturer in Botany, Toronto University. *Assisting in Botany.*
- FORREST SHREVE, A.B., Graduate Student, Johns Hopkins University, *Assisting in Geology.*
- FRANK EUGENE LUTZ, A.M., Assistant in Zoölogy, University of Chicago. *Assisting in Zoology.*
- DANIEL SCHOLLENBERGER HARTLINE, A.M. Professor of Biological Sciences, State Normal School, Bloomsburg, Pa. *Assisting in Microscopic Methods.*

PERSONS, OTHER THAN INSTRUCTORS, ENGAGED
PRIMARILY IN RESEARCH.

- ELLA MARION BRIGGS, B.S. (Mt. Holyoke College), Teacher of Biology, High School, New Rochelle, N. Y. *Zoölogy.*
- HENRY EDGERTON CHAPIN, M.S. (Michigan Agricultural and Mechanical College). Teacher, New York City High Schools, Richmond Hill, L. I. *Zoölogy.*
- ABIGAIL CAMP DIMON, A.M. (Bryn Mawr College), Warden of Radnor Hall, Bryn Mawr, Pa. *Zoölogy.*
- LOUIS ISRAEL DUBLIN, B.S. (College of the City of New York), Graduate Student, Columbia University, New York. *Zoölogy.*
- JAMES H. EMERTON, Arachnologist and Artist, Boston, Mass. *Arachnida.*
- ANNA BELL SARGENT, B.S. (University of Pennsylvania), Graduate Student, University of Pennsylvania. *Zoölogy.*
- MABEL ELIZABETH SMALLWOOD, Teacher of Biology, High School, 430 W. Adams street, Chicago. *Zoölogy.*

STUDENTS IN THE SEVERAL COURSES.

- LULU FLORENCE ALLABACH, A.M. (Dickinson College), Teacher, Lock Haven, Pa. *Zoölogy 2, Botany 1.*
- HARRY BAILEY, Student at Lafayette College, Easton, Pa. *Zoölogy 2, Botany 1.*
- GRACE ALDEN BEARD, A.B. (Vassar College), Teacher, Girls' High School, Brooklyn, N. Y. *Zoology 3, Botany 1.*
- MARY MORRELL BRACKETT, A.B. (Columbia University), Secretary and Teacher, Wadleigh High School, New York City. *Zoölogy 2.*
- CHESTER TIMOTHY BROWN, B.S. (Rutgers College), Student, 1618 Atlantic avenue, Atlantic City, N. J. *Zoölogy 2, Botany 1.*
- CHARLES EVERETT BROWN, Student, Miami University, Oxford, Ohio. *Botany 2.*
- ERNEST BONSALE BROWN, A.B. (Johns Hopkins University), Assistant, Laboratory of Plant Breeding, Department of Agriculture, Washington, D. C. *Botany 1, Botany 2.*
- LOUISA BRUCKMAN, Pd.M. (New York University). Teacher, 1022 Lexington avenue, New York City. *Botany 2.*
- GEORGE BRYCE, A.M. (Toronto University), D.D., LL.D., F.R.S.C., Professor of Biology, University of Manitoba, Winnipeg. *Zoölogy 2, Botany 1.*
- BERTHA CLOUGH, A.B. (Columbia University), Teacher, South Orange, N. J. *Zoölogy 1, Zoölogy 2.*
- ESTHER LAMB COX, B.S. (Swarthmore College), 1608 Mt. Royal avenue, Baltimore, Md. *Botany 2.*
- WILLIAM FREDERICK CRAIG, M.D. (University of Pennsylvania), Teacher, High School, 1045 Tioga street, Philadelphia, Pa. *Zoölogy 2.*
- GEORGE CLYDE FISHER, Student, Miami University, Oxford, Ohio. *Botany 1.*
- HARRY RASCOE FULTON, A.B. (University of Mississippi), Instructor of Biology, University of Mississippi. *Zoölogy 2, Botany 1.*
- ABRAHAM JULIUS GOLDFARB, B.S. (College of the City of New York), Teacher, 228 Henry street, New York City. *Zoölogy 1, Zoölogy 2.*
- WILLIS EDGAR MANEVAL, S.M. (Bucknell University), Teacher, Liberty, Tioga Co., Pa. *Zoölogy 3.*
- EDITH AUGUSTA PELL, A.B. (Wellesley College), Teacher, 239 Mt. Prospect avenue, Newark, N. J. *Zoölogy 1, Botany 2.*

- WANDA MAY PFEIFFER, Student, University of Chicago, 4331 Wentworth avenue, Chicago. *Zoölogy* 1.
- NELLIE YOUNGS PIETSCH, Teacher, 247 Clarkson street, Brooklyn, N. Y. *Zoölogy* 1, *Zoölogy* 2.
- WILLIAM LORIMER PORTER, A.M. (Yale University), Professor of Biology, Tarkio, Missouri. *Zoölogy* 1, *Zoölogy* 3.
- WILLIAM CAREY PURDY, B.S., Teacher of Science, Slippery Rock, Pa. *Botany* 1.
- MARY ELIZABETH REID, B.S. (Cornell University), Teacher, Far Rockaway, L. I. *Zoölogy* 1, *Botany* 2.
- JULIET FORSYTH ROBBINS, A.B. (Vassar College), Teacher, Detroit Home and Day School, Detroit, Mich. *Zoölogy* 1, *Botany* 2.
- STEWART RALPH ROBERTS, A.B. (Emory College, Oxford, Ga.), M.D. (Atlanta University). Professor of Natural Science, Emory College. *Zoölogy* 1.
- ROBERT HARRY SCOTT, Student, Amherst College, Amherst, Mass. *Zoölogy* 1, *Zoölogy* 2.
- GEORGE BYRON SMITH, A.M. (Knox College), Principal, Iberia Academy, Iberia, Missouri. *Zoölogy* 3, *Botany* 1.
- MAUD JOHANNA STABER, B.S. (Columbia University), Teacher, 360 Clinton street, Brooklyn, N. Y. *Zoölogy* 1, *Botany* 2.
- JAMES PALM STOBBER, M.S. (Bucknell University), Teacher, Albright College, Myerstown, Pa. *Zoölogy* 3, *Botany* 1.
- LEROY DEY SWINGLE, Student, Lafayette College, Easton, Pa. *Botany* 1.
- GILBERT HAVEN TRAFTON, M.S. (Wesleyan University), Teacher, Randolph Center, Vt. *Zoölogy* 1, *Botany* 2.
- WILLIAM TRAXLER, Teacher, State Normal School, Bloomsburg, Pa. *Botany* 1.
- ELIZABETH SCOFIELD UNDERWOOD, A.B. (Smith College), Teacher, Long Meadow, Mass. *Zoölogy* 1, *Zoölogy* 2.
- CARL OSWALD VOEGELIN, A.B. (Cornell University), Teacher, High School, Trenton, N. J. *Zoölogy* 1, *Zoölogy* 2.
- GEORGE CLAYTON WOOD, A.B. (Syracuse University), Teacher, 18 Grace Church place, Port Richmond, Staten Island, N. Y. *Zoölogy* 1, *Botany* 2.
- HELEN BEDORTHA WRIGHT, A.B. (Oberlin College), Teacher, 123 Forest street, Oberlin, Ohio. *Zoölogy* 1, *Botany* 2.

COURSES OF INSTRUCTION.

- I. ZOÖLOGY 1. "High School Zoölogy," under Dr. C. B. DAVENPORT and Mr. F. E. LUTZ.
- II. ZOÖLOGY 2. "Comparative Anatomy," under Dr. H. S. Pratt.
- III. ZOÖLOGY 3. "Embryology," under Dr. C. P. SIGERFOOS.
- IV. ZOÖLOGY 4. "Animal Bionomics and Variation," under Dr. C. B. DAVENPORT.
- V. BOTANY 1. "Cryptogamic Botany," under Dr. D. S. JOHNSON and Mr. J. H. FAULL.
- VI. BOTANY 2. "Ecology," under Dr. H. N. WHITFORD.
- VII. BOTANY 3. Seminar in "Ecology," under Dr. H. N. WHITFORD.
- VIII. BOTANY 4. "Bacteriology," under Dr. N. F. DAVIS.
- IX. "Microscopic Methods," under Mrs. GERTRUDE C. DAVENPORT.

BIOLOGICAL CLUB.

This Club is for the presentation of the results of researches and for reviewing of recent biological literature. Recently addresses have been given by the following visiting naturalists:

Professor M. A. BIGELOW, Teachers College, New York; Prof. C. L. BRISTOL, New York University; Prof. R. E. CALL, Children's Museum, Brooklyn Institute; Prof. H. W. CONN, Wesleyan University; Prof. A. DAVISON, Lafayette College; Prof. BASHFORD DEAN, Columbia University; Prof. R. E. DODGE, Columbia University; Dr. GEORG DUNCKER, Hamburg; JAMES H. EMERTON, Boston; Dr. H. H. FIELD, Concilium Bibliographicum, Zurich; Prof. J. S. KINGSLEY, Tufts College; Prof. F. E. LLOYD, Teachers College; Prof. GRAHAM LUSK, New York University Medical School; Dr. D. T. MACDOUGAL, New York Botanic Garden; Dr. A. G. MAYER, Museum, Brooklyn Institute; Prof.

JAMES G. NEEDHAM, Lake Forest University; Prof. G. H. PARKER, Harvard University; Prof. JACOB REIGHARD, University of Michigan; Prof. EDWARD L. THORNDIKE, Columbia University; Mr. GEORGE C. WHIPPLE, Brooklyn; and others.

PUBLICATIONS.

The following publications, based in whole or in part on work done or material collected at Cold Spring Harbor, have been published since the last report:

1. H. S. PRATT.—A Contribution to the Life History, and Anatomy of the Appendiculate Distomes. *Zoöl. Jahrbücher. Abth. für Anatomie.* XI Bd. 40 pp. 3 tafeln 1898. [Apoblema appendiculatum from Cold Spring Harbor.]

2. C. B. DAVENPORT.—The Fauna and Flora about Cold Spring Harbor. *Science, N. S., Vol. VIII,* pp. 685-689. Nov., 1898.

3. S. E. JELLIFFE.—The Flora of Long Island, 1899. [Containing determinations made by Dr. D. S. Johnson and others at Cold Spring Harbor.]

4. F. N. BALCH.—List of Marine Mollusca of Cold Spring Harbor, Long Island, with descriptions of one new genus and two new species of nudibranchs. *Proceedings Boston Soc. Nat. Hist., Vol. 29,* pp. 133-162, 1 plate. Oct., 1899.

5. C. P. SIGERFOOS.—A New Hydroid from Long Island Sound. [Stylactis hooperi.] *American Naturalist, Vol. 33,* No. 394, pp. 801-807, with 5 figures. Oct., 1899.

6. GEORG DUNCKER. Variation Statistics in Zoölogy. *Natural Science.* Nov., 1899. [Contains countings of teeth on rostrum of prawns from C. S. H.]

7. GEORG DUNCKER.—On variation of the Rostrum in *Palaemonetes Vulgaris* Herbst. *American Naturalist, Vol. 34,* pp. 621-633, with 27 figures. Aug., 1900.

8. C. B. DAVENPORT.—Investigations at Cold Spring Harbor. *Science, N. S., Vol. 12, No. 297,* pp. 371-373. Sept. 7, 1900. [Contains preliminary announcements by D. S. John-

son, H. C. Cowles, H. S. Pratt, C. P. Sigerfoos, W. L. Tower, F. E. Lutz, M. E. Smallwood, and C. B. Davenport.]

9. C. B. DAVENPORT.—On the Variation of the Shell of *Pecten Irradians* Lamarck from Long Island. *American Naturalist*, Vol. 34, pp. 863-877. Nov., 1900.

10. MARY HEFFERAN.—On Variation of the Jaws of *Nereis Limbata*. *Biological Bulletin*. Dec., 1900. [Nereis from Cold Spring Harbor.]

11. F. B. SUMNER.—Kupffer's Vesicle and its Relation to Gastrulation and Concrescence. *Memoirs New York Academy of Science*. Vol. 2, pp. 47-84, 1900.

12. C. B. DAVENPORT.—The Statistical Study of Evolution. *Popular Science Monthly*. Sept., 1901.

13. C. B. DAVENPORT.—Zoölogy of the Twentieth Century. *Science*. Aug. 30, 1901.

14. CHAS. P. SIGERFOOS.—Tow-net collecting at Cold Spring Harbor, Long Island. *Science*, XI, 247. Feb., 1900.

15. GERTRUDE C. DAVENPORT.—Variation in the Sea Anemone, *Sagartia Lucifera*. *Science*, XI, 253. Feb., 1900.

16. C. B. and GERTRUDE C. DAVENPORT.—Introduction to Zoölogy. New York: The Macmillan Company. 1900.

17. H. M. KELLY.—The Place Mode of *Daphnia pulex*, for Cold Spring Harbor, Long Island. *Science*, XIII, 375: March, 1901.

18. GERTRUDE C. DAVENPORT.—Variation in the Madreporic Body and Stone Canal of *Asterias vulgaris*. *Science*, XIII, 374. March, 1901.

19. W. J. MOENKHAUS.—Early Development in certain Hybrid Fishes. *Science*, XIII, 374. March, 1901.

20. W. L. TOWER.—The Effect of some Climatic Factors upon the Color and Color-Patterns of Insects. *Science*, XIII, 372. March, 1901.

21. EDWIN B. COPELAND.—Cryptogamic and Physiological Botany at Cold Spring Harbor in 1901. *Torreyia*, Vol. I, No. II. Nov., 1901.

22. NORTH SHORE IMPROVEMENT ASSOCIATION.—Reports on Plans for the Extermination of Mosquitoes at the North Shore of Long Island between Hempstead Harbor and Cold Spring Harbor. New York. Jan., 1902.

23. GEORGE G. SCOTT.—Notes on the Marine Food Fishes of Long Island and a Biologic Reconnaissance of Cold Spring Harbor. Fifty-fourth Report of the New York State Museum, 1900. Albany, July, 1902.

24. NORTH SHORE IMPROVEMENT ASSOCIATION.—Report of the Association's experts, Frank E. Lutz and William W. Chambers, upon the work of mosquito extermination during the summer of 1902. New York, Oct., 1902.

25.—ABIGAIL CAMP DIMON.—Quantitative Study of the Effect of Environment upon the forms of *Nassa obsoleta* and *Nassa trivittata* from Cold Spring Harbor, Long Island. *Biometrika*, Vol. II, Pt. I, pp. 24-43. Nov., 1902.

26.—C. B. DAVENPORT.—The Animal Ecology of the Cold Spring Sand Spit. Decennial Publications of the University of Chicago. Vol. X, pp. 157-176. Jan., 1903.

27. MABEL E. SMALLWOOD.—The Beach Flea. Cold Spring Harbor Monographs, I, with three plates and three text-figures. 27 pp. May, 1903.

28. C. B. DAVENPORT.—The Collembola of Cold Spring Beach. Cold Spring Harbor Monographs, II. July, 1903.

29. STEPHEN R. WILLIAMS.—Variation in *Lithobius forficatus*. *American Naturalist*, Vol. XXXVII, pp. 299-312.

30. W. L. TOWER.—On the Development of Color and Color-Pattern in Coleoptera, with observations on the Development of Color in other Orders of Insects. Decennial Publications of the University of Chicago, Vol. X. June, 1903.

EQUIPMENT.

The equipment of the Laboratory has been increased by the completed installation of fresh and salt water in the research laboratory given by Mrs. O. L. JONES. Through the

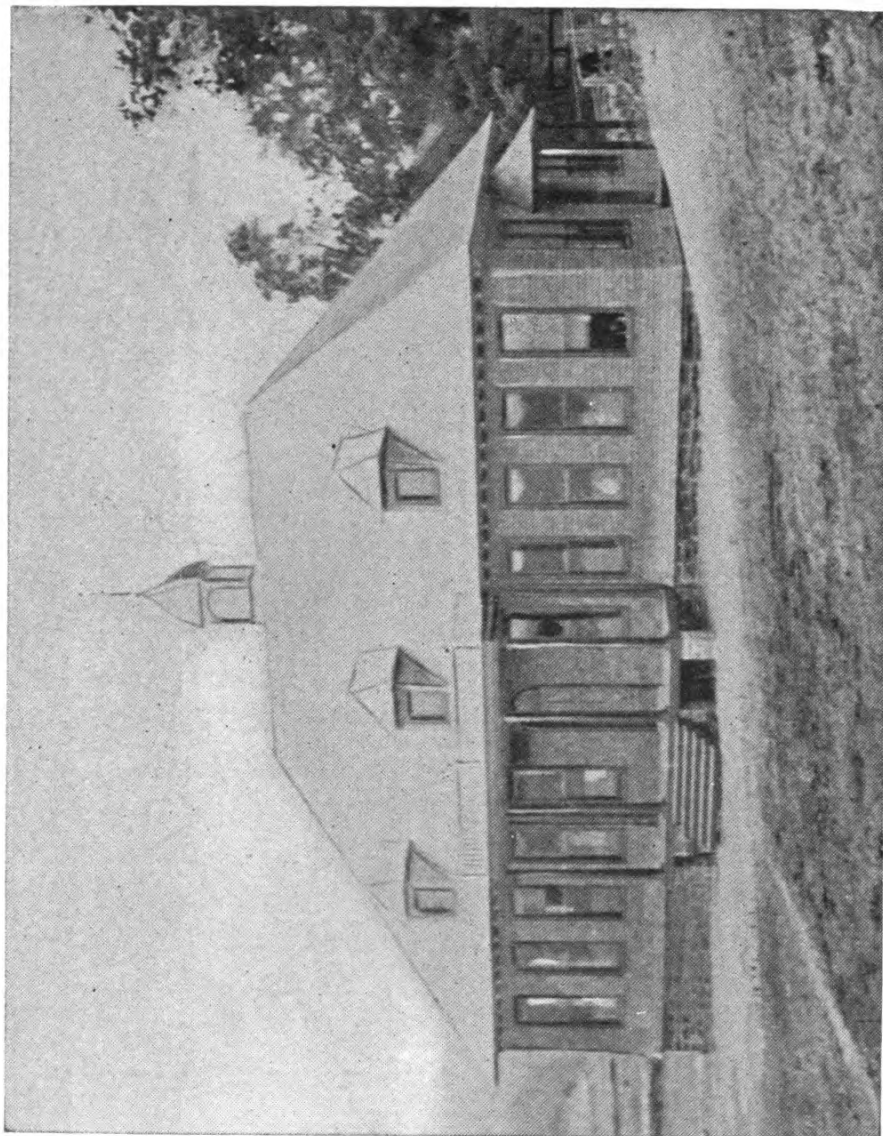
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THE JOHN D. JONES LABORATORY BUILDING, COLD SPRING HARBOR, 72 x 36 FEET.