PROCEEDINGS

tory.

PRINTED FOR THE SOCIETY

BY DUTTON AND WENTWORTH.

1844.

CORRECTIONS.

Page	8,	1st	line	from	top,	for 1843	read 1841.
"	9,	13th	"	"	"	" subcarbonate	" subacetate.
"	"	21st	"	"	"	" carbonate	" coal.
"	11,	9th	"	"	bottom,	" height	" length.
"	14,	4th	"	"	top,	" Hudsonianus	" Hudsonius.
"	17,	19th	"	"	"	" varieties	" species.
"	28,	6th	"	"	"	" elodulus	" clodalus.
"	29,	14th	"	"	bottom,	" Bark	" Vark.
"	30,	16th	"	"	top,	" Society	" Secretary.
"	40,	10th	"	"	bottom,	" Coracius	" Coracias.
"	45,	10th	"	"	"	" variety Phrynosoma	" variety of Ph.
"	58,	7th	"	"	"	" Merluccius	" Merlucius.
"	"	17th	"	"	"	" Scolopoides	" Scolopsis.
"	"	24th	"	"	"	" diaphanus	" diaphanes
"	59,	7th	"	"	top,	" Prof. F. Hall	" D. A. Hall, Esq
"	60,	14th	"	"	bottom,	" Moretis	" Mantis.
"	62,	14th	"	"	"	" proventriculum	" proventriculus.
"	64,	5th	"	"	top,	" Bucca	" Bucco.
"	"	9th	"	"	"	" marilla	" marila.
"	"	"	"	"	"	" melodea	" melodia
"	86,	12th	"	"	bottom,	" *armatus*	" *auratus.*
"	88,	11th	"	"	top,	" from the salts	" from the alumi na, the salts.
"	89,	2d	"	"	"	" Fitzanger	" Fitzinger.
"	90,	10th	"	"	bottom,	" 3,9000	" 3,900.
"	92,	14th	"	"	top,	" 100	" 118.
"	93,	2d	"	"	bottom,	" achæna	" achænia.
"	94,	5th	"	"	"	" Parluta	" Partula.
"	95,	16th	"	"	top,	" aricari	" aracari.
"	104,	9th	"	"	bottom,	" Cervus,	" Corvus.

PROCEEDINGS

OF THE

Boston Society of Natural History.

VOL. I.

1841 TO 1844.

BOSTON:
PRINTED FOR THE SOCIETY
BY DUTTON AND WENTWORTH.

1844.

PROCEEDINGS

OF THE

BOSTON SOCIETY OF NATURAL HISTORY.

TAKEN FROM THE SOCIETY'S RECORDS.

Regular Meeting, January 6, 1841.

Dr. Gay in the Chair.

Dr. Storer read extracts of a letter from Dr. Kirtland of Ohio, making corrections of his paper published in our last number, and promising to forward to us descriptions of the following new species, the result of his late labors:

Luxilus erythrogaster,	Semotilus diplema,
Luxilus Kentuckiensis,	" dubius,
Leuciscus chrysoleucas,	Rutilus compressus,
Salmo fontinalis,	" plagurus,
Semotilus dorsalis,	Acipenser platyrynchus.

Voted, That an invitation be given to the members of the Executive department and Legislature of the State to visit the Society's room, and inspect the collections, particularly the collection of minerals and fossils belonging to the Commonwealth there deposited.

Some conversation arose on the desirableness of better accommodations for our minerals. Most of them are in drawers out of sight; and those of the State Collection are not readily accessible for examination. The subject was referred to the Curators, to report at the next meeting.

DONATIONS TO THE LIBRARY.

Essay on the Culture and Commerce of Tobacco. By Wm. Tatham. 8vo. Lond. 1800. *From Dr. H. Storer.*

First Report of the Liverpool Nat. Hist. Society. 8vo. pam. Liverpool. 1836. *From Francis Alger.*

Catalogue of Plants found in the vicinity of Milwaukie, Wisconsin. By J. A. Lapham. 18mo. pam. 1838. *From the Author.*

Proceedings of the Geological Society of London. 8vo. 3. vols. 1834—40. *From the Society.*

Manual; or, Easy Method of Managing Bees. By John M. Weeks. 18mo. Bost. 1840. *From Henry Colman.*

T. BULFINCH, *Rec. Sec. pro tem.*

January 20, 1841.

G. B. Emerson, President, in the Chair.

The President exhibited the seed vessel of the *Nelumbium luteum*, from the Missouri river.

The N. luteum belongs to the natural order Nymphæaceæ of Decandolle, (Nelumbiaceæ of Lindley, and of Torrey and Gray,) of which the number of species is small. N. luteum is mentioned by Pursh as occurring in ponds in the neighborhood of Philadelphia, where, from its isolated situation, he supposed it must have been carried by the Indians. It is also mentioned by Professor Hitchcock as occurring in Haddam, Ct. The seed vessel is of a conical shape, the disk being perforated by about twenty orifices opening into as many cells, each containing a single seed resembling an acorn in its shape. The flower of the N. luteum is described by Mr. Nuttall as the largest of American flowers, that of the Magnolia excepted.

Dr. Eddy stated that, from descriptions given him by others, he was induced to believe that this plant existed in Smithfield, R. I.

The Secretary, Dr. Wyman, made a verbal report on the cranium of a Seal, referred to him at a previous meeting.

This proved to be a rare specimen, the *Stenorhincus leptonix* of Frederick Cuvier. It is characterized by the presence of four incisors in each jaw, all the molars being deeply trifid. The cranium of this species is figured by Sir E. Home in his Comparative Anat-

omy, and in the Philosophical Transactions for 1822. But little is known of the habits of the animal, it being exceedingly rare, and an inhabitant of the Southern Pacific Ocean.

The Secretary presented to the Cabinet of the Society the following anatomical preparations, viz:

Skeleton of the Emysaurus serpentina, Lin.
" " " Raia batis, Lin. common skate.
" " " Boa.
Cranium of the Crotalus durissus, Kalm, rattlesnake.
Cranium of an eagle, the outer table of the skull being removed to show the existence of air cells communicating with the cavity of the tympanum.
Cranium of a Panther, showing the bones of the ear, *in situ*, and the cavity of the tympanum.

He also added, that the Society had, since the last meeting, received from D. T. McCauley, Esq., U. S. Consul at Tripoli, three living specimens of the four-horned variety of sheep, and one specimen of the Fezzan variety. The former, in addition to the four horns, were characterized by broad tails, which sometimes acquire a weight of 10 to 15 lbs. They are covered with a long, coarse wool, which is of but little value. The Fezzan variety is covered entirely with a coarse hair, forming a mane on the shoulders, and also acquiring a length of several inches on the dewlap. This variety is of no value as an article of food. The President of the Society was authorized to make such disposition of them as he deemed expedient.

Mr. Teschemacher exhibited the following specimens of minerals, lately received from Dr. Monticelli, of Naples, some of which were probably new to the members of this Society—all from Vesuvian localities:

Thomsonite, Gismondine, which is considered by Brooke, (Annals of Philos. 1837,) as synonymous with Phillipsite and Aricite; Christianite crystallized, according to the Berlin mineralogists identical with Fosterite; Humite; Biotine in brilliant white crystals; Monticellite undescribed; Hauyne in dodecahedral crystals; and chloride of copper.

Mr. Teschemacher had also received from Dr. Monticelli specimens of sulphuret of lead and zinc in Vesuvian lava; their occurrence in this situation was singular, particularly the latter, which would volatilize in a heat probably less than that of melted lava.

In order to secure a more full attendance of the members of the Society, to ensure a greater number of communications on the different departments of Natural History, and more effectually to promote the objects of the Society, it was proposed by the President to divide the members into committees on the following subjects, viz: Botany, Ichthyology and Herpetology, Conchology, Ornithology, Geology, Mineralogy, Entomology, Zoology, Books and the Library; the different committees in turn to be responsible for reports and communications at each meeting.

The proposition was unanimously adopted; and the following gentlemen were elected to fill the different committees:

1. Botany.—Messrs. Teschemacher, Eddy, Tuckerman, J. H. Abbot, Gould, T. A. Greene.
2. Ichthyology and Herpetology.—Drs. Storer, S. L. Abbot, J. B. S. Jackson, Wyman, Bigelow.
3. Conchology.—Gould, Binney, E. S. Dixwell.
4. Ornithology.—Abbot, Brewer, Bryant, Wyman.
5. Geology.—C. T. Jackson, Bulfinch, Williams, Alger, Bouvé.
6. Mineralogy.—Gay, Bouvé, Channing, Hayes, Bacon.
7. Entomology.—Harris, Bowditch, Randall, Gould.
8. Comparative Anatomy.—J. B. S. Jackson, Wyman, Shurtleff, Bigelow.
9. Zoology.—Wyman, Bigelow.
10. Books and the Library.—Dillaway, Sherwin, Robinson.

Dr. Storer stated that Dr. C. T. Jackson, in reference to the subject introduced at the last meeting, had signified his intention of removing his collection of mineralogical and geological specimens.

The President remarked that it was desirable that the Geology and Mineralogy of our own State should be represented in preference to that of any other State or country.

He also believed that the mineralogical cabinet of the Society would be much more rapidly increased than heretofore, when it was known that a place had been appropriated for such specimens as should be presented to the Society. He had specimens in his own cabinet which he would deposit in the Society's collection whenever a suitable place should be assigned for their exhibition.

J. D. Whitney was elected a member.

Adjourned,

J. WYMAN, *Rec. Sec.*

February 3, 1841.

The President in the Chair.

Present, twelve members.

Dr. Binney laid on the table two beautiful specimens of *Cyprœa aurantia*, to be deposited in the Cabinet on behalf of a lady; also a number of land shells from Major Barton. The thanks of the Society were voted to the lady for this most valuable deposit.

The President read a letter from T. J. Whittemore, in which was an extract from a letter from J. G. Anthony, Esq. of Cincinnati, stating that the *Anculotus Kirtlandianus* of Anthony was identical with the *Melania Rogersii* of Conrad; also an extract from a letter of N. T. True, Esq. of Maine, in relation to the transferring of fish from one pond to another, and from salt water to fresh.

Mr. Teschemacher made a report on specimens of plants from Illyria, sent to him by Dr. Tommasini.

The geographical situation of Illyria is between 13° and 16° E. long. and 44° and 45° N. lat. The country is traversed by the Carinthian and Julian Alps, which are chiefly calcareous, and is watered by two or three rivers, which fall into the Adriatic Gulf by which its coast is washed. On the coast of Dalmatia are numerous islands, abounding in vegetation. The climate is mild and soft; the valleys rich in soil; but the mountains are dry and very

stony. The great obstacle to vegetation is the north wind, called the Bora, which is very drying, and destructive to vegetable life. In such a territory, the vegetation is of course various. The Alpine plants are of great variety ; some of them, as the Anemone alpina and Geranium argenteum, cannot exist when brought from the height of 5000 or 6000 feet above the level of the sea. Mr. T. exhibited dried specimens of the following species: Anemone stellata ; Pulsatilla montana, from an elevation of 6000 feet ; Helleborus agamenticus, the character of the seed vessels of which elucidates a section of Ranunculaceæ ; Peonia ferruginea ; Dentaria digitata, Lamk. There are said to exist four species of the Dentaria in the United States, the D. maxima, resembling the digitata, except that the former has ternate leaves, and the latter quinate. Iberis umbellata or candy tuft ; Acer opalus ; Spartium junceum ; Genista sericea ; Medicago marina ; Gladiolus myricus ; G. boncheanus ; Crocus variegatus ; Romulea columnæ ; Orchis apifera ; Orchis rubra and militaris ; the latter exceedingly interesting ; the manner in which the new bulb is produced on one side being exhibited in this instance, so that, as the old bulb dies, the position of the plant is necessarily changed at each reproduction, and it is found to move in a curve ; Orchis nigra and camphora ; Carpinus duinensis, much resembling our C. Americana ; Quercus suber or Cork oak ; Q. ilex ; Pedicularia Fred. Augusti ; Gentiana Pannonica and acaulis ; Aronia rotundifolia ; Erica carnea ; Satureja Illyrica ; Primula venusta and multiceps ; Statice cancellata.

Dr. Gould gave results of his investigations concerning the Testacea of Massachusetts.

The whole number now catalogued is 268, of which there belong to Cirripedes, 12 ; Conchifera, 97 ; Brachiopoda, 2 ; Gasteropoda, 154. Of these, 29 belong to the land, 42 to fresh water, and 197 are marine. Seventy of these have been discovered and described within the last five years. The Catalogue in Professor Hitchcock's Report of 1833 enumerates 126 species ; that of 1835 named 165 species, so that the number of shells at present known is more than double the number known eight years ago. Cape Cod is found to exercise a great influence upon the geographical distribution of species. Of the 197 marine species, 83 do not pass to the south of the Cape ; and 50 have been found only on the north

shore. At least 70 of our species are found also on the other side of the Atlantic.

Dr. Bacon made a verbal report on the 'Treatise on Bees by J. M. Weeks, referred to him at the last meeting.

This book gives a popular account of the natural history of the bees. The only new fact which the author has observed is, that a living queen bee is not essential to the operations of the hive. If a dead queen is fastened in the hive they continue to work as usual. If, however, this is removed from its proper situation, all work ceases.

The Secretary exhibited a cocoon which was somewhat remarkable.

It consisted of a silk cocoon externally enclosing a second, perfectly loose and unattached to the first, but of a more dense structure, the latter containing the pupa. Between the two were the exuviæ of the larva, the inner case seeming to have been formed after the exuviæ had been cast.

John H. Eastburn was elected a member.

Dr. Binney was elected Curator of the Crustacea and Radiata.

ADDITIONS TO THE LIBRARY.

Elements of Botany. By Benjamin S. Barton, M. D. 8vo. Philad. 1803. *From C. P. Curtis, Jr.*

Annals and Mag. of Nat. History. Dec. 1840. *Courtis Fund.*

Silliman's American Journal of Science, Vol. XL. No. 1. 8vo. *The Editors.*

Introduction à l'Etude de Botanique, par Alph. De Candolle. 8vo. 2. Paris, 1835. *From G. B. Emerson.*

Annual Report of the Superintendent and Inspector of Salt in Onondago County. 8vo. pam. 1841. *From J. P. B. Storer.*

Naturalist's Library, conducted by Sir Wm. Jardine, 12mo. Vol. I—VI. Mammalia; Vol. I. Icthyology; Vols. III. IV. V. Ornithology. *Courtis Fund.*

Description of Several New Electro-magnetic and Magneto-Electric Instruments and Experiments. By Jos Hale Abbot. 8vo. pam. 1840.

Attempt to determine the True Theory of the Pneumatic Paradox. 8vo. pam. By J. H. Abbot. *From the Author.*

Adjourned,

J. WYMAN, *Rec. Sec.*

February 17, 1843.

The President in the Chair.

Dr. Storer read a report on the Indian Cyprinidæ, being a notice of the Report on this family of fishes prepared and published in the Asiatic Researches by Geo. McClelland, Surgeon in the Bengal service. (See Silliman's Journal, XLI. 92.)

Mr. S. L. Abbot made a verbal report on the stuffed specimen of an Albatross belonging to the Cabinet.

There is some difficulty in identifying birds on account of the difference of plumage at different periods of life. Those species which are white when adult, are generally darker when young. The present specimen is probably the young of the *Diomedea exulans*. The Diomedeæ strongly resemble the gulls in their habits and external characters; the upper mandible strongly hooked at its extremity, the lower one truncated; the orifices of the nostrils terminating in a horny tube. They are in the habit of wandering to a great distance from the shore; sometimes met with at the distance of 600 or 700 leagues. The nest is constructed on the earth, principally of sedge, in which a single egg is deposited; and the male is said to provide food for the female during the period of incubation. At this time the female is said to be inoffensive, though ordinarily fierce and unmanageable. The Albatross is exceedingly voracious, and is in the habit of disgorging food for its young. It is said to perform long migrations from the southern to northern latitudes, appearing in Kamtschatka at the same time with the salmon.

Dr. Gay offered a verbal report on a notice of Liebig's Agricultural Chemistry, published in the January number of Silliman's Journal, 1841, in which he compared the condition of Agricultural Chemistry, as laid down in that work, and the progress it had made in this country.

Dr. C. T. Jackson stated that, since allusion had been

made to his labours in Agricultural Chemistry, he would state here some of the results at which he had arrived.

He had, in 1839 and 40, detected the presence of crenic and apocrenic acids in soils and peats ; and, since then, other substances of an important character. In the Report on the Geology and Agriculture of Rhode Island, he announced the discovery of an undescribed substance, which he had, during the past winter, examined more thoroughly. It was obtained from a solution of organic matters in the soil, the crenic and apocrenic acids having been previously separated ; the copper of the solution was precipitated by sulph. hydrogen, and from the remainder an extractive-like mass was obtained, soluble in distilled water, which yielded an ash grey precipitate on addition of sub-carbonate of lead, which consisted of 15 parts of an oxide of lead, and 6 parts of a new substance. While examining this substance, he received the information that the same substance had been discovered by Berzelius, and denominated by him Humic acid, the same tests having been used as in the present analysis.

The following substances were now known to exist in all fertile soils ; apocrenic acid, crenic acid, humic acid, Humin, extract of Humus, and carbonate of Humus. To these Dr. J. thought Glairin might be added, as he had discovered it in three fertile soils. Thus we have the bodies formerly known as ulmic acid, Ulmin, Geine, and Apotheme resolved into seven distinct substances.

Dr. J. stated that he had noticed the fact that glasses in which Hyacinth bulbs had been grown, were corroded. He had also noticed the same effects on bottle glass, which had lain in garden mould. He supposed that the plants had the power of decomposing glass as well as the felspar of granite, and of appropriating to their use the potash contained in it, and that this was the source of the potash contained in the ashes of plants.

Dr. J. thinks that Liebig's work contains many interesting observations, and some important errors. With regard to the existence of ammonia in the rain, he thought it was to be regretted that Liebig had not experimented on water taken from the interior of a mountainous country, where it would have been less liable to derive this substance from the combustion of coal and other substances. Carbonate of ammonia has long been distinguished for

its fertilizing powers, but it is too expensive for general use. The best method at present known for generating it is by skilful composting of manures, the different steps of which are detailed in the Report on the Geology and Agriculture of Rhode Island.

Dr. J. stated that Guano, a remarkable manure, found on the islands near the coast of Peru, had been found by Mr. M. B. Williams to contain the usual amount of organic matters found in fertile soils.

A correspondent of the Journal of Commerce, under date of Valparaiso (South America) April 2, 1842, thus speaks of this article, known as *bird lime.*

The Chincha Islands, from which the present exportations are made, bid fair to become more valuable than all the gold and silver mines on the coast, combined. They are said to be inexhaustible. That is doubtful, however, as the Huano is evidently the deposite of the numerous water-fowl of the coast, which has been probably accumulating ever since the flood, as there are no rains, or none sufficient to wash it away, on the coast of Peru. A French gentleman obtained the exclusive privilege of exporting the article about the time I came to the coast, on the payment to the Peruvian Government of $80,000. He introduced it into England as an experiment—and was so successful as to have cleared, it is said, within a few months, about $1,000,000. The Government then interposed, and withdrew from the contract, and entered into a new one with a company of merchants, by which it secured to itself one-third of the profits, after the deduction therefrom of all expenses. I understand that it brings, in England, about $120 per ton. It is embarked on board the ships with as much facility, and with as little expense, as if it were sand from the most convenient banks. Specimens of the Huano have recently been forwarded to the United States.

Dr. Bacon made a report on the descriptions of new Electro-magnetic apparatus referred to him at the last meeting, and exhibited some of the experiments which are usually performed with it.

Mr. Bulfinch offered a report on some of the characteristic fossils of the valley of the Ohio, presented to the Society by Dr. Jarvis of Louisville, consisting of Madrepores, Favosites, Turbinolia, Cyathophylla, &c. Report on file.

Rev. Dr. Greenwood made a verbal report on the Catalogue

of the Leverian Museum, a book which is interesting in showing the past condition of science. He also made a donation of the following volumes to the Library:

Philosophical Account of the Works of Nature, by Richard Bradley, 4to, Lond. 1721.

Historia Animalium et Mineralium Novæ Hispaniæ; auctore Francisco Fernandez, 4to.

Natural History of Animals, and Descriptions of Creatures dissected in Paris, 4to, Lond. 1702.

Mr. T. A. Greene made a verbal report on a work giving an account of the cultivation, preparation, and vending of Tobacco, referred to him at a previous meeting.

It was stated that the room over the Franklin Library was now vacant, and might be had for the use of the department of Comparative Anatomy.

Drs. Wyman, Jackson and Storer were appointed a committee to ascertain on what terms this could be had.

J. I. Bowditch was elected a member.

Adjourned,

J. WYMAN, *Rec. Sec.*

March 3, 1841.

Mr. SHERWIN in the Chair.

Nineteen members present.

Mr. Whittemore made a written report on the Third Report of the Agricultural Commissioner, on Wheat and Silk. Report on file.

Mr. Teschemacher exhibited specimens of Ferns from Taheite, the *fronds* of some of which acquire a height of 30 feet. Many of them were probably undescribed species; scarcely any were figured in the works of Jackson and Greville.

Mr. T. A Greene made a verbal report on a number of the Annals and Magazine of Natural History referred to him at a previous meeting.

The Secretary, Chairman of the Committee on Zoology, made a verbal report on the following animals, stuffed skins

of which were in the Society's collection, viz: Mangusta Ichneumon, M. tetradactyla, and Sciurus petaurista.

Mr. Sherwin made a verbal report on the pamphlet entitled "An Attempt to determine by experimental research the true theory of the Pneumatic Paradox, by Jos. H. Abbot." He exhibited the different experiments by which the explanation offered by Mr. Abbot was supported.

The Secretary laid before the Society a communication for the Society's Journal by the Rev. J. H. Linsley of Connecticut, on Tornados, Waterspouts, &c.

A communication was read from Mr. Alger, laying before the Society a proposition of Mr. Archer of Liverpool to send the Society casts of the Cheirotherium footprints, desiring in exchange casts and drawings of the Ornithicnites giganteus.

Voted, to send casts of O. giganteus to Mr. Archer at the expense of the Society.

Dr. Storer read a letter from Spencer F. Bird of Cumberland County, Pennsylvania, offering to make exchanges with members of the Society. He also read extracts from a letter from J. P. Couthouy, dated Hawaii, giving an account of the Volcano at that island.

A Discourse on the objects of the National Institution for the promotion of Science at Washington, by J. R. Poinsett, was presented to the Library by Hon. R. C. Winthrop.

Adjourned,

J. WYMAN, *Rec. Sec.*

March 17.

The President in the Chair.

Eighteen members present.

The following Donations were laid on the table:

An Address on the Study of Natural History, by J. G. Morris.

Four volumes of the Naturalist's Library, viz: Mammalia, Vols. III and IV; Ornithology, Vol. V; Ichthyology, Vol. I. Referred to the Committees on their respective subjects.

Monograph of the Limniades, by S. S. Haldeman, No. 2, from the author.

A Crab from Mr. John Warren.

Specimens of Lava from Hawaii from Mr. Emerson of Auburn.

A specimen of the Paspalum Carolinianum, supposed to be a new species, from W. A. Curtis, Esq., of Carolina.

An Echinus from Chalk presented by Mr. J. P. Preston.

A letter was read from J. Amos, accompanying which were two specimens of stuffed birds, viz: a Bird of Paradise and an Indian Jay, donations to the Cabinet from Hon. A. Amos, member of Supreme Council of Bengal.

Voted, that the thanks of the Society be presented to the Hon. A. Amos for his acceptable donation.

Mr. Tuckerman from the Committee on Botany, read a paper entitled "Further notices of some New England Lichenes." Placed on file for the use of the Publishing Committee, and afterwards published in the Journal. The two following, described in that paper, are considered as new:

PARME'LIA *Halseyàna*: thallo substellato pallide flavo-virescente nigro-punctato, subtus albo fuscescente fibrilloso, laciniis angustis imbricatis ad centrum rugosis concretis; scutellis badiis margine integro. Mountain rocks.—Notch of the White Mountains, abundant.

CETRA'RIA *Oakesiàna*: thallo subcoriaceo expanso glabro viridi-flavescente, subtus pallide castaneo, laciniis planis adscendentibus marginibus elevatis nigro-ciliatis demum pulverulentis; peltis rufo-fuscis margine integro.—On trees; mountain woods. White Mountains.

Rev. J. L. Russell of Chelmsford read a paper entitled "An Attempt to ascertain some of the Hepatic Mosses of Massachusetts." Placed on file for the use of the Publishing Committee, and afterwards published in the Journal.

The President exhibited dried specimens of the following marine plants found on our coasts, viz: Fucus vesiculosus; F. nodosus; Alaria esculenta; Agarum cribrosum; Laminaria digitata; Desmarestia aculeata; Dichloria viridis; Chorda filum; Asperococcus echinatus; Punctaria latifolia; Delesseria sinuosa; Rhodomenia cristata; Chondrus crispus; Pti-

lota plumosa; Porphyra, several species; Ulva latissima and other species.

Mr. H. J. Bigelow made a verbal report on the stuffed skins of the following animals; Sciurus Hudsonianus, Hudson's Bay squirrel, or common red squirrel; Sciurus volucella, flying squirrel; Condylura cristata, star-nosed mole; and the Cougar.

He also exhibited specimens of Menopoma and Menobranchus; the Menobranchus is one of the true Amphibia, with persistent branchiæ, in this respect resembling the Siren, Proteus and Axolotl. The Menopoma has no external branchiæ, but a branchial orifice behind the angles of the jaws.

Mr. T. A. Greene presented for the Cabinet two specimens of Janthina fragilis, found at Nantucket.

The President made a verbal report on the Proceedings of the Geological Society of London, containing papers and addresses read between the years 1826 and 1833.

Mr. Robinson made a verbal report on the addresses of the same society delivered between the years 1838 and 1840.

Dr. Gould read a letter from Frederick Stoud Stallknecht, dated at Paris, in relation to procuring exchanges of the Society's Journal with the different Natural History Societies in London and Paris.

W. J. Loring, Esq., was elected a member.

The Secretary and Cabinet keeper gave notice of their resignation of their respective offices.

Drs. Gould, Storer and Wyman were appointed a Committee to take into consideration the subject of nominating candidates to fill the vacancies.

The thanks of the Society were voted to the Secretary for the services done the Society in the performance of the duties of his office.

Adjourned,

J. WYMAN, *Rec. Sec.*

April 7, 1841.

Dr. Gould in the Chair.

Ten members present.

Mr. Bulfinch was elected Secretary pro tempore.

Mr. Teschemacher read a paper "On the Occurrence of Phosphate of Uranium in the Tourmaline locality of Chesterfield."

In examining specimens of the green and red Tourmaline, Mr. T. observed a few minute yellow crystalline plates of a cubic form. Possessing, himself, but few facilities for chemical analysis, he sent the specimens to Mr. A. A. Hayes of Roxbury, with a suggestion that the external characters agreed entirely with those of the salts of Uranium. Mr. H. confirms this suggestion, and describes the mineral "to contain phosphoric acid and Oxide of Uranium as essential constituents only." The quantity found was small. There were, however, two or three well defined cubic crystals, from two to three lines in diameter, varying in color from straw yellow to light green. Some exist in the red centre of the Tourmaline, and are exposed on splitting the crystals; others are on the Quartz, and on the Albite forming the mass.

Mr. E. S. Dixwell communicated a letter from Mr. J. I. Bowditch, containing notices of a paper on Hurricanes from Mr. Linsley of Connecticut, offered for insertion in our Journal.

Mr. Linsley supposes the cause of Hurricanes to be within the earth, connected with the phenomena of Earthquakes. Earthquakes and Volcanoes have, in several instances, been coincident in point of time, or nearly so, with Hurricanes. But facts in sufficient number have not yet been recorded to justify any conclusion, and Mr. Bowditch recommends that the paper be returned to the author, with every mark of respect, acknowledging that his views are new, and the subject one of great interest. On motion of Dr. Wyman, it was voted, that the paper be returned accordingly.

Dr. Gould read a paper on Ellis's work on Corallines.

It is little more than a century since the Zoophytes were considered the undoubted subjects of the vegetable kingdom. The only dissenters from this opinion were the mineralogists, some of whom held that they were composed of the calcareous sediments of the ocean, moulded into form by crystallization. Ferrante Imperato, an apothecary of Florence in 1600, has the honor of first announcing the theory that Corals and Madrepores are of animal origin. The idea excited so little attention that when Peysonnel, in France, 127 years after, arrived at the same conclusion, it was with him an original discovery, and received as not entitled to credit. Himself and his discoveries were forgotten and neglected, till Abraham Trembley in 1741 demonstrated the reproductive powers of polypes found in fresh water. Jussieu and Reaumur pursued the investigation, and declared their belief in the animal theory. The theory was not, however, generally admitted till John Ellis published his work in 1752. Of this work, the highest opinion is pronounced by competent critics, as one nearly complete in itself and of great accuracy. His proofs are drawn from the actual existence of the polypes, their union with their solid residences, the animal odor yielded on burning them, and their mode of reproduction. His inference that sponges and corallines (Corallina) are also of animal origin is not fully confirmed by late observations. Paper on file.

Mr. S. L. Abbot made a report on specimens of birds presented to the Society by the Hon. Mr. Amos of Bengal.

Of the one, he remarks, it is not an Indian Jay, as Mr. Amos styles it, but a Bee-eater or Merops. Its specific name he had not ascertained, not having found it described by Buffon, Cuvier or Latham. This genus of birds, Merops, is, with the exception of one species, confined to Asia, Africa, and the islands of tropical latitudes. They feed on wasps and bees, which they take on the wing. In this specimen the bill is curved from the base, and is $1\frac{1}{2}$ inches long to the feathers at base. Superior mandible dark-colored and grooved nearly throughout its whole extent. Inferior yellow, darker at tip, with a stripe of dark along the centre from base one half its length. Nostrils oval, pervious, partly covered by feathers at base of bill. General color of plumage above, olive

green; head, neck, and outer vanes of quill feathers the same; *outer* vanes of quill feathers inclining to brown, inner edge of these vanes brownish yellow.

The other specimen was of the Greater Paradise bird, *Paradisea apoda* of Linneus. Introduced into Europe by Ant. Pigafetta. It is a native of New Guinea. Furnished by nature with powerful claws, which are removed by the natives in preparing the birds for sale. Hence arose the story from which the specific name is derived, that they were by nature destitute of feet. On which opinion are founded the further fables that they live and breed on the wing, feed on dew and the odor of flowers, have no digestive apparatus, &c.

Mr. Abbot also made a report from the Committee on Ornithology, on the condition of that department.

The birds in cases and those in drawers were carefully examined, and their condition found to be good. No injury from insects or dampness was detected. A different arrangement is desirable, and is contemplated as soon as more room can be obtained for that purpose. The cabinet contains specimens of 70 varieties of American birds.

The Chair announced the following donations to the Library:

Transactions American Philosophical Society of Philadelphia, from the *Society.*

Silliman's Journal, Vol XL. No. 2, from the *Editors.*

Annals and Magazine of Natural History. No. 41. Lond. 1841. *Courtis Fund.*

Constitution and By-laws of National Institution for promotion of Science, Washington.

Mr. Poinsett's Discourse pronounced before that Institution.

Directions for making collections in Natural History, by H. King. 8vo. 1841; from the *Institution.*

Naturalist's Library, 12mo. 8. Lond. 1833–6. *Audubon Fund.*

Reports of the Meetings of the Brit. Association for the Advancement of Science, 8vo. 4. Lond. 1825–36. *From the Sons of Nathaniel Bowditch.*

Stuffed specimens of Corvus Americanus and Emberiza nivalis, prepared and presented by Mr. Bryant.

Ant Eater from South America, by S. Abbot Lawrence.

The following gentlemen were unanimously elected corresponding members of the Society:

Edward Doubleday, Esq., of Epping, England.
Francis Archer, Esq., President of Geological Society, Liverpool.

Mr. Richard Soule, Jr. was elected a member.

Adjourned,

T. B. *Sec. pro tem.*

April 21, 1841.

The President in the Chair.

Eleven members present.

Dr. Gay made some remarks on a paper in the last number of Silliman's Journal "On detecting arsenic in the animal body," by Dr. J. Lawrence Smith.

He indicated an imperfection in the statement of the experiments of Orfila for the detection of arsenic in the peroxide of iron, in its not being stated, with sufficient clearness, whether the processes pursued would discover arsenic if any existed. The reader may infer this; but it should have been distinctly stated. The hydrated oxide of iron, which is usually employed as an antidote to arsenic, does sometimes contain a small portion of arsenic. This the writer states is not hurtful, "being slowly absorbed and eliminated by the urine." Dr. Gay expressed his doubts whether this process would take place. It requires strong evidence, which it is not stated has been obtained. The writer says: "little difficulty will be found in procuring zinc of the necessary purity to be used in Marsh's apparatus." Dr. Gay remarks on this, that it is both highly important and extremely difficult to procure zinc and other materials for rëagents which are themselves entirely free from arsenic. In zinc, for instance, arsenic may be contained in atoms in certain parts of the mass, while other parts may be wholly free from it. Therefore testing one portion will not give grounds for a certain inference with regard to another portion. Dr. G. spoke of Marsh's apparatus as ingenious, but liable to certain objections,

which this writer has examined and attempted to remove, but not with entire success.

Dr. J. B. S. Jackson reported on a specimen of the Ant Eater of South America.

There are three species of these animals; the great Ant Eater or Ant Bear. *Myrmecophaga jubata*, is as large as the largest greyhound. Of this species the Society possesses a cranium. The specimen before us is of the second size, M. *Tamandua*, as large as a good sized cat. The smallest species is of the size of a squirrel. Of this last we have a specimen preserved in spirits. This, as completing the series, is particularly valuable to us.

The Great Ant Bear lives on the ground, feeding exclusively on ants, which he captures by breaking open their hills, and drawing over the insects his long flexible tongue, to which they adhere. The species before us lives on the trees, for which its prehensile tail qualifies it. The food is wild honey and bees and insects. This species has four toes on the front and five on the hind feet. The toes of the front feet are bent inwards, as in the sloths, so that they walk on the sides of their feet. It is a true Edentate animal, having no teeth. The Sloth, also reckoned among Edentata, has back teeth.

Dr. J. also remarked upon a volume of the Naturalist's Library on Mammalia, committed to him. The work is a compilation, and appears to be well executed.

Mr. Bryant reported upon another volume of the same work, on Gallinaceous birds.

It is a compilation, but not only so, for some species are added to those previously described. The statement that the wild Turkey is extinct in the North Eastern parts of North America is not correct. One was shot in Springfield within three years. The weight of this bird is also overstated as being 80 lbs. Audubon states 36 lbs. to his knowledge; which is probably beyond the usual weight.——The two specimens of birds prepared and presented by Mr. Bryant on a former evening, were *Corvus Americanus*, resembling but not identical with *Corvus corone*, an European species; and *Emberiza nivalis*, the snow bunting. This last is found in immense flocks.

Dr. Storer exhibited a specimen of an undescribed species of Lota from Lake Winnipiseogee, which, from its resemblance to the Cusk, by which name it is commonly known by the fishermen, he has denominated *Lota Brosmiana.*

The Cusk is a sea fish. Dr. S. remarked that there are many points of resemblance between this fish and a species taken by Le Sueur in Lake Erie in 1816, and described by him under the name of Gadus maculosus. But the moment the figure in Le Sueur's description is examined, all doubts of their being distinct species are removed. Dr. S., after a minute description of the specimen, feels compelled to consider it a new species, and has designated it by the name above recorded.

Dr. C. T. Jackson having announced that at the late meeting in Philadelphia of the Association of State Geologists, it had been determined to hold the next meeting of that association in this city, in the month of April, 1842, it was *Voted*, "That this society invite the Association of State Geologists to make use of the Hall of this Society for the meetings of that Association contemplated to be held in this city in April 1842, and tender the use of the Cabinet and Library for the purposes of the Association."

A Committee to nominate Officers for the Society for the ensuing year was chosen, viz: Dr. Storer, Mr. Bulfinch, Dr. Eddy.

A Committee of arrangements for the Annual Meeting, Mr. S. L. Abbot, Jr., Mr. Bacon.

Adjourned,

T. B. *Rec. Sec. pro tem.*

May 19, 1841.

The Vice President, Dr. Binney, in the Chair.

Fourteen members present.

Mr. Bulfinch reported upon two specimens of *Janthina*

fragilis, the ocean snail, from the coast of Nantucket, presented by Mr. Greene.

The operculum of the animal is modified into a vesicular appendage, which serves to suspend it on the surface of the water. According to Dr. Coates of Philadelphia, who had an opportunity of studying the animal, while crossing the ocean, the float has no anatomical connexion with the animal. The membrane enclosing the cells is secreted by the foot, which the animal throws back upon the water, expanded to the utmost; then by contracting the edges it is formed into the shape of a hood, enclosing a globule of air, which is applied to the float. When the foot is withdrawn, the globule is found enclosed in its newly made envelope. Mr. B. quoted several interesting facts from authors concerning the habits and structure of this animal.

On motion of Dr. Storer, it was *Voted*, That the President of the Society be requested to make known to the Secretary of the Navy, the past history and present condition of this Society, to show what it has done for the advancement of natural science and national honor, and to point out its claims to national patronage; and respectfully to petition that a portion of all the specimens which may be received from the Exploring Expedition may be set apart for the cabinet of this Society; and that said petition be given to our distinguished associate, Hon. Robert C. Winthrop, for presentation, and that he be requested to use his influence to further the views of the Society in obtaining a part of said specimens.

On motion of Dr. Storer it was *Voted*, that the thanks of the Society be presented to Mr. John Warren for his gentlemanly conduct in throwing open his entire collection of shells for the examination of a special committee; and for the very liberal manner in which he offered and urged upon that committee the acceptance of all the species he possessed, not already belonging to the Society's cabinet, not even withholding those upon which he placed the greatest value.

DONATIONS TO THE LIBRARY.

Remarks relating to the New Brunswick Tornado, by W. C. Redfield. New York, 1841.

Report of the Geological Survey of the State of New York. 1841.

The Fifty-fourth Annual Report of the Regents of the University of New York. From *W. C. Redfield.*

Historia Naturalis de Serpentibus, Libri duo. Joannes Jonstonus. fol. Heilbronnæ, 1757. *Hon. Jno. Pickering.*

Monograph of the genus Sciurus, with descriptions of New Species existing in North America. By Rev. J. Bachman. 8vo. Lond. 1839. From the *Author.*

Natural System of Botany, by John Lindley. 8vo. Lond. 1836.

Botanical Miscellanies, 8vo. 3. Lond. 1830. From the *Audubon Fund.*

Votes of thanks were presented to Messrs. Redfield and Pickering for their donations of books.

Messrs. S. J. May, Chs. Stodder, J. B. Fenno, and Omen S. Keith were elected members of the Society.

Adjourned,

F. A. EDDY, *Rec. Sec.*

June 2, 1841.

The President in the Chair.

Seventeen members present.

Mr. Teschemacher exhibited specimens of an undescribed species of *Rafflesia* sent from Manilla by Padre Manuel Blanco, and promised the Society a paper upon it at the next meeting.

He also exhibited specimens of perfectly silicified wood from the same place. The vessels and structure of the wood were very distinct. In some parts the wood was opalized, and in others changed into volcanic glass.

Dr. C. T. Jackson, from the Committee on Geology, read a written report on specimens of lava presented to the Soci-

ety by the Secretary of American Board of Foreign Missions from the volcano Kilauea in Hawaii, the crater of which is said to be the largest in the world.

He quoted from writers who had visited the volcano some glowing accounts of its size, appearance, &c., and inquired of Mr. Couthouy if these observations were correct. Mr. Couthouy said that most of them were exaggerations, and promised the Society a paper on the subject.

Dr. Jackson stated that a writer in Silliman's Journal had said that vast quantities of native sulphur existed in the neighborhood of the volcano, and observed that since the discussion of the sulphur monopoly in Sicily it was an interesting question for commerce, if it were true. Mr. Couthouy replied that the sulphur merely existed as a thin covering on the rocks in the vicinity of the crater, and that there was not a ship-load of sulphur on the whole island.

Mr. Abbot reported on some specimens of Birds in the Cabinet. They were:

Alcedo bicolor.	Alcedo alcyon.
Alcedo Smyrnensis.	Charadrius Helveticus.
Alcedo rudis.	Tringa Islandica.
Alcedo Bengalensis.	

The two last species were not before in the Cabinet of the Society.

Dr. Gay reported on some minerals presented by Hon. R. C. Winthrop from Gov. Winthrop's collection, and proposed that a part of them should be retained, and the others which were not suitable for exchange, should be given away where they would be acceptable. On motion of Mr. Bouvé, it was *Voted*, that Dr. Gay be authorized to dispose of them as he thinks best for the interest of the Society.

A vote of thanks was passed to Mr. Winthrop for his donation.

The President read the following communication:

June 2, 1841.

The Committee appointed to audit the treasurer's accounts for the past year, have attended to the duty assigned them, and report

that they have found the accounts correctly kept, accurately cast, and properly vouched.

GEO. DARRACOTT, *Chairman.*

DONATIONS TO THE LIBRARY.

Geological Survey of the State of New York, 1841, from *Dr. Emmons.*

Transactions of the American Philosophical Society, Vol VII. No. 3. 1841. From the *Society.*

Synopsis Luzularum ritè cognitarum. Edidit, Ernestus Henr Fridr. Meyer. 8vo. Gottingæ, 1823.

De Talpæ Europeæ Oculo, Auct. Augus. Guliel. Koch. 12mo. pam. Regimontii, 1826.

Compendium Florum Philadelphiæ. By Wm. P. C. Barton, M. D. 2 vols. 12mo. Philadelphia, 1818.

Memoires sur les Dipsacées, par Thomas Coulter, 4to. pam. Genève, 1823.

Recueil de Memoires sur la Botanique. Par M. A. P. De Can dolle, 4to. Paris, 1813.

Synopsis Plantarum, curante Dr. C. H. Persoon, 12mo. 2 vols. Parisiis. 1805.

Fragments of the Natural History of Pennsylvania. By B. S Barton. 4to. pam. Philadelphia, 1799.

Synopsis Juncorum ritè cognitorum. Edidit Ernestus Henr. Fridd. Meyer. 8vo. Gottingæ, 1822.

Monographie de la Famille des Anonacées: par Michel-Felix Duval. 4to. Paris, 1817.

Flora Virginica; exhibens plantas quas Johannes Claytonus in Virginiâ crescentes obtulit, D. Joh. Fred. Gronovio. 4to. Lugduni Bat. 1762.

Vue générale des Progrès de plusieurs branches des Sciences Naturelles, par M. Le Compte de Lacepède. 12mo. Paris. 1818.

Enumeratio Euphorbiarum quæ in Germania et Pannonia gignuntur. Auctore Joanne Roeper. 4to. pam. Gottingæ. 1820.

Descriptions of some rare Indian Plants, by N. Wallich. 4to. pam. 1818.

Epistola de Balænopteris quibusdam ventre sulcato distinctis, auctoribus D. F. Rosenthal, D. F. Hornschuch. 4to. pam. Gryphia. 1825.

De Rubiaceis Capensibus, præcipuè de genere Anthospermo. Auctore Gulielmo Cruse. 4to. pam. Berolini, 1825.

De Lege Zonarum, principio, evolutionis systematum crystallinorum. pars prior. Auctore Francisco E. Neumann. 4to. pam. 1826.

Proceedings of the Society for the Encouragement of Horticulture and Agriculture in Jamaica. 4to. pam. Jamaica. 1825.

Musci Exotici; containing figures and descriptions of foreign Mosses, and other Cryptogamic Plants. By Wm. Jackson Hooker. 8vo. pam. Nos. 9 to 16. London. 1819. 2 copies.

Do. 4to. London. 1818, with colored plates. pam. Nos. 9 to 16. 2 copies.

Esquisse d'une Monographie du genre Aconitum, 4to. pam. 1822.

Tentamen Synopseos Potentillarum, auc. Alberto von Haller Fil. 4to. pam.

Generis Asparagi Historia Naturalis atque Medica. Auct. M. Bresler. 12mo. pam. Berolini.

Révue de la Famille des Lythraires. Par M. le Prof. De Candolle. 4to. pam. Genève. 1826.

Plantæ Cryptogamicæ quas in plaga Orbis Novi Æquinoctiali collegerunt A. de Humboldt et Amat. Bonpland. descriptæ a G. Jackson Hooker. 4to. pam. Londini. 1816.

Compendium Floræ Britannicæ, auctore J. E. Smith. 12mo. pam. Londoni. 1800.

Memoire sur la Famille des Violacées, par M. Fred. De Gingins de Lassaray. 4to. pam. Genève. 1823.

Expériences sur les différentes parties du Marronier de'Inde. Par M. Vauquelin. 4to. pam. 1808.

De Plantarum Classificatione Naturali, Commentatio. Auc. Dr. Aug. Frid. Schweigger. 12mo. pam. Regiomonti, 1820.

Essai Monographique sur le genre Scrofularia, par Henri Wydler. 4to. 1828. Genève.

Monographie des Céréales de la Suisse, par N. C. Seringe. 12mo. pam. Berne. 1818.

Description of a Fragment of the Head of a new Fossil Animal. By Isaac Hays. 4to. pam.

Description of a New Genus and New Species of Extinct Mammiferous Quadruped. By John D. Godman. 4to. pam.

Essai d'un Monographie des Saules de Suisse, par N. C. Seringe. 12mo. pam. Berne. 1815.

Rapport sur les Plantes rares et nouvelles dans le Jardin de Botanique de Genève. 4to. pam. Genève. 1824.

Floræ Italicæ Fragmenta, a D. Viviani, 4to. pam. Genuæ.

Histoire Naturelle et Medicale des Digitales, par Joseph Elmiger. 4to. pam. Montpelier, 1812.

Analyse des Travaux de la Classe des Sciences Mathematiques et Physiques de l'Institut Imperial de France, par M. le Chevalier. Partie Physique, 4to. pam. Paris. 1813.

Memoire sur le Cuviera, par M. Decandolle. 4to. pam. 1806.

From Dr. Jacob Bigelow.

DONATIONS TO THE CABINET.

Specimens of Flexible Sandstone, from *T. J. Whittemore.*

Two Eggs of the Pelecanus Aquila, the Frigate bird, which are in no cabinet in the country. They were found at Bellinghausen Island, one of the Society group. Mr. C. had examined more than one hundred nests, and found but a dozen eggs. The nests consist of only two or three sticks of drift wood, placed in the fork of a tree.

Cyrena Keraudrenii, from one of the Fejee Islands.

Unio cucumoides, from Paramatta, New South Wales.

Unio atratus, Swains. From the River Maypo, Chili.

Chiton variabilis, from Terra del Fuego.

A shell of a new genus, found only on the Fucus giganteus, which he has named *Gaimardia fucicola.*

Siphonaria pileiformis, Couth. from Terra del Fuego.

A *Patelloidea*, from Orange Harbour.

Helix, from the Fejee group.

Serolis, from Terra del Fuego.

Seeds of a tree from Hawaii, resembling an Acacia, supposed to be an undescribed species. *From Jos. P. Couthouy.*

The Librarian was authorized to transmit a copy of the Address, delivered at the last annual meeting, to each member of the Society, and to give additional copies wherever they might serve the cause of science.

Frederick Miller of New Bedford was elected a corresponding member of the Society.

Adjourned,

F. A. EDDY, *Rec. Sec.*

June 16.

The President in the Chair.

Twelve members present.

Mr. Teschemacher read a paper on a new species of Rafflesia from Manilla, for which he proposed the specific name of R. *Manilana*. Its characters are as follows:

Bud, before expansion, $2\frac{1}{2}$ inches in diameter, arising from a cup $\frac{3}{4}$ in. high, formed by the thickened bark of the root of the Cissus: the bracteæ originating from the inner side of the upper edge of the cup: no appearance of reticulation under the base: disc of column convex, processes on surface eleven, one of which is in the centre, the rest arranged around it, their summits entire and hispid: lower part of the tube of perianth studded with thick, glandular hairs: anthers 10, with cells and pores, as in other species: no moniliform cord at base of column: sporiferous cavities not apparent, flowers examined probably male; interior of perianth covered with various formed tubercles.

The President read extracts from a report transmitted by Dr. Harris from the Committee on Entomology, on a collection of insects from Cape Palmas in Africa presented by Dr. Savage to the Society.

In this collection there were 31 species of Coleoptera, 10 of Orthoptera, 2 of Neuroptera, 6 of Hemiptera, 6 of Hymenoptera, 4 of Lepidoptera, and a few miscellaneous specimens.

Dr. Harris also presented to the Society a box containing some African Butterflies received from Dr. Westerman of Copenhagen.

Dr. Gould reported upon Mr. Lea's descriptions of 19 species of Colimacea from the Philippine Islands.

Many of them were new shells, unknown till recently. Dr. Gould also reported upon some land shells from Cuba; and remarked that the West Indian shells were less known, and more difficult to collect than those of most other countries.

Dr. Storer read a Report on the following Fishes presented by the Rev. Zadoc Thompson of Vermont:

Lepisosteus oxyurus; Acipenser oxyrinchus; Centrarchus æneus; Lota maculosa; Esox reticulatus; Coregonus albus; Catostomus oblongus and teres; Lucio-perca Americana; Corvina oscula; Leuciscus pulchellus; Hiodon elodulus; Pimelodus nebulosus.

The thanks of the Society were presented to Mr. Thompson for his donation.

Dr. Storer laid on the table the lower jaw of a rare and remarkable species of Galeus, sent by C. W. Dabney, Esq., U. S. Consul at Fayal, to Messrs. A. & C. Cunningham, and by them presented to the Society. The thanks of the Society were voted to the Messrs. Cunningham for their donation.

A communication was received from a committee appointed at a public meeting in this city held in furtherance of Mr. Vattemare's project, requesting the concurrence of the Society in his plan. A motion to have the communication read was not sustained, and the subject was referred to a committee, consisting of the President, Mr. Teschemacher, and Mr. Sherwin.

Dr. Storer stated that Mr. Ayres of Long Island had sent a collection of Fishes to the society;—among which were *Prionotus strigatus; Umbrina nebulosa; Tetraodon turgidus; and Temnodon saltator;*—and he desired an additional case for their reception. Referred to the Board of Curators.

Dr. Gould presented from Mr. Couthouy some shells, which he observed were "rare shells from rare localities."

DONATIONS.

Nest and Eggs of the *Hirundo riparia*—from *H. J. Bryant.*

Tetraodon mathematicus—taken forty miles off the Leeward Islands. From *Mr. G. L. Perkins, of Plymouth.*

The Entomologist, Nos. 1, 2, 3, edited by Edward Newman. 8vo. London. 1840. *From the Editor.*

Flora of North America by Torrey and Gray, Vol. II. Part I. New York, 1841. *From Mr. Thomas Lee.*

Etwas über die Natur-Wunder in Nord Amerika, zusammengetragen von Charles Cramer, 8vo. St. Petersburg. 1840. *Author.*

A Collection of Plants from Cambridge. *From Dr. T. W. Harris.*

Voted, that the thanks of the Society be presented to Messrs Edward Newman and C. L. Perkins for their donations.

The Committee on Ichthyology, Comparative Anatomy, and Ornithology were instructed to report at the next meeting.

Adjourned,

F. A. EDDY, *Rec. Sec.*

July 7, 1841.

The President in the Chair.

Thirteen members present—T. Bulfinch was chosen Secretary *pro tem.*

Dr. Shurtleff made a written report on the skeleton of *Orycteropus Capensis*, Aard Bark or Earth Pig of the Dutch colonists, lately added to the Society's Collection.

The report was long and minute, embracing an account of the bones which compose the skeleton of the animal, accompanied by a statement of the rank it holds in the scale of animated nature, its external appearance, and its habits in its native wilds. In alluding to the Ornithorynchus, the reporter having remarked that this animal is stated, on good authority, to be oviparous, yet nevertheless giving suck to its young, Mr. Couthouy remarked that one of these animals was examined in the pregnant state, when Mr. C. was in New Holland, which settles the question that it is viviparous.

Mr. Abbot made a verbal report on some Oriental Birds, designating the species, and remarking on the habits of each, viz:

Upupa epops,
Merops Javanicus,
Merops viridis,
Certhia Zeylonica,
Certhia erythronotus,

They were beautiful specimens, and in fine order for examination.

Mr. Bouvé presented, in the name of Dr. Edward Jarvis of Louisville, a variety of Fossils, Insects and Shells from that vicinity. Dr. Gould presented, from the same gentleman, specimens of plants, with pamphlets, &c.

On motion of Mr. Bouvé it was remarked that Dr. Jarvis had repeatedly favored our Society with valuable specimens, which, there was reason to fear, had not been, in all cases, duly acknowledged, it was *Voted*, That the thanks of the Society be presented to Dr. E. Jarvis for this and former instances of his friendship and cöoperation, and that the Society be directed to inform him of the receipt of the specimens, and to communicate this vote.

DONATIONS TO THE LIBRARY.

Natural History of the Tea-tree, by J. C. Lettsom, 4to. London. 1799. *From T. Bulfinch.*

Organic Chemistry, in its application to Agriculture and Physiology, by Justus Liebig, with Notes by J. W. Webster, 12mo. 1841. *From J. Owen.*

Transactions of the American Philosophical Society, 4to. Vol. VII. Part 3, 1841. *From the Society.*

Reports on the Herbaceous Plants and Quadrupeds of Massachusetts, by Chester Dewey and Ebenezer Emmons. 8vo. Cambridge. 1841.

Report on the Invertebrata of Massachusetts, by A. A. Gould. 8vo. Cambridge, 1841. *From the Legislature of Massachusetts.*

First Annual Report on the Geology of New Hampshire, by Charles T. Jackson. 8vo. Concord, 1841. *From the Author.*

Report relative to the Geological Survey of New York. 8vo. 1841. *From the New York Lyceum of Natural History.*

Mr. Couthouy presented some minerals from California which had been sent to the Sandwich Islands for the inspection of the gentlemen attached to the Exploring Expe-

dition, as ores of the precious metals, but in reality only sulphuret of copper, &c., of no value.

Mr. C. presented specimens of Succinea from Terra del Fuego, where he represented them as found in the greatest abundance. Also, seven specimens of woods from New Holland, and some Gourds of remarkable size and form from the Sandwich Islands, used by the natives for a variety of purposes, as cooking utensils, trunks for baggage, packages for goods, bottles, drinking vessels, &c.

Two tin cases, containing specimens of Bread Fruit presented by T. B. Park, Esq., of California; and on motion, it was *Voted*, That the thanks of the Society be presented to T. B. Park, Esq., for this acceptable donation.

Mr. Whittemore presented a specimen of copper ore from Coquimbo.

Adjourned,

T. B. *Rec. Sec. pro tem.*

July 21, 1842.

The President in the Chair.

Dr. Storer communicated from Dr. Brewer, an Egg of the Rose-breasted Grosbeak, (*Fringilla Ludoviciana* of Audubon, *Loxia rosea* of Wilson,) with a written notice of the bird, and the circumstances under which the egg was produced.

It was laid in confinement, the parent bird having been encaged for three years previously without a mate. A year ago, last spring, from indications she gave of a desire to build a nest, a male Bobolink was mated with her. Shortly after, without constructing any nest, she laid three eggs on the floor of the cage. The egg is peculiar in color and form, a description of which, with notices of the habits of the bird, were furnished in the communication, which is on file.

Dr. Storer mentioned an instance which he had lately met with of a Paroquet in confinement, without a mate, producing several eggs.

Dr. Brewer requested, through Dr. Storer, leave to take from the Cabinet, an egg of *Sylvia Delafieldii*, lately presented by Dr. Kirtland.

The President communicated a letter from Hon. R. C. Winthrop, in reply to our application made through him, for a portion of the collections sent home by the Exploring Expedition.

Enclosed was a letter from the Secretary of the Navy, promising that when a final disposition of the articles is made, the application of the Boston Society shall have very respectful attention.

The President mentioned an incident of late occurrence at Hingham, which he had learned from Rev. Dr. Greenwood.

A countryman at work in the fields heard a sound which proceeded from the bushes near by. Approaching, he saw a black snake in a coil round a victim. He threw a stone, which, hitting the snake, induced him to relax his hold and make off, leaving a rabbit, which had been enfolded in his coil, severely crushed. The snake was pursued and killed, and in its body were found fifteen eggs of the quail, whole, and some of them containing the young bird. The snake was seven feet long.

The President also mentioned having made the acquaintance at Hingham of Mr. Sprague, a modest and very ingenious man, who had, for the gratification of his taste, made a collection of many species of birds, prepared and set up in the most skilful manner by himself, with drawings, beautifully colored, of the same.

They were particularly commended for their freedom from exaggeration, a charge which has sometimes been thought to lie against the figures of Audubon.

Dr. Gould presented a shell received by him from Dr. Kirtland of Ohio.

It is the *Paludina ponderosa*, a reversed specimen; the same shell which Dr. Kirtland formerly designated as the *Paludina heterostropha*, and described as such in Silliman's Journal.

Mr. Dillaway, in behalf of Mr. Travelli, presented a

beautiful specimen of the *Myristica moschata*, (Nutmeg,) also specimens of Granite and other minerals from Singapore.

The thanks of the Society were voted to Mr. Travelli for this donation.

At Dr. Storer's suggestion, a two-headed snake belonging to the Society's Collection, was presented to the Society for Medical Improvement.

DONATIONS TO THE LIBRARY.

Monograph of Limniades, No. 3, 8vo. Philad. 1841. Presented by the Author, *S. S Haldeman.*

Transactions of the American Philosophical Society, 1789 to 1809. 4to. 6. and New Series, 1818–34. 4to. 6. Philad. *Courtis Fund.*

Silliman's Journal of Science, Vol. XLI. No. 1. 1841. *From the Editors.*

First Report of the Liverpool Natural History Society. 8vo. pamph. 1836. *From the Society.*

Suggestions relating to the size of the page in future Nos. of our Journal, and also the expediency of publishing a Bulletin of Proceedings monthly or oftener, were referred to the Publishing Committee.

Mr. J. J. Dixwell communicated a letter received from an artist in London, with the sketch of a Seal for the Society of suitable size for diplomas, and not too large for letters. Letter referred to the Committee which has the subject in charge.

Dr. Gay, from the Committee on Mineralogy, was prepared to report; but, on account of the lateness of the hour, his report was postponed, and assigned for the next meeting.

A letter was read from Francis Archer, Esq., President of the Liverpool Society of Natural History, acknowledging the compliment of his election as a corresponding member of this Society, tendering his services in aid of our objects, and presenting two casts of impressions on the New Red Sandstone of Cheshire, England, one of *Cheirotherium*,

and the other of an unknown animal, and of a vegetable.

Mr. E. D. Brigham was elected a member.

Adjourned,

T. B. *Rec. Sec. pro. tem.*

August 4, 1841.

The President in the Chair.

The President reported on three of the seven specimens of wood from the South Sea Islands, presented by Mr. Couthouy.

The first is the "yellow wood" of New Holland, *Oxleya Xanthoxyla*, a tree often 100 feet high, and three in diameter. It has been found useful in the Arts, though, from its recent discovery, all its properties are not known. The second is erroneously called the cherry, although it has no affinity to that family. It is the *Exocarpus cupressiformis*, a light wood resembling the common cherry, and very abundant. The third is the Iron wood, which is of greater specific gravity than any of the woods of North America.

Mr. Teschemacher reported on the plants from Kentucky, presented by Dr. Jarvis.

He exhibited the rarest and most interesting specimens, among which were *Stylipus vernus* of Rafinesque, formerly *Geum vernum*. Rafinesque erected this into a new genus from the torus being pedicelled, not being aware that Geum rivale, an undoubted Geum, has a similar character.

2d. *Schizandra coccinea*, the only representative of its family in North America.

3d. *Aster Shortii* of Hooker, a new Aster, named in honor of Dr. Short of Kentucky.

4th. *Buchnera Americana*. A series of blunders has been made in describing this plant, originating with Linnæus. He, by mistake, gave to Buchnera, the characters of *Erinus* of Persoon, and Willdenow added the true characters of Buchnera to his description, causing a woful confusion. Bentham detected the error and described it anew.

Dr. Gay reported on that portion of the Donation of Mr. Winthrop which was selected for the Cabinet.

Of these there were 85 specimens of the Silicides, 25 of the Carbonides, 15 Chlorides, and 30 miscellaneous. Dr. Gay reported at length on the most interesting of these.

Mr. Dillaway reported on the "Address of the President of the Liverpool Society of Natural History" referred to him at the last meeting.

Mr. Whittemore presented to the Society the following shells:

Helix labyrinthica,	Say.	Helix lineata,	Say.
" electrina,	Gould.	Pupa modesta,	Say.
" chersina,	Say.	Planorbis dilatatus,	Gould.

The President announced for the Library:

Prodromus Systematis Vertebratorum, 12mo. pamph.
Prodromus Systematis Ornithologiæ, 12mo. pamph.
Prodromus Systematis Ichthyologiæ, 12mo. pamph.
Prodromus Systematis Mastozöologiæ, 12mo. pamph.
Presented by the author, *Charles Lucien Bonaparte.*

Proceedings of the Academy of Nat. Sciences, Philadelphia, Vol. I. No. 3. *From the Academy.*

Annals and Magazine of Nat. History, Nos. 43 and 44. 8vo. Lond. 1841. *Courtis Fund.*

On suggestion of the President, the following names were added to the several committees:

To the Com. on Botany, O. S. Keith.
" " Ornithology, S. Cabot, Jr. M. S. Scudder.
" " Conchology, T. J. Whittemore.
" " Geology, Dr. Gay.
" " Mineralogy, T. Bulfinch.
" " Books, W. J. Adams.

Adjourned,

F. A. EDDY, *Rec. Sec.*

August 18, 1841.

The Vice President, Dr. Binney, in the Chair.

Thirteen members present.

Dr. Eddy presented to the Society a collection of plants from the banks of the Hudson, and different parts of New England, not previously in the Cabinet.

Among the more interesting of these were *Aster graminifolius*, from the Gulf of Quecche, the rarest and smallest of our native Asters. *Lobelia Kalmii*, from the same locality; *Aralia hispida*, from the summit of Mt. Ascutney; *Lygodium palmatum*, from Mendon, Mass. But one other locality of this rare fern has hitherto been found in New England. *Andromeda mariana*, from Staten Island. *Struthiopteris Germanica*, Beck. This plant was described cribed by Willdenow as a new species, *S. Pennsylvanica*, until Beck ascertained its identity with the European plant. *Hepatica triloba*, another plant accredited to Willdenow, until Dr. Torrey restored it to the original discoverer, Chaix. *Nuphar Kalmiana*, (*Ph.*) *N. lutea* var. *Kalmiana*, (Torrey.) Dr. Eddy had observed that this plant has submersed, large, waved, orbicular, membranaceous, root leaves, which distinguishes it from all other plants of that family. It is sufficient to establish it as a distinct species, instead of being a variety, according to Torrey. *Aspidium spinulosum* from R. I.; *A. bulbiferum* and *goldianum*, Norwich, Vt. *Scutellaria integrifolia*, and *pilosa*, Long Island. *Vaccinium tenellum* of Bigelow, a species which, though every New England botanist knows it to be a distinct, is denied by all other authors. The remainder of the collection was promised at a future meeting.

Dr. Storer read a long and interesting paper on the fishes of Massachusetts, in which he added many new facts respecting the species already known; and minutely described *Trichiurus lepturus; Tetraodon mathematicus;* and *Zygœna malleus*, as new to our Fauna, together with the following new species:

Pomotis rubri-cauda. General *color* rusty-brown, more marked above the lateral line, in consequence of ferruginous spots densely

distributed among the scales; body upon the sides golden; in front of the anal fin beneath, blood-red. *Head*, between and in front of the eyes, naked; a bluish line runs from just beneath the eye across the operculum to its posterior extremity; and another arises just above this, and being interrupted by the eye, then passes over the operculum, so that the two include the black, membranous appendage of the operculum. Bluish-white blotches are irregularly distributed upon the pre-operculum. *Eyes*, three lines in diameter, pupils black, irides red.

Dorsal fin dark brown anteriorly, red posteriorly, the spinous portion not quite so high as the soft rays. Ventral fins red at base and black at tip. Pectoral, yellowish brown. Anal, yellowish at base, dusky at margin. Caudal, blood-red during life. Rays, D. 11–9; P. 11; V. 1–5; A. 3–9; C. 18.

Length five inches; depth across the base of the pectorals, two inches. Taken in Concord River.

DONATIONS TO THE CABINET.

Trichas Delafieldii (Audubon.) *From Dr. J. P. Kirtland, of Cleveland, Ohio.*

Three very beautiful casts of Encrinites and a Trilobite were presented from Mr. Samuel T. Carley, of Cincinnati. The thanks of the Society were presented to Mr. Carley for his donation, and Dr. Storer was instructed to request him to communicate his observations on fossil remains for publication in the Journal.

A living specimen of the horned frog from Galveston, Texas, presented by *J. Elliot Lillie.*

Glow Worm, from Illinois, presented by *Mr. Tilson.*

FOR THE LIBRARY.

"Rapport sur les Travaux de M. Espy relatifs aux Tornados;" Commissaires MM. Arago, Pouillet. Babinet rapporteur 4to. 1841. Paris.

"Rapport de M. Warden sur un ouvrage relatif à la Florida Occidentale" 12mo.

"Analyse d'un memoire sur les bois d'Amerique par M. Bull," presenté par M. Warden, 12mo. pam. Presented by *D. B. Warden, Esq.*

"Osservazioni sulle Larve, Ninfe et Abitudini della *Scolia fla-*

vifrons, lette in Pisa, alla sezione di Zoologia della prima riunione degli Scienziati Italiani, di Carlo Passerini." 4to. Pisa. 1840.
From the author.

A Letter was received from M. Auguste St. Hilaire, acknowledging his election as an honorary member of the Society, and requesting their acceptance of two volumes of his miscellaneous works.

John A. Bolles, Esq. was elected an immediate member of the Society.

Messrs. C. H. Olmsted of E. Hartford, Ct.,
Isaac Sprague of Hingham, Ms.,
Increase S. Smith, do.
were elected corresponding members of the Society.

Adjourned,

F. A. EDDY, *Rec. Sec.*

September 1, 1841.

Mr. Dillaway in the Chair.

Dr. Storer presented from Dr. Wood of Portland a very beautiful collection of fishes, prepared by him during a residence in Santa Cruz, comprising, among others, the following genera :

Serranus, Mullus, Scorpœna, Eques, Chætodon, Heniochus, Holacanthus, Vomer, Acanthurus, Scarus. Fistularia, Scomberesox, Diodon, Balistes, Ostracion.

On motion of Dr. Storer, the thanks of the Society were voted to Dr. Wood for his donation, the richest collection of fishes ever presented to the Cabinet.

Mr. Whittemore presented specimens of *Purpura tuberculata*, P. *anaxares*, and P. *musiva*, from the Pacific; also the Eggs of the Black Snake, from Fresh Pond.

George W. Pratt, Esq. presented to the Society in behalf of his brother, W. Pratt, Jr., Esq., casts of the head and foot of the Dodo from the Ashmolean Museum, and some fine geodes of Quartz from Clifton, Eng.

Mr. Edward Codman was elected a member of the Society.

Adjourned,

F. A. EDDY, *Rec. Sec.*

September 15, 1841.

The President in the Chair.

Mr. Whittemore, to whom was referred a specimen of the genus Spondylus, presented at a previous meeting, reported that this very rare and curious species has been hitherto undescribed.

No mention of it is made in any conchological work. The shell was referred to the Committee on Conchology with instructions to prepare a description of the species for publication in the Journal.

Rev. Dr. Greenwood gave a description of a swordfish of remarkable size taken during his visit at Hingham, with an interesting account of their habits and the manner of taking them.

The President, Messrs. Gould and Dillaway, were appointed a committee to make arrangements for a permanent place for the Library.

Mr. Couthouy was added to the Committee on Conchology, and Dr. Eddy to the Committee on Zoology.

Mr. Bulfinch gave notice of the receipt of three boxes of minerals, specimens of the rocks of Maine, sent in by Dr. Charles T. Jackson, having been collected in his late survey of the lands in that State belonging to Massachusetts.

The specimens were mostly labelled, some of which are as follows: From Moosehead lake the specimens are primary rocks; from Aroostook river, Black Limestone, Greenstone Trap, Bog Iron Ore, Hematitic Iron Ore, and Sulphuret of Iron; from Penobscot river, Granite and Trap rocks; from Tobique river, Contorted Slate, New Red Sandstone; from St. John's river, Fossiliferous

Limestone. The fossils are Favosite, Madreporite, Encrinite, and Terebratulite.

Mr. Whittemore presented some specimens of a singular clay formation.

Mr. Couthouy presented two Jars, containing several serpents and other smaller reptiles, preserved in alcohol; also, a collection of fossils from the vicinity of Trenton Falls, consisting of Favosites, Terebratulæ, Producti, Corallines and Trilobites.

B. R. Curtis, Esq., was elected an immediate member of the Society.

Adjourned,

F. A. EDDY, *Rec. Sec.*

October 6, 1841.

The President in the Chair.

Dr. Storer read a report on the *Cybium maculatum*, a fish recently taken at Lynn, and not before found in our waters.

Dr. Gould reported on a collection of star-fishes from Portland, among which were *Solaster endeca*, *Solaster papposa*, *Asterias aurantiaca*, *Echinarachnius placenta*, *E. parma*, *Cribella oculata*, *Ophiura aculeata* and *O. bellis*.

Dr. G. thought that all the English Radiata would be found in our waters.

Dr. Abbot read a report on the genera Cuculus, Coracius and Corvus, and exhibited specimens of each from the Society's collection.

Dr. Storer read a paper entitled "Observations on the genus Scalops, with descriptions of the species found in North America" by Mr. Bachman. After some general remarks on the genus, he enumerates and describes the following species:

S. aquaticus, Lin. In restoring to this species the name given by its first describer, I have adhered to a rule which it is necessary

to adopt in order to prevent the repetition of synonyms. The name "*aquaticus*" certainly does not apply to the habits of the animal; but that of "*Canadensis*" is equally unfortunate, as it is more common in the Southern States than in Canada.

S. Townsendi, Bach. Dental formula incisors $\frac{2}{4}$; false molars $\frac{12}{12}$; true molars $\frac{8}{6} = 44$. Length of the head and body 7 inches 6 lines; of the tail one inch 6 lines; breadth of the palm 6 lines. Body thick and cylindrical, shaped like *S. aquaticus*, but larger. The whole upper and under surface is of a dark color, in most lights appearing black; the hair, when blown aside, exhibits a greyish black color, from the roots to near the tips. The tail is slightly clothed with short, strong bristles. Brought from the banks of Columbia river.

S. Breweri, Bach. Glossy, cinereous black above, brownish beneath. Palms narrow. Tail flat, broad and hairy. Dental formula—incisors $\frac{2}{4}$; false molars $\frac{12}{12}$; true molars $\frac{3}{6}$; $= 44$. Length of the head and body 5 inches 11 lines; of the tail 1 inch 5 lines; breadth of the tail 4 lines; of the palm 4 lines; length of the palm to the end of the middle claw 7 lines. Its most striking peculiarity is its tail, which, instead of being round and nearly naked, as in *S. aquaticus*, is flat and broad, resembling, in some respects, that of the Beaver, and is very thickly clothed, above and beneath, with long stiff hairs, which extend 5 lines beyond the vertebræ. Found at Martha's Vineyard.

S. latimanus, Bach. Broad-palmed shrew-mole, larger than the common shrew-mole, intermediate in size between *S. Townsendi* and *S. Breweri*. Hair longer and thinner than in either of the other species, and slightly curled. Palms larger than in any of the known species. Color nearly black. Tail naked. Length to the root of the tail 7 inches 7 lines; of the tail 10 lines; breadth of the palm 10 lines; of the tarsus 7 lines. Mexico and Texas.

Dr. Storer also read part of a "Monograph on the Araneides of the United States," accompanied with Plates by Prof. N. M. Hentz, of Florence, Al. The following species of the genus Mygale, are described:

M. truncata. Piceous; cephalothorax with a curved impression behind the middle, cheliceres terminated by several points above the fang, hairy; abdomen cylindrical, suddenly truncated at the end, and callous at that place, with concentric grooves and 6 cir-

cular impressions; thighs more or less rufous at base; a white membrane between the joints. Feet, 4. 1. 3 = 2. Alabama.

M. solstitialis. Deep black; cephalothorax with two indentations, cheliceres moderately large; abdomen with several impressions above, and 4 yellow spots underneath; membrane between the joints white; third pair of legs with the third joint short and crooked; feet hairy, 4. 1. 2. 4. Alabama.

M. Carolinensis. Brownish, very glossy; cephalothorax with two slight impressions near the base; abdomen blackish, not glossy; third joint of the third pair of legs very short and crooked; feet 4. 1 = 3 = 2. N. Carolina.

M. gracilis. Rufous; cephalothorax somewhat six sided, long and narrow; abdomen plumbeous, two nipples very long; feet long, hairy, penultimate joint of the anterior pair with a notch; feet 4. 1. 2. 3. Alabama.

M. unicolor. Deep rufous; cephalothorax deepened in the middle, with two impressions, cheliceres very large; abdomen smooth; third pair of legs with short, very thick joints; feet 4. 1. 2. 3. Alabama.

Professor W. R. Johnson presented to the Society a number of minerals and fossils from the coal regions of Pennsylvania, as *Juglandites, Stigmaria ficoides, Philolithus imbricatus, Calamites cannæformis, Lepidodendron obovatum.*

A species of Agama from Texas, not before in our collection, was presented by Mr. Thomas A. Holt through Dr. C. T. Jackson.

DONATIONS TO THE LIBRARY.

A Selection of the Birds of Brazil and Mexico, the Drawings by Wm. Swainson. 8vo. Lond. 1841.

History of British Starfishes, by Edward Forbes. 8vo. Lond. 1841.

British Oölogy, by Wm. C. Hewitson. 8vo. Newcastle on Tyne. *Audubon Fund.*

Proceedings of the Philadelphia Academy of Natural Sciences, No. 5. *From the Academy.*

Report on the Fauna of Ireland, div. Vertebrata. By Wm. Thompson. 8vo. Lond. 1841. *The Author.*

A letter was received from the Treasurer of the "Institut Historique" of Paris, acknowledging the receipt of the Society's Journal. Accompanying the letter was the complete collection of the Journal of that Institute for eight years. Monsieur Renzi, in behalf of the Institute, requests in future an exchange of publications.

A letter was received from the Secretary of the Zoological Society of London, returning the thanks of that Society for the third volume of our Journal, and enclosing their last Annual Report.

Adjourned,

F. A. EDDY, *Rec. Sec.*

October 25, 1841.

Vice President, Dr. C. T. Jackson, in the Chair.

VERBAL COMMUNICATION.

Professor Johnson of Philadelphia, by request, made some statements respecting the fossils presented by him at the last meeting of the Society.

The sample of foliated or micaceous Galena then presented, from a locality 2 1-2 miles below Sunbury in Pennsylvania, on the left bank of the Susquehanna, was stated to occur in an upward curvature of the limestone bed in which it is found, which, like other strata of the formation in that part of Pennsylvania, has been cut through by the Susquehanna, in excavating its channel. The lead ore occurs in fissures from one to two hundred feet above the bed of the stream, and at a part where the bank is almost perpendicular. These fissures doubtless descend below the bed of the river, but the height at which they are worked is that just indicated. Through these fissures, which are four or five in number within the distance of as many hundred yards, the sulphuret appears to have been sublimed from below, and to have lodged in the cavities of the limestone, mixing with the loose fragments of the latter, and forming very irregular masses. Some carbonate of lead also occurs with the galena. That the lead ore has been sublimed into

its present position seems probable from its position, from the absence of marks of fusion, from the appearance of the limestone near the tops of the fissures where a sort of Cadmeia exists and coats every projecting fragment of the rock, from similar indications in other lead regions where large caves are found in the limestone, wholly incrusted with the crystallized galena, over which, as it adheres to the rock, the percolation of water has caused a coating of stalactite to be formed partially veiling the faces of the crystals. That the sulphuret of lead may be sublimed, in the manner just suggested, is proved by an experiment made a few years since in Philadelphia, in which a mixture of lead and sulphur, in chemical proportion to form galena, were placed in a well closed strong iron tube, and heated for some time to a bright red heat, the upper part of the tube being kept at a considerably lower temperature than that in which the mixture was placed. On cooling the tube, and cutting off the upper part, the whole material was found sublimed at that part. The fossils, consisting of orthoceratites, encrinites, producti and juglandites, occur in beds overlying the limestone in which the lead is found. These beds are various alternations of limestone and clay slate, forming a series many hundred feet thick. The juglandites occur in a bed of one or two feet thick, the general appearance of which is marked by ferruginous matter in considerable quantities. In or near the same localities occur nodules of radiated pyrites. The shells of the juglandites are sometimes easily separable from the nucleus; sometimes they are wholly decayed, and only the more solid nucleus remains.

One or two of these singular fossils were found of the size of a large lemon, and very strongly resembling that fruit in its exterior figure. Marly beds of considerable thickness occur in some portions of this formation, the more solid parts of which are perceived to be composed wholly of fossils. The lead locality is 12 miles west of the Shamokin coal basin, at its westerly prolongation.

The fossil vegetables from the coal measures of Pennsylvania were from Bear Gap, 16 miles east of the Susquehanna river. They consist of the usual plants accompanying both anthracite and bituminous coal, and seem conclusively to prove, so far as fossils may be regarded as the indices of geology, the contemporaneousness of the anthracite and bituminous coal deposites.

A specimen of coal exhibiting pure anthracite, mineralized charcoal and a material strongly resembling coke in exterior characters, was also among the objects commented on. The tendency of the anthracite portion to a crystalloid arrangement was also remarked.

Mr. Bulfinch read a report on the casts of fossil footsteps from Cheshire, England, lately presented to the Society by Mr. Archer of Liverpool.

He gave an account of the researches of Professor Owen as detailed in a communication to the Geological Society of London in the present year, by which the Professor has been led to the conclusion that the footmarks of the Keuper sandstone of Germany, the Cheirotherian impressions of Hessberg, those of the Warwick sandstone, and those of Cheshire, of which we have the casts, are those of an animal of one and the same genus, and of the Batrachian family. This result was obtained from an examination and comparison of teeth, found in the German sandstone, with others found in England, and particularly from sections of the teeth viewed microscopically, disclosing a structure entirely unknown heretofore, in which the enamel of the outer portion of the tooth is diffused through the interior substance in folds, exhibiting a labyrinthine appearance, upon a cross section. From this structure, the Professor has formed the name of "Labyrinthodon," to designate the animals of the fossil footsteps heretofore designated by the various names of Cheirotherium, Salamandroides, Mastodonsaurus, &c.

Dr. Storer, through Dr. Abbot, presented a rare variety *Phrynosoma cornuta* from Texas, together with a specimen of *Trionix ferox*, from the Hudson river sent to him by Dr. Wright.

It was first described in 1771, in the Philosophical Transactions, and afterward described and figured by Lacepede. The present specimen is young, as the old ones are covered with tubercles. It has no undershell.

Dr. C. T. Jackson exhibited specimens of the compact tin ore from New Hampshire, and one of Chlorophillite, a new mineral, discovered in the town of Unity, N. H., which

has been stated, in defiance of the careful analysis of J. D. Whitney, to be Iolite.

He hoped that Mr. Whitney would soon make another analysis, to put the question at rest. Dr. J. likewise exhibited a rare mineral, the Titanite of Zirconia, from Merrimack.

From Dr. Stearns of Groton a black squirrel.

Dr. H. I. Bowditch presented two specimens of fossiliferous limestone from Virginia.

Capt. Sturgis presented a Conglomerate Boulder which was washed on Cape Cod during the late storm.

Adjourned,

M. B. WILLIAMS, *Sec. pro tem.*

November 3, 1841.

Vice President, Dr. Binney, in the Chair.

Thirteen members present.

A report from the Committee to whom was referred a communication inviting the coöperation of the Society in M. Vattemare's plan was read, received, and ordered to be placed upon the records.

E. S. Dixwell, Esq., from the Committee appointed to procure a Common Seal for the Society, presented a model which was adopted.

Dr. Abbot exhibited eight new birds, which had been procured and mounted for the Society, viz.

Anser bernicla ; Anas Americana, female ; Mergus cucullatus, female ; Anas acuta, female ; Anas fusca ; Podiceps Carolinensis, young ; Fuligula Americana, male adult.

Dr. A. also reported upon Hewitson's Oölogy, committed to him at the last meeting.

Letters were received from Francis Archer, Esq., of Liverpool, acknowledging his election as a corresponding member, and from Auguste St. Hilaire, acknowledging his election as honorary member.

Letters were received from the Historical Institute, and from the Geological Society of France, accompanied by the Journals of those Societies, in exchange for ours.

A beautiful series of Unios and fresh water shells was presented by S. S. Haldeman, Esq., of Pennsylvania.

From E. S. Perkins, Esq. two African hanging birds' nests.

DONATIONS TO THE LIBRARY.

John Pickering, Esq., presented Vandelle's Viridarium Lusitanicum; a revision and new arrangement of a very old Flora of Grisley, which was first published in 1661, and at the time of its publication in 1789 was the only Flora of Portugal.

History of British Starfishes. By Edward Forbes. 8vo. Lond. 1841. *From Edward Doubleday, Esq.*

Manual of British Algæ, by Hon. Wm. Henry Harvey. 8vo. Lond. 1841. *From the Author.*

Nos. 1 to 4 of the Phytologist.

Edward Newman, Esq., presented, through the same, Newman's Familiar Introduction to the History of Insects, and Nos. 4 to 7 of Newman's "Entomologist."

The following gentlemen, nominated by the Council, were elected honorary members of the Society.

Edward Spach, Aide Naturaliste au Museum d'Histoire Naturelle.

Prof. D. F. L. von Schlectendal, P. D., Halle.

Prof. Aug. Pyr. De Candolle. Geneva.

Asa Gray, M. D. of New York.

Professor John Torrey of New York.

Roderick Impey Murchison, Esq., London.

J. O. Westwood, F. L. S. London.

Heinrich Friedrich Link, Director of the Royal Gardens, Berlin.

Wm. Sharp McLeay, Esq., F. L. S. London.

John George Children, F. R. S. London.

Edmund Griffith, Esq. F. R. S. London.

John James Audubon. New York.

F. A. EDDY, *Rec. Sec.*

November 17, 1841.

The President in the Chair.

On motion of Dr. Gould it was voted that the Report of the Committee on M. Vattemare's plan be transmitted to Dr. Walter Channing by the Corresponding Secretary.

Mr. Couthouy presented to the Society a very large specimen of *Mactra gigantea*, and stated that he has received from Chelsea three living specimens of *Mya truncata*, the first ever obtained directly on our coast. They differ somewhat from those found on George's Bank.

Mr. Couthouy also made some remarks on certain errors, into which he believed Professor Lyell had fallen in regard to the formation of the Coral Islands in the Pacific, and announced his intention of preparing a paper on that subject for the Journal.

Dr. Gould read a paper entitled "Descriptions of twenty-five new species of New England Shells," by J. W. Mighels, M. D., and Prof. C. B. Adams, of which the following are regarded as new.

Thracia truncata, Migh. T. testâ parvâ, solidâ, per-inequilaterali, posticè truncatâ, et striatâ: callo nymphali producto, haud cochleariformi. Length, .75 inch; height, .5 inch. *Habitat*, Casco Bay, Me.

Cyclas minor, Adams. C. testâ minimâ, ovatâ, inequilaterali; natibus tumidis, approximatis; marginibus rotundatis; dentibus omnibus fortibus. Length, .18 inch; height, .15 inch; width, .11 inch. *Habitat*, Weybridge, Vt.

Cyclas nitida, Migh. C. testâ sub-ovatâ, inequilaterali; natibus parvis, haud approximatis; dentibus lateralibus fortibus, cardinalibus obsoletis. Length, .3 inch.; height, .24 inch; width, .2 inch. *Habitat*, Norway, Oxford Co., Me.

Nucula delphinodonta, Migh. N. testâ parvâ, solidâ, trigonâ, transversè sub-sulcatâ; angulis umbonalibus duobus; natibus prominentibus, sub-terminalibus; dentibus anticis tribus, posticis septem, elevatis, conicis, acutis. Length, .13 inch; height, .11 inch; width, .09 inch. *Habitat*, Casco Bay.

Nucula Cascöensis, Migh. N. testâ ovato-lanceolatâ, sub-inequi-

laterali, compressâ ; posticè attenuatâ ; areolâ valdè compressâ ; natibus parvis ; dentibus anticis decem, posticis duodecim, parvis. Length, .6 inch ; height, .35 inch ; width, .09 inch. *Habitat*, Casco Bay.

Pecten tenuicostatus, Migh. P. testâ parvâ, tenui, sub-inequivalvi ; valvâ superiore plerumque rubro-fuscâ, tenuicostatâ, costis majoribus 25 usque ad 30, totidem minoribus ; auribus costulatis ; valvâ inferiore pallidè rubro-fuscâ ; extus et intus lævi. Length, .5 inch ; height, .56 inch ; width, .14 inch. *Habitat*, Casco Bay.

Chiton mendicarius, Migh. C. testâ elongatâ, in medio longitudinaliter ad latus irregulariter granulatâ, cinereâ, nubeculatâ ; areis parum conspicuis ; margine coriaceo, rubro. Length, 1 inch ; breadth, .4 inch ; width of margin, .06 inch. *Habitat*, Casco Bay.

Cemoria princeps, Migh. C. testâ albâ, procerâ, costulatâ, punctulatâ ; rimâ intus in canalem productâ, fornice obtectâ ; fornice lateraliter testæ alis adjuncto ; aperturâ ovatâ, crenulatâ. Length, .46 inch ; width, .33 inch ; height, .35 inch. *Habitat*, Coast of Maine.

Bulla puncto-striata, Migh. B. testâ albâ, solidâ, eleganter striatâ ; striis crebris, inequidistantibus, punctatis ; spirâ occultâ ; aperturâ magnâ. Length, .38 inch ; breadth, .24 inch. *Habitat*, Casco Bay.

Physa fragilis, Migh. P. testâ tenuissima, obliquè ovatâ ; spirâ brevi ; anfractibus quatuor ; aperturâ subovatâ, repandâ ; labio tumido, laminâ obtecto. Length, .55 inch ; greatest breadth, .4 inch. *Habitat*, Monmouth, Me.

Limnæa decollata. L. testâ ventricosâ ; anfractibus duobus vel tribus, ultimo magno ; spirâ breviusculâ, plerumque decollatâ ; suturâ impressâ ; aperturâ maximâ, sub-campanulatâ ; labro porrecto ; columellâ valdè plicatâ. Length, .6 inch ; breadth, .5 inch ; height, .4 inch. *Habitat*, Unity, Me.

Margarita varicosa, Migh. M. testâ parvâ, tenui, conicâ ; anfractibus quatuor, convexis ; longitudinaliter costulatis, transversè striatis ; suturâ sub-canaliculatâ ; umbilico magno, profundo. Height, .25 inch ; diameter of base equal to the height. *Habitat*, Bay Chaleur.

Trochus occidentalis, Migh. T. testâ pallidâ, imperforata ; anfractibus septem, convexis ; carinis pallidè fuscis ; infrâ lævi ;

suturâ impressâ ; columellâ callosâ. Height, .5 inch ; greatest basal diameter, .43 inch. *Habitat*, Casco Bay.

Cingula latior, Migh. C. testâ minimâ, ovato-conicâ, lævi, pallidâ ; anfractibus quatuor, convexis ; suturâ impressâ ; spirâ quàm apertura longiore ; anfractu postremo magno ; aperturâ sub-ovatâ ; operculo corneo. Length, .08 inch ; breadth, .05 inch. *Habitat*, Casco Bay.

Turritella costulata, Migh. T. testâ albidâ, transversè subtilissimè striatâ ; anfractibus decem, superioribus sub-plicatis, duobus ultimis sub-lævibus, ultimo sub-carinato ; aperturâ subovatâ, anterius productâ. Length, .7 inch ; breadth, .23 inch. *Habitat*, Casco Bay.

Turritella reticulata, Migh. T. testâ turrito-subulatâ ; anfractibus duodecim, convexis, longitudinaliter plicatis, transversim striatis ; suturâ valdè impressâ ; aperturâ sub-orbiculari. Length, .7 inch ; breadth, .2 inch. *Habitat*, Bay Chaleur.

Pleurotoma violacea, Migh. & Adams. P. testâ atro-purpureâ, longitudinaliter sub-plicatâ, transversè striatâ ; anfractibus sex, ultimo suprà carinato, plicis in medio evanescentibus, alteris medio carinatis ; spirâ acutâ ; aperturâ angustatâ ; caudâ brevi. Length, .3 inch ; breadth, .15 inch. *Habitat*, Casco Bay.

Fasciolaria ligata, Migh. F. testâ elongatâ, fusiformi, crassâ, rubro-fuscâ, transversim costulatâ ; anfractibus sex, convexis : spirâ acuminatâ ; suturâ valdè impressâ ; aperturâ ovato-elongatâ ; labro crenato ; columellâ biplicatâ. Length, .7 inch ; breadth, .3 inch. *Habitat*, Mingan, in the Gulf of St. Lawrence.

Fusus cancellatus, Migh. F. testâ subulatâ, longitudinaliter plicatâ, transversè striatâ : anfractibus septem, convexis : suturâ valdè impressâ ; spirâ acuminatâ ; apice acutâ ; aperturâ sub-ovatâ ; labro crenato. Length, .65 inch ; breadth, .25 inch. *Habitat*, Casco Bay.

Nucula antiqua, Migh. N. testâ parvâ, sub-trapeziformi, perobliquâ, transversè sulcatâ : dentibus posticis sexdecim, anticis sex ; margine simplici. Length, .7 inch ; height, .27 inch ; breadth, .2 inch. *Habitat*, Westbrook, Me. (fossil.)

Bulla occulta, Migh. B. testâ parvâ, ovato-cylindraceâ : spirâ occultâ : labro suprà elevato, medio recto ; aperturâ sub-angustâ, infrà latâ, rotundatâ. Length, .2 inch ; breadth, .15 inch. *Habitat*, Westbrook, Me. (fossil.)

The President read a letter from Mr. Edward Tuckerman now in Europe, giving a very interesting account of his reception by botanists abroad, both in England and on the Continent.

The President announced to the Society the death of Professor A. P. Decandolle of Geneva, who was elected an honorary member, at the last meeting of the Society.

He read a memoir of his life and services to the cause of science. On motion of Rev. Dr. Greenwood, it was voted, That the President be requested to communicate with the son of Prof. De Candolle, and to express the sympathy which this Society feels in the loss to the scientific world of his distinguished parent, and that the President be further requested to prepare a memoir for publication in the Journal.*

Adjourned,

F. A. EDDY, *Rec. Sec.*

December 1, 1841.

The President in the Chair.

Dr. Binney exhibited four species of N. American Helices, which he supposed to be new, and requested that they might be submitted to a Committee for examination as to this fact.

Voted, That they be submitted to the Chairman of the Committee on Conchology.

Dr. Binney also read a paper, "on some of the species of naked Pneumonobranchous Mollusca of the United States," containing a new genus and two new species, and four species previously known, viz. *Limax agrestis*, Lin.; *L. hortensis*, Fer.; *L. flavus*, Lin.; *Tebennophorus Carolinensis*, Bosc.

Genus Tebennophorus, Binney. Mantle covering the whole superior surface of the body; pulmonary cavity anterior, orifice on the right side toward the head; orifice of the rectum contiguous to, and a little above and in advance of the pulmonary orifice; organs of generation united, orifice behind and below the superior tenta-

* Published in Silliman's Journal, Vol. XLII. p. 217.

cle of the right side : without testaceous rudiment, terminal mucus pore, or locomotive band of the foot.

Limax campestris, Binney. L. corpore succineo colore, cylindraceo, glandulis elevatis, elongatis subrugoso ; clypeo sub-antico, ovali-oblongo, lineis et sulcis concentricis striato ; caudâ subcarinatâ ; aperturâ laterali posticâ. Length, one inch. Inhabits the New England States, New York, Ohio, Missouri.

Philomycus dorsalis, Binney. P. corpore cylindraceo, posticè attenuato ; dorso lineâ longitudinali nigrescente interruptâ et glandulis minutis longulis instructo ; clypeo nullo ; aperturâ laterali parvâ, anticâ. Length, .75 inch. Inhabits Massachusetts and Vermont.

Professor Hall made some verbal statements with regard to the Geology of the region of Niagara Falls.

He alluded more particularly to the retrocession of the Falls ; the supposed *fault* of Professor Daubeny at Lewiston ; the formation for a space of 16 miles between Erie and Ontario, until recently undetermined,—and the discovery of a fresh water formation along the banks of the River, and on Goat Island. He announced that it was his intention to write a detailed paper on these subjects, and offer it for publication in the Journal.

Professor Hall also exhibited well authenticated specimens of Old Red Sandstone of England and those of Ponnsylvania and New York, and showed their identity by the contained fossils. He proposed to prepare a paper on the results of a comparison of these rocks and fossils for publication in the Journal.

Mr. J. P. Couthouy continued his remarks upon the Lagoon Islands of the Pacific, which are to be embodied in a paper for publication in the Journal.

He also presented for the Cabinet several species of shells, viz.—

Helix lirata, Couth. MS. ; and *H. rupium*, Couth. MS. ; *Chiton viridulus*, Couth. MS. ; *Terebratula— ; Littorina erosa*, Couth. MS. ; all from Terra del Fuego ; *Helicina solidula*, Swains. from Chain Islands ; *Bulimus*, from Pachecamac, Callao Bay ; *Bulimus* from Ascension ; *Littorina* from Feejee Islands ; *Nerita picea*, Reclus ; *Littorina* and *Pecten*, all from Kauai, Sandwich Is. ; *Buccinum* and *Ovula*, from Newcastle, New South Wales ; *Vitrina* from Argyle, New

South Wales; *Voluta multicostata*, Brod. from New Zealand; two species of *Hyalæa* from Newcastle, New South Wales.

Mr. Whittemore communicated a portion of a letter from Mr. J. G. Anthony, of Cincinnati, in which he speaks of having received Fishes and Crustacea from a dark cavern in Kentucky, without any perceptible organ of vision.

The President laid upon the table Part 1 of Vol I. of the Proceedings of the Botanical Society of London, from the Society.

Dr. Gould presented specimens of *Nidularia crucibulum* in behalf of John A. Bolles, Esq.

A. A. GOULD, *Sec. pro tem.*

December 15, 1841.

The Society met at the President's house.—The President in the Chair.

Mr. J. P. Couthouy continued his remarks upon the Lagoon Islands of the Pacific.

A written report was sent by Dr. Storer, entitled "Additional Descriptions of, and Observations on, the Fishes of Massachusetts."

The following species he supposes to be new, viz.

Myliobatis bispinosus, Storer. Jaws furnished with rows of smooth, flat, elongated plates, with rhomboidal plates exterior to these. Tail 30 inches long from the anus, dirty brown and perfectly smooth, and tapering to a point. Dorsal fin two inches back of the anus, one inch in length, subtriangular; at its posterior extremity is a strong, naked spine, 3 inches long, closely serrated upon its sides, and beneath this is a similar spine 4 inches long. The tail and part of the jaw were the only portions examined, and were furnished by Dr. L. M. Yale, of Holmes Hole.

The following species have been added to the Catalogue :

Perca flavescens, Mitchill, from Concord River.
Cybium maculatum, Cuv. " Mass. Bay.
Leuciscus cornutus, Mitch. " Berkshire Co.
Tetraodon mathematicus, Mitch. from Nantucket.
Zygæna malleus, Valenc. from Holmes Hole.
Raia centroura, Mitch. " Holmes Hole.
Squalus macrodon, Mitch. " Lynn.

Dr. Storer has also become satisfied that the fish previously regarded by him as *Perca flavescens*, is P. *granulata*, Cuv. *Trachinotus argenteus*, Cuv. is *Coryphæna perciformis*, Mitch. It is not a *Coryphæna*, however, and has been placed by De Kay in a new genus which he calls *Palinurus*.

The paper contained many other interesting particulars with regard to the characters and habits of various fishes.

The President announced the following donations :

Four Nos. of the Journal of the Calcutta Society of Natural History, from *J. P. McClelland*.

The 53d and 54th Annual Reports of the Regents of the University of New York.

The 3d, 4th, and 5th parts of the 2d Vol. of the Transactions of the Albany Institute, from the *Albany Institute*.

Several Reports on the Geological Survey of New York, from *Professor James Hall*.

A Report of the Superintendent and Inspector of Salt for the State of New York, from *Professor Hall*.

Adjourned,

F. A. EDDY, *Rec. Sec.*

January 5, 1842.

The President in the Chair.

Mr. Couthouy continued the reading of his paper on the formation of the Lagoon Islands in the Pacific.

A letter was received from Dr. T. S. Savage of Cape

Palmas, Africa, accompanying the donation of various objects.

Among them were a very large and valuable collection of insects; a Jar containing Fishes and Reptiles; the elytra and thorax of *Goliathus cacicus*, with a request that they might be committed to some good chemist for analysis, for the purpose of discovering the nature of the colored markings with which the insect is so beautifully adorned. The letter contained copious remarks upon the habits of the objects sent, and full descriptions of many of them. This was referred to the publishing committee.

Voted, That the Corresponding Secretary be authorized to transmit to Dr. Savage, in addition to the thanks of the Society, a copy of the Society's Journal.

Voted, That Drs. Hale and Storer be a committee to procure and send to Dr. Savage, such articles for the collection and preservation of Insects and other objects, as they may deem necessary.

Dr. Storer read an extract from a letter from Dr. J. P. Kirtland, stating that the specimen forwarded by him some time since as the skin of the *Sylvia Delafieldii*, proves, on a closer examination, to be that of the Kentucky Warbler, (*Sylvia formosa.*)

Dr. K. also stated that he had met with a new species of fish in the Ohio River, which he would soon describe.

Voted, That the Recording Secretary be requested for the future to transmit to the Corresponding Secretary, notice of the election of Honorary and Corresponding Members, the reception of donations, and the passage of special votes of thanks, in order to ensure the transmission of due information of the same.

Voted, That the Recording Secretary be also requested to enter upon the Records of the Society full abstracts of all written papers, as well as of verbal communications, with a view to their publication as Proceedings.

Adjourned.

F. A. EDDY, *Rec. Sec.*

January 19, 1842.

The President in the Chair.

Dr. S. L. Abbot exhibited some birds received from Rev. J. H. Linsley of Stratford, Con. on which he made a written Report.

The first was the Swamp Sparrow, (*Fringilla Georgiana* Nutt. *Ammodramus palustris*, Audub.) one of our most common species, but, being young, it differed slightly from the descriptions in the books. The Black and Yellow, or Spotted Warbler (*Sylvia maculosa*, Nutt. *Sylvicola maculosa*, Audub.) The Crested Wren, (*Regulus calendulus*) young of the first year, before the characteristic vermilion spot on the crown has appeared.

Dr. A. announced the following birds which he had procured, and which had been mounted for the Society:

Fuligula mollissima, Eider Duck, male.

Anser Canadensis, Canada Goose, adult male.

Uria Alle, Little Auk, or Sea-Dove.

Of the latter, Dr. A. remarked, that it is a very hardy bird, frequenting the most northern regions, and procuring its prey among the tumbling ice.

Mr. Couthouy remarked that the sailors had the superstition respecting this bird, which they are commonly supposed to entertain respecting the Stormy Petrel, but which, as applied to the latter bird, he had not noticed, viz. that it is a prognosticator of storms.

Dr. Abbot exhibited the stomach of the Cinereous Owl, containing a rounded mass, which, upon being opened, was found to consist of the bones and hair of several mice, showing that these birds reject, undigested, such parts of their prey.

Dr. Henry C. Perkins, of Newburyport, offered to the Society casts of some fossil bones lately found at the Wallamet settlement on Columbia River, supposed to be those of a Megatheroid animal.

The larger bones are fragments of the humerus, strongly resem-

bling the humerus of Orycteropus Capensis. There is a tooth which Dr. P. regards as a tooth of the Mylodon of Prof. Owen. A notice of these bones had been given in a recent number of Silliman's Journal. Dr. P. was not aware that any bones of Megatherium had been previously found in this country, except perhaps one noticed by Dr. Mitchill as found upon an island on the coast of Georgia. There were found, at the same locality on Columbia River, cervical vertebræ, tusks and teeth of a fossil elephant.

Dr. J. B. S. Jackson mentioned that a Porpoise had been taken in Chelsea, which he thought would be a valuable acquisition to the Cabinet. He was authorized to procure it.

The Recording Secretary announced that he purposed to publish a Catalogue of the Plants belonging to New England, and solicited any information which members might afford him in aid of his purpose.

On motion of Mr. Teschemacher, Voted, that the Journal of the Society be sent to Dr. Shortt of Kentucky, in acknowledgment of contributions of Botanical Specimens received from him.

The following donations were then announced, viz.

The skin of a Dove from Manilla, subsequently found to be the *Columba cruenta*, Lath. From *Lewis Ashmun, Esq.*

Unio intermedius, from *S. S. Haldeman.*

Tellina Spengleri, from Prof. *C. B. Adams.*

The thanks of the Society were voted for the several donations, and the Society adjourned.

February 2, 1842.

Regular meeting—the President in the Chair.

Dr. S. L. Abbot read a Report on a Specimen of Syrnium cinereum—the great Cinereous Owl.

The specimen is a very perfect one, and differs somewhat from those described and figured by Nuttall and Audubon. It is rarely found in our latitude, but is common in the woody districts lying

between Lake Superior and latitude 67° or 68° between Hudson's Bay and the Pacific. Only two are recorded by Audubon as having been seen in this State; and Nuttall says that it only appears when driven here by the severity of the winter in its northern haunts. It is a little singular, that two excellent specimens of this bird should have been obtained here the present winter, so remarkable for its mildness.

The length of our bird is 16 inches—its alar extent 57 inches, and its weight about three pounds.

Dr. Storer communicated a paper from William O. Ayres of East Hartford, entitled "Enumeration of the Fishes of Brookhaven, L. I., with remarks upon the species observed."

The paper was accompanied by figures of *Mugil lineatus*, Mitch. and *Raia diaphanus*, Mitch. and is intended for publication in the Journal. The following are the species enumerated, viz.

Perca flavescens, Mitch.; Etheostoma Olmstedi, Storer; Labrax lineatus, Cuv.; L. mucronatus, Cuv.; Pomotis vulgaris, Cuv.; Prionotus strigatus, Cuv.; P. Carolinus, Cuv.; Cottus variabilis, Ayres; Gasterosteus Noveboracensis, Cuv.; G. millepunctatus, Ayres; Otolithus regalis, Cuv.; Umbrina nebulosa, Mitch.; Pogonias gigas, Mitch.; Scolopoides Sayanus, Gilliams; Sargus ovis, Mitch.; Pagrus argyrops, Lin.; Scomber vernalis, Mitch.; Cybium maculatum, Mitch.; Temnodon saltator, Cuv.; Vomer setapinnis, Mitch.; Peprilus triacanthus, Peck; Mugil lineatus, Mitch.; Atherina Boscii, Cuv.; Lophius piscatorius, Lin.; Batrachus variegatus, Le Sueur; Labrus Americanus, Bloch; Crenilabrus burgall, Schœpp; Leuciscus chrysoleucas, Mitch.; Fundulus fuscus, Ayres; Hydrargira fasciata, Schn.; H. pisculentus, Mitch.; H. flavula, Mitch.; Esox reticulatus, Le Sueur; Belone truncata, Le Sueur; Alosa mattowaca, Mitch.; A. menhaden, Mitch.; Morrhua tomcodus, Mitch.; Merluccius vulgaris, Cuv.; Phycis Americanus, Schn.; Platessa plana, Mitch.; Rhombus aquosus, Mitch.; Rhombus aquosus, Storer; Achirus mollis, Mitch.; Echeneis —— ? Anguilla acutirostris, Yarrell; Ammodytes lancea, Cuv.; Syngnathus fuscus and Peckianus, Storer; Diodon —— ? Tetraodon turgidus, Mitch.; Orthagoriscus mola, Schn.; Acipenser oxyrinchus, Mitch.; Carcharias griseus, Ayres; Mustelus canis, Mitch.; Spinax acan-

thias, Lin.; Raia diaphanes, Mitch.; Trygon centroura, Mitch.; Myliobatis ——? Petromyzon Americanus, Le Sueur.

A Letter was received from William W. Andrews, Esq., of Malta, enclosing two specimens of Insects from a Collection in that place 96 years old, and perfectly preserved between thin sheets of mica cemented at the edges.

Prof. F. Hall, of Washington, made some statements relative to the collection of objects being made under the direction of the National Institute at Washington. The Cabinet is receiving constant accessions from members of Congress and others, but most of all from the collections made by the Exploring Expedition.

ADDITIONS TO THE LIBRARY.

Memoires sur le Canada, depuis 1749 jusqu' à'1760. 8vo. pam. Quebec. 1838. From the *Literary and Historical Society of Quebec.*

Remarks upon the Coral Formations of the Pacific, by Jos. P. Couthouy. 8vo. pam. Boston. From the *Author.*

Annals and Magazine of Natural History for September, November and December, 1841. By *Subscription.*

Monograph of the Limniades, No. 4. From the Author, *S. S. Haldeman.*

Chimie Experimentale et Raisonnée, par M. Baumé. 8vo. Paris, 1773.

Essais; ou Receuil de Memoires sur plusieurs Points de Mineralogie, par M. Macquart. 4to. Paris, 1789.

Elémens de Chimie appliquée à la Medicine et aux Arts, par M. Orfila. 8vo. 2. Paris, 1819. From *Wm. B. Fowle.*

History of British Birds, indigenous and migratory. By John Macgillivray. 8vo. 2. Lond. 1837.

General Outline of the Animal Kingdom, and Manual of Comparative Anatomy. By Tho. Rymer Jones. 8vo. Lond. 1841. *Courtis Fund.*

The President read a letter from Dr. John Torrey of New York, acknowledging his election as an Honorary Member of the Society.

Adjourned.

F. A. EDDY, *Rec. Sec.*

March 2, 1842.

Regular meeting—Dr. C. T. Jackson, Vice President, in the Chair.

Dr. Eddy made some Remarks on the "Report on the Herbaceous Plants of Massachusetts," by Prof. Dewey, pointing out many defects in literary execution and scientific detail.

Mr. H. J. Bryant read a Report on a Parrot recently presented by Mr. Teschemacher.

It is the *Platycercus Pennantii* of Vigors, an inhabitant of New Holland, where it is common. It was kept caged for some time with several Canary birds, and was twice detected in the act of devouring one of them which he had killed. This habit probably is not natural, as it is said to feed upon seeds, principally those of grapes and the cereal grasses.

A Letter was read from Prof. Michelotti of Turin, requesting that the Society would exchange its Journal for certain works published by him. Referred to the Publishing Committee, with instructions to accede to his request.

A Letter was read from Dr. Edward Jarvis, of Louisville, announcing that he had sent to the Society some specimens of Moretis, male and female. They are common in Green River County, and are occasionally found in the vicinity of Louisville.

A Letter was received from J. Amos, Esq., stating that a case containing Specimens of Birds from the Himalaya mountains, had arrived. They were sent by Hon. A. Amos of Calcutta as a present to the Society.

The Cranium of a Porpoise was presented by Dr. Toomey of Chelsea.

Voted, That the thanks of the Society be communicated to Messrs. Amos, Jarvis and Toomey for their valuable donations.

Adjourned.

F. A. EDDY, *Rec. Sec.*

March 16, 1842.

Vice President, Dr. C. T. Jackson, in the Chair.

Dr. S. L. Abbot made some remarks upon several Birds which had been recently procured and mounted for the Society, viz.

1. Kittiwake Gull, (*Larus tridactylus*, Lath.) shot in the outer harbor in January, in full winter plumage, by Mr. Charles Mayo, and by him presented to the Society. 2. Black headed Gull (*Larus atricapilla*, Lin.) a species which Dr. A. had observed to be very abundant about Yarmouth, but which is not mentioned by Mr. Peabody in his Report on the Birds of the State. 3. Long-billed Curlew (*Numenius longirostris*, Wilson,) an adult female in full plumage, shot in Virginia.

Dr. Gould had examined a paper in the last number of Silliman's Journal, by Henry C. Lea, purporting to describe eight new species of shells.

Dr. G. believed that a large proportion of them were not new. The *Cyrena purpurea*, he was confident, must be a small specimen of *Venus gemma*, Totten. The genus Cyrena seldom inhabits salt water. His *Crepidula acuta* is certainly a small specimen of C. *convexa*, Say. His *Carychium exile* is a common variety of *Pupa exigua*, Say. *Pasithea sordida* must be a variety of *Actæon trifidus*, Totten; and *Cerithium cancellatum* is apparently a specimen of *Cingula aculeus*, Gould, with the lip broken.

Dr. G. deprecated such a practice as had been here pursued, that of describing very minute shells, from a few specimens brought from a distance. The natural inference that they might be embryo shells ought to deter one from describing them, unless he were possessed of numerous specimens gathered at different seasons.

Mr. Teschemacher exhibited a number of fossil Ferns which he had collected from the anthracite coal mines at Mansfield, with a view of ascertaining the age of the stratum by a comparison of the fossils with those of other coal mines in this country, particularly those of the Alleghany region.

He had ascertained the following species by the aid of Brongniart's Fossil Ferns, viz. *Sphenopteris Dubuissonis; Pecopteris cistii;* P. *Scrlii;* P. *punctulata.* There were some species of Neuropteris, one of which appeared to be N. *acutifolia*, and another N. *Scheuchzeri;* also one species of Odontopteris, but none of them perfect enough to be identified. Three or four of these were identical with species found at Wilkesbarre, and figured by Brongniart. He spoke of the abundance and beauty of the Ferns to be found at Mansfield, and hoped other members of the Society would give them attention.

Dr. C. T. Jackson alluded to the singular position of the fossil remains at Mansfield, and stated that the coal strata had been completely inverted by a force acting from beneath on the centre of the strata.

Dr. Storer reported upon some numbers of the Calcutta Journal of Natural History which had been committed to him for that purpose.

He also read an interesting Letter from Dr. Wyman at Paris, and presented a very perfect skeleton of a mole which Dr. W. had bought to replace one which he had formerly broken.

Dr. Abbot stated that Mr. Teschemacher had deposited with the Society two swans which had died suddenly at the Conservatory, and which were to be mounted.

In the pro-ventriculum were found some leaves of *Nerium oleander*, and Mr. T. did not doubt that their death was caused by the poisonous qualities which that plant possessed in common with many belonging to the family Apocyneæ, particularly the celebrated Upas Tree of Java.

Dr. H. C. Perkins of Newburyport presented a cast of the fossil femur of the *Orycterotherium Oregonense.*

Dr. J. P. Spooner of Milton, presented a Collection of Plants from the vicinity of Milton, made by D. C. Field.

The thanks of the Society were voted to Drs. Perkins and Spooner.

ADDITIONS TO THE LIBRARY.

British Zoology. By Tho. Pennant, 8vo. 3. Lond. 1768. *Courtis Fund.*

Supplementum Indicis Ornithologici, studio et operâ Joannis Latham. 4to. Lond. 1801.

Natural History of Birds. By Eleazer Albin. 4to. 4. Lond. 1738. *Audubon Fund.*

Genessee Farmers' and Gardeners' Journal. Nos. 1. 2. Vol. III. From the Editor, *H. Colman.*

Zoological Contributions No. 1. 8vo. pam. Philad. 1842. From the author, *S. S. Haldeman.*

Final Report on the Geology of Massachusetts. By Edward Hitchcock. 4to. 2. Amherst. 1841.

Report on the Insects of Massachusetts injurious to Vegetation. By T. Wm. Harris. 8vo. Cambr. 1842. *Legislature of Massachusetts.*

Silliman's American Journal of Science and Arts, Vol XLII. No. 2. From the *Editors.*

De Herbarum Virtutibus Æmilii Macri Veronensis elegantissima poesis. 12mo. Basiliæ. 1508. From *F. A. Eddy.*

Calcutta Journal of Natural History, conducted by Jno. M'Clelland. 8vo. Nos. 1, 3, 4. 1840–1. From *the Editor.*

Proceedings of the Philadelphia Academy of Natural Sciences for January 1842. From *the Academy.*

Proceedings of the American Philosophical Society, Nos. 15, 16, 18, 19, 20. From *the Society.*

April 6, 1842.

Regular meeting—the President in the Chair.

Dr. J. B. S. Jackson made a written Report on his dissection of a young Spermaceti Whale, in which he demonstrated several interesting points in its anatomy not mentioned in the books.

Dr. Gould stated that he had received from J. Bartlett, Esq., of Cuba, an interesting collection of land and fresh water shells from that island.

He offered descriptions of several species which he regarded as new.

Mr. Bryant made a Report upon the Collection of Birds from Bengal, given by Mr. Amos.

Most of them were in a state unfit for mounting. He had ascertained the following species:

Bucca Philippensis,	Picus medius,
Muscicapa paradisea,	Hurial Pigeon.

Mr. Abbot exhibited two Birds recently procured and mounted for the Cabinet, viz. the male Scaup Duck, (*Fuligula marilla,*) and the Song Sparrow, (*Fringilla melodea.*)

He read a letter from Dr. Brewer to Mr. Audubon, expressing his belief that two birds had been confounded under this name. Mr. A. had published the letter without comment.

The following gentlemen were elected a Committee for the reception of the Association of American Geologists in the Hall of this Society at their approaching meeting, viz. Dr. C. T. Jackson, Messrs. M. B. Williams, and T. Bulfinch.

DONATIONS TO THE LIBRARY.

Fourth Report on the Agriculture of Massachusetts. 8vo. Bost. 1841.

Genessee Farmer, Nos. 3 and 4. 1842.

From *Henry Colman.*

General History of the Dichlamydeous Plants. By George Don. 4to. vol. 4th. Lond. 1838. *Audubon Fund.*

North American Review, April, 1842. *Exchange.*

Transactions of the American Philosophical Society, Vol VIII. No. 1. 4to. Philad. 1842. From the *A. P. Society.*

Flora of North America, by John Torrey and Asa Gray. Vol. II. No. 1. 8vo. New York, 1841. From *Thomas Lee, Esq.*

April 20, 1842.

Regular meeting—the President in the Chair.

Dr. Storer communicated a paper from W. O. Ayres of East Hartford, describing four fishes taken at Brookhaven, L. I., which he regards as new.

Carcharias griseus. Color bluish gray above, white beneath. Branchial orifices five on each side. Teeth numerous, and similar in each jaw, not arranged in regular series; long and pointed, spreading at base; edges smooth. Nostrils oval, immediately anterior to the mouth. No spiracles discernible. Pectorals horizontal; first dorsal nearly straight on the anterior edge, concave behind, free posteriorly. The inferior portion of the tail presents two lobes. Length, 41 inches.

Myliobatis acuta. Length, 3 feet; breadth across posteriorly 2 feet 5 inches. Body above smooth, destitute of spines; color reddish brown, beneath whitish. Branchial apertures five on each side. On the tail are two reversely serrated spines, one directly above the other, the upper one 2.75, the lower 3.75 inches in length, inserted 5.5 inches from the origin of the tail, which is very slender and smooth to the tip; no fins beneath.

Gasterosteus millepunctatus. Length, 1.8 inch; depth, .4 inch. Body very thin on the back, widening downwards; compressed behind the anal fin. Color greenish olive on the sides, clouded with brown dots in clusters. Sides destitute of the plates which characterize most species of the genus. Ventral fin represented by a single serrated spine. At the anterior origin of the anal fin is a spine, not quite so high as the ventral spine.

Fundulus fuscus. Length, 2.1 inch; depth, .9 inch. Body rather rounded. Color very dark brown, striped longitudinally with narrow, lighter lines; a black, vertical band in front of the caudal fin. Mouth small; teeth numerous, fine and crowded; those of the upper jaw on the intermaxillaries, a few on the pharyngeals, none on the vomer. Scales large but not prominent.

Dr. J. B. S. Jackson gave a verbal account of his dissection of a fœtal Porpoise about three feet long. Several interesting particulars were pointed out relating to the viscera, which will be embodied in a paper for publication in the Journal.

Dr. Abbot reported the following additions to the Cabinet of Birds:

Fulica Americana, Gmel. Cinereous Coot, female.

Anas acuta, Lin. Pintail Duck, male.

Icterus pecoris, Temm. Cow blackbird, male and female.

Fringilla melodia, Wilson. Song Sparrow, Brewer's variety, alluded to at the last meeting.

A communication on the subject of preparing a Diploma of membership was laid on the table until next meeting.

A Letter was read from the Recording Secretary resigning his office. On motion the resignation was accepted.

ADDITIONS TO THE LIBRARY.

Proceedings of the Academy of Natural Sciences of Philadelphia, for Nov. 1841. 8vo. pam. From the *Academy.*

Proceedings of the American Philosophical Society, No. 18. Vol. II. 1841. From the *Society.*

Principles of Geology. By Charles Lyell. 12mo. 3. 1842. *Courtis Fund.*

Monographie des Coquilles Bivalves et Fluviatiles de la Rivière Ohio. par C. S. Rafinesque. 8vo. pam. 1820.

Principes Fondamentaux de Somiologie, par C. S. Rafinesque. 8vo. pam. 1814.

Circular Address on Botany and Zoology. By C. S. Rafinesque. 18mo. pam. 1816.

Statistica Generale di Sicilia; da G. E. Ortolani e C. S. Rafinesque, 12mo. pam. 1810. All from *S. S. Haldeman.*

Description of the Geology of the State of New Jersey. By Henry B. Rogers. 8vo. Philad. 1840.

Second, 3d, 4th and 5th Reports on the Geological Survey of Pennsylvania, by H. D. Rogers. 8vo. 4. Harrisburg, 1839—42. From *Prof. Henry D. Rogers.*

In consequence of the anticipated meeting of American Geologists on the succeeding week, and in order that an invitation might be extended to them for the occasion, the Society adjourned to meet on the 27th inst., to hear the Anniversary Address, being one week in advance of the regular annual meeting.

T. BULFINCH, *Rec. Sec. pro tem.*

April 27, 1842.

The Society met according to adjournment, and was fully attended by members of the Society, and by members of the Association of American Geologists and Naturalists who were present by invitation.

The President gave a brief history of the doings of the Society for the past year.

There had been 26 meetings of the Society. Sixty written and oral Reports had been made, besides numerous letters other than those of a merely formal character. The Library had received 140 additional volumes, and had been removed to a commodious room, convenient for holding the winter sessions of the Society, and accessible at all times. The Treasury was in funds to meet all the liabilities of the Society, the expenditures for the year amounting to $1213.36.

The Anniversary Address was then read by Dr. Samuel George Morton of Philadelphia. His subject was "The Origin and Characteristics of the Aborigines of America," and was treated in an elaborate and highly interesting manner.

Voted, unanimously, that the thanks of the Society be presented to Dr. Morton for his eloquent and instructive address, and that a copy be requested for publication.

The Society then adjourned.

T. BULFINCH, *Rec. Sec. pro tem.*

May 13, 1842.

Regular meeting—the President in the Chair.

Dr. Storer communicated another paper from W. O. Ayres, being "Descriptions of four species of Fishes from Brookhaven, L. I., two of which are believed to be new," viz.

Mustelus canis, (*Squalus canis*, Mitch.)
Trygon centroura, (*Raia centroura*, Mitch.)

Diodon nigro-lineatus. Length, 6.75 inches; breadth across the eyes, 1.75 inches, greatest breadth, 2.5 inches. Color above and on the sides black, beautifully marked with somewhat irregular lines of olive. From the head to the dorsal fin, they are longitudinal; in front of the eyes, transverse; from the mouth, obliquely downward and backward. On the sides are three nearly circular black spots. Beneath, yellowish. Body covered with strong, flattened, rather blunt spines. Rays, P. 20; D. 13; A. 12; C. 9.

Cottus variabilis. Length, 6.5 inches; breadth, 1.3 inches. Head rounded, with 8 spines on each side. Color very variable; head and back brown; sides marked with bands or irregular blotches of dark brown; abdomen white, occasionally inclining to greenish yellow, sometimes spotted black; lower jaw generally with brown or black spots. Rays, D. 9–14; P. 17; V. 4; A. 11; C. 11.

Dr. Storer also announced the donation of some Fishes from Dr. J. W. Mighels, of Portland.

Thanks were voted for these donations.

The Committee to audit the Treasurer's accounts, reported that they had found them correct, and a balance of $136.93 in the Treasury.

The Committee to prepare a Diploma of Membership submitted a design which was adopted.

DONATIONS TO THE LIBRARY.

History of British Zoophytes. By Geo. Johnston, 8vo. Edin. 1838.

Monography of the Family Unionidæ, or Naiades of Lamarck, of North America. By T. A. Conrad. 8vo. 11 Nos. Phil. 1835-8.

Illustrations of the Zoology of South Africa. By Andrew Smith. 4to. Nos. 1, 2, 3. Lond. 1838. From the *Courtis Fund.*

Proceedings of the American Philosophical Society, II. Nos. 21. to 54. From the *A. P. Society.*

Fifty-third Report of the Regents of the New York State University, 2. 8vo. New York, 1840–41. From the *Albany Institute.*

Memoir on a portion of the lower Jaw of the Iguanodon. By Gideon Mantell. 4to. Lond. 1841. From the *Author.*

Memoir of William Maclure. By S. G. Morton. 8vo. pam. 1841.

Description of some new species of Organic Remains of the Cretaceous Group of the United States. By S. G. Morton. 8vo. pam. 1842.

Some Remarks on the Ancient Peruvians, by S. G. Morton. 8vo. pam. Philad. 1842.

Descriptions of some new terrestrial and fluviatile Shells of North America. By Tho. Say. 8vo. pam. 1840.

From *S. G. Morton.*

Descriptions of some new species of Quadrupeds inhabiting North America. By J. J. Audubon and J. Bachman. 8vo. pam. Philad. 1841. From the *Authors.*

Annals and Magazine of Natural History. Nos. 52 to 55. 8vo. Lond. 1842. By *Subscription.*

June 1, 1842.

Regular meeting—the President in the Chair.

The President announced that he had seen a letter from Rev. Charles Brooks, now in Paris, stating that Messrs. Milne Edwards, and Geoffroy St. Hilaire, Professors at the Garden of Plants, had expressed a wish to enter upon a system of exchanges with this Society. Whereupon Voted, that the proffer be accepted.

On motion, it was Voted, that Dr. Jeffries Wyman, now in England, be authorized to appear as the delegate of this Society at the meeting of the British Association for the Advancement of Science, at its approaching session at Manchester.

Dr. Abbot reported the addition to the Cabinet of the following mounted birds, viz.

St. Domingo Cuckoo (*Coccyzus Dominicus.*)
Belted King-fisher (*Alcedo Alcyon,* Lin.) male.
Wilson's Sand-piper (*Tringa Wilsonii,* Nutt.) male.
Ash-colored Sandpiper (*Tringa cinerea,* Lin.)

The President communicated, from Dr. Tho. Savage, of

Cape Palmas, Africa, a paper, containing Notes on the Black Ourang (*Troglodytes niger*) and upon specimens of Fishes and Reptiles sent by him to the Society. The paper was referred to the Publishing Committee.

Dr. Gould presented, in behalf of Mr. Mayo, specimens of Helix Iloconensis, Neritina, Buccinum, and Columbella.

DONATIONS TO THE LIBRARY.

Catalogue of Books in the Collection of the Mercantile Library Association of New York. 8vo. 1837. From the *M. L. Association.*

Magazine of Zoology and Botany. 8vo. 2. Edin. 1837–8. From the *Courtis Fund.*

Description of an entire Head and other bones of a Mastodon. By Wm. E. Horner and Isaac Hays. 4to. pam. Philad. 1840. From the *Authors.*

Mr. Charles B. Sherman was elected a member of the Society.

The following gentlemen, recommended by the Council, were elected:

HONORARY MEMBERS.

Prof. Henry D. Rogers of the University of Pennsylvania, Philadelphia.

Prof. William B. Rogers of the University of Virginia, Charlottesville.

William McGillivray, Esq., A.M. F.R.S.E. Edinburgh.

C. F. P. Von Martius, Munich.

CORRESPONDING MEMBERS.

Prof. Lewis C. Beck, Rutgers College, New Brunswick, N. J.

Samuel L. Dana, M. D. Lowell.

Douglass Houghton, M. D. Detroit, Mich.

Henry King, M. D. Washington, D. C.

Prof. Oliver P. Hubbard, Dartmouth Coll. Hanover.

Prof J. W. Bailey, Military Academy, West Point.

Rev. R. T. Lowe, Madeira.

John M'Clelland, M. D. Calcutta.

Henry C. Perkins, M. D. Newburyport.

Adjourned,

T. BULFINCH, *Rec. Sec.*

June 15, 1842.

Regular meeting, Mr. C. K. Dillaway in the Chair.

Dr. Storer communicated Descriptions of *Acipenser rubicundus*, *A. platyrhyncus*, and *Rutilus Storerianus*, accompanied with figures, which he had received from Dr. J. P. Kirtland of Ohio.

Dr. K., in his description of A. *rubicundus*, observes, that the varieties occasioned by age, sex, locality and other circumstances, have occasioned him much perplexity. But, after five years' examination, he feels great confidence in considering the A. *rubicundus* and *maculosus* of Le Sueur, and the *Scotinus Ohioensis*, and *macrostomus* of Rafinesque, and the fish of which he had sent a description to the Society under the name of "A. *nudus*," to be all the same species.

The true *Rutilus plagurus* of Raf., Dr. K. had been able finally to determine. The species formerly supposed by him to be such, he now proposes to call *R. Storerianus*.

Dr. J. B. S. Jackson read portions of the Letter from Dr. Savage respecting the habits of the Chimpanzee, its food, method of fighting, and flight from enemies, parental affection, &c.

He also mentioned some particulars in which the specimens of crania sent to the Society did not conform to the description of the osseous system given by Mr. Owen. The cranial sutures were not persistent, but completely obliterated. Dr. O. states that the Chimpanzee has but one suborbital foramen on each side, while the Black Ourang has three or more; but in the Society's specimens, the Ourang has but one, and the Chimpanzee has two.

Dr. Gould exhibited a series of specimens of a species of Neritina, presenting very wide differences in coloring and marking, the extremes of which would never have been suspected to belong to the same species, some specimens having black, others red, and others yellow for the ground color, and others having two or the three colors intermixed sometimes in bands, and sometimes in longitudinal marks.

Dr. G. also read a paper on *Mytilus edulis*, showing its powers of locomotion, and exhibited specimens in illustration.

It is every where stated, that when the byssiferous mollusks become once attached, they have no power to detach themselves. So far from this, Dr. G. showed that they change place with great facility. The specimen he exhibited had raised itself up the side of a glass jar, three inches in a single night. To do this, the animal first stretched out its finger-like foot to its greatest extent, and attached a fibre, and drew its body within the shell as much as possible, by which the whole was raised about three fourths of an inch. Numerous fibres were then fixed in a radiating manner, until sufficiently secure, and then the whole of the pencil of radiating fibres forming the preceding attachment was thrown off in a mass, at the foot, the ends being still held together by a sort of knot.*

In Griffith's Cuvier, it is advanced that the Byssus "consists of an assemblage of muscular fibres, dried up in a portion of their extent, but living and contractile at their origin." The differing length of the threads, 2 or 3 inches, according as their point of attachment is more or less distant, their indestructibility by maceration in water, and some other particulars, would invalidate this idea.

He alluded to a statement of Lamarck, that the shells of the genus Modiola are always destitute of a byssus; whereas, with regard to the species found so abundantly on this coast, M. *papuana*, Lk., this is notoriously an error.

A Letter from Dr. Locke of Cincinnati was read, in which he announced that he had sent to the Society a suite of casts of Trilobites, exhibiting the varieties found in Ohio, and the adjacent region.

Dr. E. Hale read extracts from a Letter from Dr. Savage of Cape Palmas, announcing further contributions to our Cabinet, consisting of parts of the Chimpanzee not before sent, also Fishes and Reptiles.

* In the Annales des Sciences for July and August, 1842, it appears that the same fact has been observed by M. Marion de Procé of Nantes. He erroneously states, however, that the fibres of the old attachment are ruptured, whereas they are cast off in a mass, as above stated.

The thanks of the Society were voted to Dr. Savage for his many valuable donations, recently presented.

Dr. Abbot announced the following additions to the Cabinet of Birds, viz.

Charadrius semipalmatus; female.
Ch. Helveticus; male and female.
Strepsilus interpres; female.
Scolopax grisea; male.
Fringilla tristis; male.
Tanagra rubra; male.

DONATIONS TO THE CABINET.

Shells of the genera Nerita, Navicella, Trochus, Monodonta, Truncatella, Auricula, Buccinum, from the Fejee Islands. From *T. J. Whittemore.*

Helicina, Caracolla, Helix and Cyclostoma from the same localities. From *J. P. Couthouy.*

July 6, 1842.

Mr. Whittemore was elected Chairman.

Dr. Cabot read a paper on the Meleagris ocellata.

The only specimen of this bird, known to naturalists is in the Jardin des Plantes. This was taken by log-cutters in the Bay of Honduras, and died on its passage to Europe. Plates are given in the Naturalist's Library, and in the work of Temminck, both very imperfect, but the description annexed in the former work is correct as far as it goes. This bird inhabits the region south of Texas to the Isthmus of Panama, and in those countries takes the place of the common or Wild Turkey of North America. Whether it is found in South America is uncertain. Latham expresses doubts whether it should be considered a distinct species; a doubt which Dr. Cabot says "no one who has seen the living bird could entertain for a moment." The plumage is very different from the common Turkey, as are its form and motions also. The male bird is nearly a foot shorter than the common Turkey. There is no pectoral appendage. The tail consists of eighteen feathers, rounded at the

tips, and having an eye, like those of the Peacock, in the end of each.

Dr. Storer gave some notices of the large Serpent presented by Dr. Savage of Mt. Vaughan, near Cape Palmas, West Africa.

It is described and figured in Dr. Andrew Smith's Zoological Illustrations of South Africa, as the *Python Natalensis*. He considered Dr. Savage's communication accompanying the Python very valuable, not merely for the interesting accounts contained in it of the several individuals which had been met with, and the manner of their capture, but also for the light he threw upon their habits.

"The general habit of this serpent in seeking its prey," remarks Dr. Savage, "is to lie in ambush near a frequented path or watering place; and, suspended from a tree, or with its tail fixed to some other object, to dart upon the unwary animal. The attack is so sudden and violent that the victim is often prostrated and stunned, and then begins the dreadful process of constriction. A bullock was so much injured in a recent attack, as to be supposed beyond the possibility of recovery." Instances of its attack upon man are very rare, and are probably never made but when the animal is in a state of extreme hunger. The natives fear them single-handed, but not in numbers. They seek them for food, esteeming them highly on their bill of fare.

Dr. Storer also presented specimens, male and female, of the *Scaphiopus solitarius*, Holbrook; which he had received from Dr. Andrew Nichols of Danvers.

They were found at Danvers. This is the only locality in which they have as yet been found north of Carolina. Dr. S. observed he had received two very interesting letters from Dr. Nichols respecting these animals, but as Dr. N. would prepare a communication upon the subject for the Journal of the Essex Co. Natural History Society, he was not at liberty to read them at present.

DONATIONS TO THE CABINET.

There were laid on the table a part of the donation of Dr. Savage, lately received—portions of the solid structures and cells of Termites.

Shells principally from the West Indies, 28 species, 20 of which are new to our Cabinet, viz.—1 Columbella, 2 Mitræ, 2 Patellæ, 2 Serpulæ, Melania annulifera (Italy), Hyalæa uncinata ? Petricola lucinalis, Pholas, Gastrochæna modiolina, Pyrgoma semicostata, Modiola fusca and Acasta, from Dr. *J. E. Griffiths* of Maryland.

Also from the *American Board of Commissioners for Foreign Missions*, 1 Columbella from the Sandwich Islands ; 1 Conus from Ceylon.

On motion of Dr. Gould, the thanks of the Society were presented to Dr. Griffiths.

Dr. Gould presented a box of Minerals and Fossils.

Dr. Cabot presented a box of Shells from Yucatan.

Mr. Whittemore presented additional specimens of Shells from the Fejee islands, Columbella, Melanopsis, Melampus and others,—in all 88 specimens.

DONATIONS TO THE LIBRARY.

Second Report of the Proceedings of the National Institution for the Promotion of Science. Washington, D. C. From *J. P. Couthouy.*

The same. From the *National Institute.*

Address before the Geological Society of London. 8vo. pam. by Roderick Impey Murchison, Pres. in 1842. From the *Author.*

Proceedings of the Academy of Natural Sciences at Philadelphia, Vol. I. Nos. 9, 10, 11, 12, 13, 14. From the *Academy.*

Naturalist's Library, Vol III. Gallinaceous Birds; Vol X. Fly Catchers; Vols. IX. and XI. British Birds; Vol. VII. Birds of Africa. *Audubon Fund.*

North American Review, No. 116, for July, 1842. *Exchange.*

Silliman's American Journal of Science aud Arts. No. I. Vol. XLIII. *Editors.*

Instructions and Observations on the use of the Chlorides of Soda and Lime. By A. G. Labarraque. Translated by Jacob Porter. 8vo. pam. 1842. New Haven. *Translator.*

Adjourned,

T. BULFINCH, *Rec. Sec.*

July 20, 1842.

The President in the Chair.

Dr. Storer read a description of a new species of fish.

Hydrargira formosa. Back and sides greenish black; the latter of which are crossed by numerous black bands; a large black spot upon the operculum; a more or less regularly marked black spot upon the posterior portion of the dorsal fin; and an orange colored caudal fin, margined at its extremity with black. This fish was taken near the milldam in this city.

Mr. Whittemore read extracts from a late letter received by him from J. G. Anthony, Esq., of Cincinnati, in which be speaks of some fine Fossils lately found in that vicinity.

A new quarry abounding in strata of compact blue marl has disclosed some important facts with regard to Orthoceratites. They are here found enveloped in what appears to have been a jelly-like inflated mass, now flattened down. Occasionally, the enveloping mass seems to cover the whole striated portion of the Orthoceras; perhaps when perfect, it always did so. Specimens to the number of ten or twelve have been found, some three feet long.

Dr. Cabot presented a list of Birds drawn up from personal observation, common to the region of Central America and the United States. It consists of about one hundred genera.

Dr. Cabot read a memoir on the Paraqua Guan or *Phasianus motmot.*

It is a gallinaceous bird domesticated by the natives of Central America, and which it has been thought might easily be domesticated in Europe and this country. Under the two names above quoted, Latham and others describe two species, but Dr. Cabot thinks they compose but one. The authority of Temminck is also in favor of this opinion.

This bird is very common throughout Mexico, Central America, and the northern part of South America. It lives principally in trees, and feeds on leaves, insects, &c. The male cries in a most

loud and startling manner for some hours after sunrise, and before dark in the evening. The Spanish name of the bird, Chicalacha, shouted in a high key, and repeated rapidly, gives some idea of the sound. The Indians take them young and rear them, and they become very tame in confinement.

A letter was read from Professor Bailey of West Point, acknowledging a notice of his election as corresponding member, and enclosing a "Memoir on the existence of siliceous spiculæ in the exterior rays of Actinia," and suggesting that such might possibly have been the origin of some of the fossil spiculæ found in the infusorial strata of the marine tertiary of Virginia;—also, memoranda on the siliceous animalcules in Boston harbor."

Among them he found a new genus, which he proposes to call EMERSONIA in honor of the President of this Society.

Genus EMERSONIA. Carapace siliceous, compressed. Central portion oblong, separated by deep lines of constriction from the two terminal, bi-cuspidate or auricled portions, forming chains, which open in a zigzag manner.

E. *elegans*. Central portion nearly square, containing yellow globules disposed in a circular group.

E. *antiqua*. Vide Bailey's Sketch of Bacillaria, pl. 2. f. 25.

The communication also enclosed a note on Cyclosis in plants. Prof. B. has recently noticed this phenomenon in some plants in which it has not been heretofore observed. The plants referred to are Circæa lutetiana, Digitalis purpurea, Eupatorium, and Caulinia flexilis.

Dr. Gould exhibited some shells with living animals, recently received from the West Indies.

They were packed in dry papers on the 12th June, at Matanzas, and received and opened here on the 19th July; and, on being placed in water, immediately showed themselves alive and vigorous. They were Neritæ, Littorinæ, Potamides and others. Dr. Gould remarked upon the extreme acuteness of their sight, immediately perceiving the approach of a finger, and retreating instantly.

Dr. Abbot announced that Capt. Hunt, of the vessel in which the articles destined for Dr. Savage had been ship-

ped for Africa, had refused to accept any compensation for freight of the same; and, on motion of Dr. Hale, the thanks of the Society were voted to Capt. Hunt, for this instance of liberality.

On motion of Dr. Gould, the gentlemen composing the Association of Dental Surgeons, now in session in this city, were invited to visit the Cabinet of the Society.

DONATIONS TO THE CABINET.

Mr. Bouvé exhibited a series of Casts of Trilobites, presented by Dr. Locke of Cincinnati. The casts are eighty in number, embracing numerous varieties of Trilobites, and other fossils, Encrinites, Fucoides, &c. On motion of Mr. B. the thanks of the Society were voted to Dr. Locke for this acceptable donation.

Several Jars containing Reptiles from Cuba, presented by *Miss Bartlett*, of Roxbury.

A species of Cottus from East Hartford, Ct. From *C. J. Olmsted.*

Holothuria squamosa, and Halithea aculeata. From *Jonathan Johnson*, of Nahant.

Chiton Indicus, and Ch. fuscus. From *Dr. D. H. Storer.*

DONATIONS TO THE LIBRARY.

Memoires du Muséum d'Histoire Naturelle, Vols. 9 to 18, and 3 Nos. of Vol. 19. 4to. Paris. 1821 to 1830.

Organic Remains of a former World, by James Parkinson. 3 vols. 4to. London. 1833.

Manuel du Mineralogiste et du Géologue Voyageur. 12mo. Paris. 1805. *Courtis Fund.*

The following gentlemen, nominated by the Council, were elected Corresponding Members, viz.

J. G. Anthony, Esq., of Cincinnati.
Andrew Nichols, M. D., of Danvers.
Rev. J. H. Linsley, of Stratford, Ct.
Frederick Hall, L.L.D., of Washington, D. C.
Jacob Porter, M. D., of Plainfield, Ct.

Adjourned,

T. BULFINCH, *Rec. Sec.*

August 3, 1842.

Regular meeting—Mr. T. T. Bouvé in the Chair.

Mr. Dillaway gave a brief summary of the Papers contained in the volumes of the Annales du Museum, recently added to the Library.

The Secretary read a letter from Dr. N. C. Keep in behalf of the Society of Dental Surgeons, expressing thanks to the Society for the invitation to visit the Cabinet.

Dr. Storer announced that the care of the Reptiles would henceforth devolve on Dr. Wyman, who had consented to assume that duty.

Drs. Gould and Wyman were chosen a Committee to ascertain the condition of the Insects belonging to the Society, and to suggest what measures are necessary to ensure proper care and attention to that portion of the Cabinet.

A Letter was received from the Secretary of the American Board for Foreign Missions, accompanying a box of Insects from Western Africa. The thanks of the Society were voted for this valuable donation.

Dr. Abbot announced the addition of the following birds to the Cabinet, viz.

Turdus felivox, T. aurocapillus, Fringilla cyanea, F. nivalis, F. Canadensis, F. erythrophthalma, F. Ludoviciana, Icterus agri. pennis, Muscicapa crinita, M. atra, M. Acadica, M. ruticilla, Totanus macularius.

ADDITIONS TO THE LIBRARY.

Genera Filicum; or Illustrations of the Genera of Ferns. By Wm. J. Hooker. Nos. 1 to 9. 8vo. pam. London. 1838 to 1839.

Annals of Natural History, Nos. 56, 57, 58, for April, May, June, 1842. 8vo. London; also, Supplementary Nos. 47 and 54, for September, 1841, and March, 1842. *Courtis Fund.*

Prodromus Systematis Naturalis Regni Vegetabili, 4 vols. 8vo. Parisiis, 1823. *Dr. B. D. Greene.*

A Monograph of the Limniades, or Freshwater Univalve Shells. No. 1. Philad. By S. Stehman Haldeman. 8vo. *Author.*

Histoire de l'Academie Royale des Sciences, 1699 à 1731, 33 vols. 4to. Paris.

Histoire Naturelle des Mineraux. Par M. le Comte de Buffon. 5 vols. 4to. Paris. 1783. *Courtis Fund.*

Annales des Sciences Naturelles. 8vo. Paris. Vol. III. and 5 Nos. of Vol. IV. 1835. *Exchange.*

Proceedings of the Botanical Society of London. Vol. I. No. 1. 8vo. pam. London. 1839. *Bot. Soc. of London.*

Saggio Storico dei Rizopodi Caracteristici dei Terreni Sopracretacei, per Giovanni Michelotti. 4to. pam. Modena. 1841. *Author.*

Monografia del Genere Murex ossia Enumerazione delle principali specie dei Terreni Sopracretacei dell' Italia, per G. Michelotti. 4to. pam. Vicenza, 1841. *Author.*

August 17, 1842.

Regular meeting—Dr. Binney, Vice President, in the Chair.

Dr. Wyman enumerated the characteristics of a Batrachian Reptile of the genus Trachycephalus, sent by Dr. Cragin from Surinam.

He also noticed a specimen of Mygale, and exhibited a sketch representing the operculum which the animal is said to use for closing the aperture of its dwelling. Dr. Binney asked if Dr. W. had seen this operculum, as doubt of its existence had been expressed by Professor Hentz in his paper in the last number of the Society's Journal. Dr. W. replied that he had seen a specimen in the Museum of the Garden of Plants labelled "Nest of the Mygale," and from this his sketch had been taken.

Dr. Cabot made some remarks upon a volume of the Naturalist's Library respecting Gallinaceous Birds.

It is there stated that the Wild Turkey is to be found from the North West Territory to Darien. Dr. C. thinks it does not go so far south as Darien, and is not found west of the Rocky Mountains, and but rarely west of the Mississippi. The Mandan Indians who visited Washington, carried home a stuffed skin of the Turkey as a curiosity. The Turkey is stated to be extinct in the north-east-

ern parts of the United States, but the fact is otherwise. Dr. C. purchased one in the market, brought from New Hampshire. It is common in the western part of New York State.

Of the *Argus polyplectron*, this work asserts that the female has not been described. Dr. C. has one, and will furnish a description of it. *Tetrao urophasianus* is spoken of as abundant on the prairies, and much sought after by hunters. It is so unpalatable that no hunter, unless pressed by famine, would eat it. *Tetrao umbellus* is stated not to be found south of the Gulf of Mexico Nuttall says not south of Georgia.

Dr. J. B. S. Jackson had recently been afforded an opportunity of examining a specimen of the Tunny or Horse Mackerel.

According to Dr. Storer, the dorsal fin has 14 rays; in this specimen there were but nine.

Dr. Gould remarked that the fin rays of most fishes are exceedingly variable, and differ in number even on the two sides of the same fish.

Dr. Binney confirmed this remark. He also stated that a Tunny had recently been captured off New Brunswick, measuring 16 feet in length. It is not a rare fish, as is usually supposed, but is rarely taken, because its flesh is not prized for food.

ADDITIONS TO THE LIBRARY.

The Botanical Text Book, by Asa Gray, M. D. 12mo. New York, 1842. *Author.*

Naturalist's Library, Vol. II. on Ichthyology. 12mo. London. *Exchange.*

Rapport sur les Plantes Rares ou Nouvelles dans le Jardin de Botanique de Genève. Par M. De Candolle. 4to. pam. Genève, 1824.

Troisième, Quatrième et Cinquième Notices sur les Plantes Rares dans le Jardin de Genève. Par Wm. Aug. Pyr. et Alph. De Candolle. 3 pam. 4to. Genève *Professor Asa Gray.*

A Flora of the Northern and Middle Sections of the United States, by John Torrey. Vol. 1st, 8vo. New York, 1824.

A Sketch of the Botany of South Carolina and Georgia. By Stephen Elliott. 2 vols. 8vo. Charleston, S. C. 1821.

Flora Britannica, auctore J. E. Smith. Recudi curavit. J. J. Römer. 3 vols. 12mo. Turici. *Dr. B. D. Greene.*

September 7, 1842.

Mr. Dillaway was chosen Chairman.

Dr. J. B. S. Jackson gave some notices of the anatomy of a Blackfish, *Delphinus globiceps*, Cuv. which was recently harpooned near Craigie's bridge.

Dr. Wyman gave an account of a *Platydactylus theconyx* from Santa Cruz, presented by Miss Gardiner at the last meeting.

He also noticed Lieut. Wilkes' "Analysis of the Exploring Expedition," to which Mr. Couthouy added many interesting facts and remarks in relation to the Expedition during his connexion with it.

ADDITIONS TO THE LIBRARY.

Synopsis of the Cruise of the Exploring Expedition, by its Commander, Chs. Wilkes. 8vo. pam. Washington, 1842. *J. P. Couthouy.*

Revue des Fossiles du Gouvernement de Moscou. 8vo. pam. Par G. Fischer de Waldheim. No. 1. Belemnites. Moscou, 1842. *Charles Cramer.*

Proceedings of the American Philosophical Society, Vol. II. No. 22, for May, June, and July, 1842. 8vo. pam. *Amer. Phil. Soc.*

Animal Chemistry, by Justin Liebig, with Notes, &c., by Prof. J. W. Webster. 12mo. Cambridge, 1842. *Exchange.*

Transactions of the Linnean Society of London, Vol. XVIII. also, Part I. of Vol. XIX. 4to. London, 1838–42. *Linnæan Soc.*

Proceedings of the Linnæan Society of London, Nos. 1 to 10, also 13 and 14. 12mo. pam. London. *Linnæan Society.*

ADDITIONS TO THE CABINET.

Dr. Abbot presented a vertebra of a Cetacean, picked up on the beach at Barnstable.

Dr. J. B. S. Jackson exhibited some of the parts of the Chimpanzee presented by Dr. Savage.

The skeleton of a Chimpanzee, prepared by Dr. Lewis, was deposited in the Cabinet by him.

Adjourned,

T. BULFINCH, *Rec. Sec.*

September 21, 1842.

The President in the Chair.

Dr. Gould read extracts from a letter lately received by him from the Rev. Mr. Mason, American missionary at Tavoy, Burmah. An abstract follows:

Some knowledge of the natural sciences is important to missionaries, apart from the consideration of the communications that they may write home. On some it devolves to write dictionaries of foreign languages; but how can they give proper definitions of the objects of nature, without being first made acquainted with their proper names? Some become translators of the Bible, and the importance of this knowledge to them is apparent. The Burman translation abounds with unnecessary barbarisms, for the want of a little knowledge of botany in the translator. In Matt. xxiii. 23, "mint, anise and cummin" are transferred, three barbarisms together, and all unnecessary. For dill and cummin are constantly in market, with good native names, and a plant allied to mint is common. Camphire, *Sansonia inermis*, is disposed of in like manner; a shrub that may be seen in almost every native garden: and its leaves are constantly used by the Burmans, as by the Egyptians, to dye the finger nails red. So with the coriander, the seeds of which are always to be had in market; and so with the acacia, trees found almost every where, in town and country; and so in other cases. The palm of the scriptures which is the date palm, *Phœnix dactylifera*, has been rendered by the Fan palm, *Borassus flabelliformis*, a very different tree, though there are well known Burman names for each. Missionaries may, however, be excused for falling into some errors on these subjects; for the books written on them are often indefinite and confused in their statements.

and now and then contain downright error and contradiction. There is a tree in the Jungles, which I suspect is the sycamore; but for want of a good systematic description of that tree, I cannot be certain, and am afraid to adopt it, in the version. Yet I have commentaries, Bible dictionaries, and Greek and Hebrew lexicons that treat on the word in sufficient abundance, and which tell every thing about it, except what, for my purpose, is important to be known.

Dr. Cabot furnished a list of birds common to this country and the region of Yucatan.

Dr. Abbot brought in, for the Cabinet, a Fork-tailed Fly-catcher, (*Muscicapa savannah.*)

It is a native of North and South America, but rarely found in the United States.

ADDITIONS TO THE CABINET.

Dr. Storer placed on the table three species of fishes, viz.

Argyriosus vomer, taken in a seine at New Bedford, and sent to the Society by Mr. Horatio Leonard of that place. The only specimen Dr. S. has ever heard of as being taken in the waters of Massachusetts.

Esox minor, brought to him by Dr. Lernard of Sherburne. Dr. S. had never seen it, although, in his Report, he states that an Esox, with transverse bands, is known in the State.

Monocanthus brocchus. One specimen taken at Lynn, another at Nantucket beach, are the only specimens Dr. S. has ever seen.

Dr. Gould presented, in behalf of Rev. Dr. J. J. Robertson, Episcopal missionary at Constantinople, some shells from that locality, viz. 9 Clausiliæ, 1 Helix, also 3 birds and some insects from Abyssinia.

On motion of Dr. Gould, the thanks of the Society were voted to Rev. Dr. Robertson for these specimens.

ADDITIONS TO THE LIBRARY.

Annals and Magazine of Natural History, Nos. 59, 60, and 62; for July, August, and September, 1842. *Subscription.*

Supplementary Plates to Zoological Journal. Nos. 1 to 5. 8vo. pam. London. 1825—1835.

Zoological Journal, Nos. XIX. and XX. 8vo. pam. London, 1832, 1835.

Thesaurus Conchyliorum, or Figures and Descriptions of Shells, by G. B. Sowerby, Jr., 8vo. pam. London, 1842. *In Exchange.*

Proceedings of the Zoological Society of London. Part XI. 1841. 8vo. *Zool. Society.*

Adjourned.

T. BULFINCH, *Rec. Sec*

October 5, 1842.

Dr. Binney, Vice President, in the Chair.

Dr. Binney made a report upon two works of Sig. Michelotti of Turin, recently presented by the author.

The first, a monograph of the genus Murex, is minute and careful in its descriptions, qualities of the highest importance in a work of this kind. The other volume is upon Rhizopoda, or microscopic camerated shells. These shells, when first made the subject of investigation by D'Orbigny, were considered as belonging to Cephalopoda of as high an order of organization as the larger animals of that family. But later investigations by Dujardin represent them as internal shells belonging to infusorial animalcules, and of the lowest grade of organization. This author's views coincide with the latter opinion.

Dr. Gould remarked, that, in some recent microscopical investigations with Dr. Wyman, on some of the Gasteropodous mollusca, the conclusion had been forced upon them that many of the Infusorial animalcules would be found to occupy a place in the chain of being very little anticipated.

He hoped soon to present a full development of these observations. He made the general remark that he thought it not safe to

regard any of the forms of the invertebrate animals as mature, unless that form had been detected in the parent state.

Dr. Gould gave verbal notices of a number of the Proceedings of the American Philosophical Society—also, notices of Thesaurus Conchyliorum. No. 1, by G. B. Sowerby, Jr.

He gave the latter work high praise, particularly remarking upon the excellence of the figures. In respect to the reduced figures, all on the same page are reduced in the same ratio, so as to give a correct comparative view. The genus Helicina was remarked upon as having been much increased of late with new species. Lamarck enumerated 12; J. E. Gray added 16; this writer makes 77; and yet has mentioned none from the islands of the Pacific, from which source, numerous species have recently been brought. About one third of the species found in the Boston cabinets are not found in this work, showing how much the number of actual species is yet to be extended.

ADDITIONS TO THE CABINET.

Dr. Abbot announced the following additions in his department:

Baltimore Oriole, or Golden Oriole, male and female; *Icterus Baltimore*, Bonap.

Blue-bird, male and female, *Ampelis sialis*, Nuttall.

Black and White Warbler or Creeper, *Sylvia varia*, Latham.

Flicker, or Golden-winged Woodpecker, female, *Picus armatus*, Linn.

Hairy Woodpecker, male, *Picus villosus*, Linn.

Downy Woodpecker, male and female, *P. pubescens*, Linn.

Tropic Bird, *Phaëton œtherius*, Linn.

Bartram's Tatler, *Totanus Bartramius*, Temminck.

Great or Common Tern, *Sterna hirundo*, Linn.

The last named presented by Dr. Abbot.

Mr. Bryant announced a donation from Mr. W. B. Reynolds, Jr. consisting of 29 birds from Bengal, 15 fishes from the Ganges, 3 snakes, 1 crustacean. On motion of Dr. Wyman the thanks of the Society were voted to Mr. Reynolds for this donation.

Shells from the Philippine Islands, as follows:

Helix pulcherrima,	H. cepoides,
H. polychroa,	H. florida,
H. concinna,	H. mirabilis,
H. Valenciana,	H. bizonata,

and three species not named. *From Dr. J. C. Jay, of N. York.*

A box containing fossils from Italy, was committed to Mr. Bouvé and, on motion, the thanks of the Society were voted to Sig. Michelotti for this valuable donation. *From Sig. Michelotti.*

Several specimens from Iowa territory, including Stalactite, Marble, Lead ore, Fossils and Soil, the latter from Huron Co., Ohio, were committed to Mr. Teschemacher. *Presented by Mr. Asa Ward.*

ADDITIONS TO THE LIBRARY.

An Address delivered before the Massachusetts Horticultural Society, by J. E. Teschemacher. 8vo. pam. Boston, 1802. *Author.*

A Catalogue of the Phenogamous Plants of Columbia, S. C., and its vicinity. By Lewis R. Gilley. 8vo. pam. 1835. Columbia, S. C. *Dr. H. I. Bowditch.*

A Catalogue of the Mammalia of Connecticut. By James I. Linsley. 8vo. pam. New Haven, 1842. *Author.*

October 19, 1842.

Regular meeting—the President in the Chair.

The President read a paper by F. Boott, of London, entitled "Descriptions of Six North American Carices." It is the beginning of a work which Dr. Boott has undertaken and intends to continue, and which he has thus far executed with great minuteness.

Mr. Teschemacher reported on some specimens of corn from Texas, and some minerals from Iowa.

The corn (*zea mays*) from Texas, has several envelopes to each kernel. Bonnafous, who has given a figure of it in his splendid work, ranks it as a species. Mr. T. had planted a single seed

which was enclosed in a single envelope, by his own hand, purporting to have come from the Rocky Mountains. When its seed had arrived at maturity, it was naked, as maize usually is. The same result has been witnessed by others; if so, it cannot claim to be a distinct species, or at least, no specific characters can be founded on these envelopes.

He also reported upon some soil from Huron Prairie, Ohio.

It is clayey and adhesive, and, therefore, likely to retain moisture, and would probably prove, in a high degree, rich and fertile. The power of soils for retaining moisture, results from the salts and other substances contained in them, and is considered one of the most important properties for productiveness. He objected to the usual method of ascertaining the capacity of a soil for moisture, by subjecting it to intense heat, and then weighing the residuum; for the loss of weight which is thus produced, may result from the disengagement of nitrogen, and other gaseous constituents.

Dr. Storer reported on the specimens of fishes from the Ganges, fifteen in number, presented by Mr. Reynolds at the last meeting.

They belong to six different species, viz.: *Lates nobilis*, Cuvier, described by Shaw, Gen. Zool. vol. iv. p. 563, under the name of *Holocentrus calcarifer*, from the spines on the operculum. *Corius polota*, Hamilton, "Fishes of the Ganges," plate 38, fig. 31. *Labrus jaculator*, Shaw's Zool. vol. xiv. p. 485,—derives its name from the instinct which it possesses, of projecting drops of water on insects, and thus securing them for its prey. *Ophicephalus marulbrius*, Hamilton, pl. xxii. fig. 19. This species is said to be very tenacious of life; in China, it is carried about in water, and pieces cut off for sale as they are wanted; it brings a high price as long as life lasts; but is not valued when dead. *Tetraodon fluviatilis*, Hamilton, pl. xxx. fig. 1. *Cyprinus rohita*, Hamilton, frequently acquires the length of three feet, and is considered most excellent food.

Dr. Storer also presented for the Cabinet a specimen of *Squalus mustelus*, Lin. *M. laevis*, Cuvier, or "Smooth Shark" of Pennant.

Dr. Wyman exhibited specimens of *Brachycephalus ephippium*, Fitzanger, from South America.

Like other Brachycephali, the superior and lateral surfaces of the head are covered with an expansion of the cranial bones, and on the dorsal region it is in addition provided with a long plate, resembling a saddle; this last is formed by the expansion of the spinous processes of the dorsal vertebræ, and represents, in a rudimentary manner, the dorsal plates of the Testudinata.

He also exhibited preparations of the tegumentary skeletons of the Scorpion, Cetonia and Dytiscus.

Dr. Gould called the attention of the Society to a pamphlet on the Mollusca of Vermont, by Prof. C. B. Adams, of Middlebury College.

None but fresh water and land shells are found in Vermont; and of 87 species enumerated by Professor A., 28 have not yet been found in Massachusetts; 17 species belonging to Massachusetts are not enumerated as existing in Vermont, though *Unio radiatus*, one of them, is known to be an inhabitant of that State. Prof. A. distinguishes *Pupa modesta* from *P. ovata;* Dr. G. regards the former as the young of the latter. *Pupa albilabris* is named on the authority of "Ward inedited" a deviation from the received rule that no name can be recognized until published. This is the *Cyclostoma marginata* of Say; but a change of name being requisite, *P. fallax*, another of Say's names, has been adopted in the Report on the Invertebrata of Massachusetts.

ADDITIONS TO THE LIBRARY.

Genessee Farmer, No. 10, Vol. III. Rochester, 1842. 8vo. pam. *H Colman, Editor.*

American Journal of Science and Arts, conducted by Professor Silliman and B. Silliman, Jr. No. 2, Vol. XLIII. 8vo. New Haven. *Editors.*

Annals and Magazine of Natural History, No. 61 of Vol. 9, and 63 of Vol. X. 8vo. pam. London, 1842. *Courtis Fund.*

Albany Gazette for Oct. 21, 1842. folio. Newspaper. *Albany Institute.*

Report from Secretary of the Navy, communicating a Report on the Second Invention of I. S. Eaton for preventing Explosion of Steam Boilers. 8vo. pam. 1842. Washington. *W. R. Johnson.*

Journal of the Academy of Natural Sciences of Philadelphia, Vol. VIII. Part II. 8vo. pam. Phil. 1842. *Acad. of Nat. Sciences.*

Adjourned.

THOMAS BULFINCH, *Secretary.*

November 16, 1842.

Dr. Binney, Vice President, in the Chair.

Professor Gray gave an abstract of the Botanical Articles in the Transactions of the Linnean Society of London, Vols. XVIII. and XIX. Part 1.

Dr. C. T. Jackson gave an account of some minerals noticed by him in his Geological Survey of New Hampshire during the last summer.

In the town of Cornish he discovered an ore containing antimony, copper, silver, &c., in the following proportions, viz.

Copper, - - -	28,339
Antimony, - - -	28,121
Iron, - - -	11,095
Sulphur and loss, -	28,050
Silver, - - -	3,9000
	100,000

This is a rich ore, and worth $1 90 per cubic foot.

In the same town was found an ore of antimony and copper without silver. In Warren there exists, in a bed of Tremolite, an ore of copper containing 20 per cent. of metal, and very abundant. In Unity, there exists Polymignite; in Cornish, Titanium; in Charlestown, Staurotide macle passing into Andalusite; and in Grafton, Beryls of a fine quality.

Dr. Abbott gave notices of some recent additions to the Cabinet of Ornithology, viz.

Strix asio, Lin.—Little Screech-owl.

Certhia familiaris, Lin.—brown creeper, male.

Parus atricapillus, Lin.—chicadee, or black-capped titmouse, male.

Fringilla Savanna, Wilson—Savannah sparrow, male.

F. socialis, Wilson—Chipping sparrow, male.

F. Pennsylvanica, Lath.—White-throated sparrow.

Sitta Carolinensis, Lin.—White-breasted nuthatch, male.

Picus erythrocephalus, Lin.—Redheaded woodpecker.

DONATIONS TO THE LIBRARY.

Salices Americanæ. North American Willows. By Joseph Barratt, M. D. 4to. pam. Middletown, Con. 1840. *Author.*

Notes of a Tour to the White Hills. By E. W. Southwick. 8vo. pam. 1841. *Author.*

Mollusca. Fresh Water and Land Shells of Vermont. By C. B. Adams. 8vo. pam. 1842. *Author.*

American Antiquarian Society's Fifty-Third Semi-Annual Report. 8vo. pam. Worcester, 1839.

Address before the American Antiquarian Society. By William Lincoln. 8vo. pam. Worcester, 1835. *Dr. Jacob Porter.*

Iconographia Generum Plantarum, edidit Stephanus Endlicher. 8vo. Vindobonæ. 1838.

Genera Plantarum secundum Ordines Naturales disposita. Auctore Stephano Endlicher. 8vo. Vindobonæ, 1836—1840.

Tentamen Pteridographiæ. Auctore Carolo Bor. Presl. 8vo. Pragæ, 1836. *Courtis Fund.*

Proceedings of the American Philosophical Society, Vol. II. No. 23, for August, September, October, 1842. 8vo. pam. *A. P. Soc.*

New Genesee Farmer, Vol. III. No. 11, for November, 1842. *H. Colman, Editor.*

Proceedings of the Academy of Natural Sciences of Philadelphia, Nos. 17, 18, 19, Vol. I. for August, September, and October, 1842. 8vo. pam. *Acad. of Nat. Sciences.*

Memoires de la Soc. de Physique et d'Histoire Naturelle de

Genève. Tome VIII. et Tome IX. 1ère partie. 4to. Genève, 1841–42. From the *Society.*

Annals and Magazine of Natural History, No 64, for November, 1842. 8vo. pam. London *Courtis Fund.*

ADDITIONS TO THE CABINET.

Specimens of Mammals, Fishes, Crustacea, Insects, &c. from Martha's Vineyard. *From L. M. Yale, M. D.*

A suite of specimens of Sulphur from the vicinity of Mount Etna. *From John Randall, M. D.*

Cranium of a Whale. *From Capt. Wm. Cook of Provincetown.*

The thanks of the Society were voted to Drs. Yale and Randall, also to Capt. Cook, for their valuable donations.

A box was also received from Dr. F. W. Cragin of Surinam, a corresponding member of the Society, containing 100 bird skins, skin of the Giant Armadillo, (*Dasypus giganteus,*) crania of a Jaguar and of a Cebus, bird's nests, shells, seeds, &c.

The thanks of the Society were voted to Dr. Cragin for this valuable donation, also for repeated instances of liberality in making additions to the Cabinet.

Adjourned,

T. BULFINCH, *Rec. Sec.*

December 7th, 1842.

The President in the Chair.

Dr. Gould exhibited a Crustacean, from Long Island Sound, presented to the Society by Dr. Yale, which he had figured and determined to be the *Squilla empusa*, of Say.

Three or four specimens of the same species had been recently taken.

He also read a description of a new species of Crustacean of the genus PASITHOE (Goodsir) viz.

P. umbonata, Gould. Body oval, orbicular, hirsute, with a prominent process arising from middle of back. Span of legs $\frac{1}{3}$ inch.

It differs from the species described by Goodsir, in the circular

shape of its body, the absence of a projecting point from the posterior segment, and the existence of an elevated umbo on the back.

He also exhibited specimens of *Pyrosoma gigantea*, referred to him at a previous meeting, recently presented by Dr Yale.

Dr. Binney gave the results of his observations made during two successive summers at Nahant, on the habits of the *Orthogariscus mola*, or short sunfish.

He had found it common in our waters during the summer ; it is very sluggish in its motions, and the surface of the body is usually infested with numerous parasites. Dr. Binney had satisfied himself that these animals subsist on the Acalepha. He has frequently found remains of the Medusæ in their stomachs, and has seen one captured while in the act of sucking in a large specimen of one of these animals. Their slow movements, and inefficient jaws prevent them from pursuing a more active prey.

Mr. Bryant stated, that, while off our coast during the past summer, he had sometimes seen ten or twelve in the course of a day.

Professor Gray made some remarks on the Monograph of Professor Choisy on the genus *Cuscuta* published in the "Mem. de la Soc. de Physique and d'Hist. Nat. de Genève."

With regard to the plants to which they attach themselves, Professor Choisy says that they have never been found on those possessing acrid or poisonous juices. Dr. Gray has seen a species on the Cherry Laurel, (*Cerasus Caroliniana,*) the poisonous principle of which is Prussic acid. Though most commonly met with on the Compositæ and Leguminosæ, Professor Decandolle had met with it in one instance only upon one of the Grasses ; but in this country at least, one genus of Grasses, (*Leersia,*) is occasionally infested by these parasites. Six of the species of this country described by Dr. Engelman appear not to have fallen under Professor C's observation. *Cuscuta Gronovii* of Choisy is identical with the C. *vulgivaga* of Engelman ; and his C. *glomerata* is Dr. E's yet unpublished C. *adpressa.*

Professor Gray also exhibited, under the microscope, specimens of the papillæ covering the achæna of the seeds of the genus Senecio, which, when moistened, project from their extremities spiral

filaments. In the genus *Blennosperma*, (see Torrey and Gray's Flora of North America, Vol. II. p. 272,) these threads are of great tenuity; and in the genus *Crocidium*, they are broad and flat.

Dr. Wyman reported upon a specimen of a marsupial animal from New Holland. This he found to be a rare animal, called by the natives the "Nombite," and is the *Myrmecobius fasciatus*, Waterhouse, and is described and figured in Trans. Zool. Soc. Lond. Vol. I.

Dr. Storer exhibited a drawing of the *Torpedo nobiliana*, Bonaparte, recently captured at Wellfleet, Cape Cod.

He had been well aware of a fish on our coast called by the fishermen the "cramp fish," but having had no previous opportunity to examine it, he had hitherto supposed it to be the *Torpedo vulgaris*. This specimen agrees accurately with a description given by Mr. Thompson, in the Annals and Magazine of Natural History, Vol. V.

ADDITIONS TO THE LIBRARY.

Transactions of the Linnæan Society of London, Vol. XVIII. Part 4. 4to. 1841. London.

Proceedings of the same, Nos. 11, 12. pp. 89 to 112. 8vo. London. *Linnæan Society.*

Proceedings of the Academy of Natural Sciences of Philadelphia, June and July, 1842. Nos. 15, 16, Vol. I. *Acad. of N. S.*

Sull' Ernie, Osservazioni di Placido Portal da Palermo 8vo. pam. Napoli, 1842. *Author.*

Index plantarum quas Societas Imperialis Naturæ Curiosorum Mosquensis pro mutuâ Commutatione offert. 4to. pam. 1840. *Charles Cramer.*

ADDITIONS TO THE CABINET.

Specimens of Fusus, Achatina, Parluta, Achatinella three species, Neritina, Bulla and Eulima, all from the Sandwich Islands. *From James J. Jarves.*

Specimens of Paludina subcarinata. *From J. G. Anthony of Cincinnati.*

Mycetopus siliquosa, Unio obtusus, Bulimus auris-muris, B. Capueira, B. Bahiensis, Cyclostoma Blanchetianum, Helicina variabilis, Anodonta anserina, all from Brazil. *From Dr. A. A. Gould.*

January 4, 1843.

Dr. Gould was appointed Chairman.

Mr. E. S. Dixwell exhibited some specimens of lias limestone from Meadville, Pa., in which were imbedded some conical masses of about an inch in height, and somewhat less at base.

He desired an opinion whether they were organic structures or otherwise. They were committed to Mr. Bouvé.

Dr. Abbot made a report upon some of the birds' skins recently received from Dr. Cragin of Surinam. There were five species, all new to our cabinet, viz.

Rhamphastos Tucanus, Lin.
Rhamphastos viridis, Lin.
Rhamphastos piperivorus, Lin.
Rhamphastos erythrorynchus, L.
Rhamphastos aricari, Lin.

Dr. A. also exhibited some skins of native birds recently added to the Cabinet, viz.

Tringa alpina—Oxbird, (winter plumage.)
Sylvia icterocephalus—Chesnut-sided warbler, (male.)
Sylvia Americana—Parti-colored warbler, (male.)
Sylvia Canadensis—Black-throated blue warbler, (male.)
Sylvia trichas, Maryland yellow-throat, (male and female.)
Sylvia rubri-capilla—Nashville warbler.

Professor Gray exhibited a specimen of *Carex Fraseriana*, an American plant, which had been so long unnoticed as to have been regarded as lost. It was rediscovered by a party of which Prof. G. was one, on Grandfather Mountain, North Carolina.

Dr. Wyman exhibited specimens of *Echinorynchus nodosus*, Rudolphi, a parasite infesting the intestines of the striped bass. (*Labrax lineatus.*)

To a space three inches in length and one in width were attached twenty or more of different sizes. In some instances the head of the animal protruded, having pierced the intestine, while the body remained within.

Baron Benjamin Delessert, of Paris, was elected an honorary member.

ADDITIONS TO THE CABINET.

A Box of Crustacea from Terra del Fuego. *From Joseph P. Couthouy.*

Specimens of the imbricated bony plates found beneath the skin, on the humeral region of the Horse Mackerel, (*Thynnus vulgaris*). *From Dr. Toomey of Chelsea.*

January 18, 1843.

Mr. Bouvé was appointed Chairman.

Mr. Teschemacher reported on some slabs of slate with dendritic markings, recently quarried in Newton.

The stone is a quartzose argillaceous slate, of a light gray color, contrasting beautifully with the dendritic markings. These markings suggest the idea that they are the remains of Algæ. Mr. T. found no trace of organic matter in their composition ; on the other hand, their metallic nature was established by obtaining a globule of Manganese. He supposes the particles of Manganese to have subsided, in the solution in which they were contained, and to have assumed a dendritic form by pressure between the layers. He in fact exhibited the same appearance, which he had obtained by pressing manganese between two plates of glass. Similar markings, though less noticeable, are found in the Roxbury pudding-stone, and in a similar German sandstone.

Dr. Wyman read a Report on the Chimpanzee presented by Dr. Savage. He compared the skeleton and all the viscera, in detail, with those of man, and the ourang outang.

He also exhibited, in behalf of Dr. Storer, the ovary of a striped bass. From some unknown cause, the annual product of eggs

appeared not to have been excluded for six successive years ; and the mass exhibited, on a cross section, as many layers, distinctly marked at the line of junction.

Mr. Perkins exhibited splendid specimens of the Goliath Beetle, (*Goliathus Drurii*,) male and female. The female is supposed to be the first which has ever been brought across the Atlantic. On motion, it was voted, that a description, with figures, of these insects be prepared for our Journal.

Mr. Bouvé made a report upon the specimens (Conolites) from Meadville, Pa. exhibited at the last meeting.

He had not been able to ascertain their nature, or to decide whether the bodies were concretionary, crystalline, or organic. He was of the opinion, that they were not organic. Nothing of the kind is described in any work to which he had access. The great want of books in our library on this branch of Geology was greatly to be lamented.

He also gave some account of the Sulphurs and other minerals of Vesuvius, recently presented by Dr. Randall.

Dr. Abbot continued his account of the birds' skins from Surinam, and exhibited the following:

Psittacus menstruus, L.	Psittacus Guianensis, L.
Psittacus purpureus, L.	Psittacus purpuratus, L.
Psittacus passerinus, L.	Crimson & blue collared Parrot.

Seeds of the *Aleurites grandiflora*, from the Sandwich Islands were presented by James J. Jarves.

ADDITIONS TO THE LIBRARY.

Annals and Magazine of Natural History, Dec. 1842. 8vo. Lond. *Courtis Fund.*

American Bacillaria, by J. W. Bailey, 8vo. pam. 1842. *Author.*

Transactions of the American Philosophical Society of Philadelphia, Vol. VIII. Part. II. New Series. 4to. Philad. 1842. *From the Society.*

American Journal of Science and Arts, Vol. XLIV. No. 1. *From Messrs. Silliman.*

Brevi Cenni sulla Condizione attuale della Sardegna, autore G. Michelotti. 8vo. pam. Torino. 1842.

Saggio Orittografico sulla Classe dei Gasteropodi Fossili dei Terreni Terziani del Piemonte. S. Bellardi e G. Michelotti. *From Signore Michelotti.*

Treatise on some of the Insects of New England which are injurious to Vegetation. By T. Wm. Harris. *From the Author.*

Selections from the Scientific Correspondence of Cadwallader Colden. 8vo. pam. 1843. *From the Editor, Professor Asa Gray.*

Annals and Magazine of Nat. History, Nos. 66, 67. 8vo. Lond. *Courtis Fund.*

Reply to Dr. Hare's Objections relating to Whirlwind Storms, by W. C. Redfield. 8vo. pam. 1842. *From the Author.*

New Genessee Farmer, Vol. III. No. 12. 8vo. *From H. Colman.*

Fifty-fifth Annual Report of the Regents of the University of N. York. 8vo. pam. Albany. 1842. *From G. B. Emerson.*

De Solariis in Supracretaceis Italiæ Stratis repertis. auct. J. Michelotti. 4to. pam. 1841. *From the Author.*

February 1, 1843.

Regular meeting—the President in the Chair.

Mr. Bouvé reported on a specimen of lead ore from the Southampton lead mines which he had found to be carbonate of lead.

Dr. Gould exhibited a portfolio of British Zoöphytes elegantly preserved, which he had lately received from Dr. Johnston of Berwick-upon-Tweed, accompanied with an interesting letter.

Among other facts, Dr. Johnston states that he has kept various species of Mollusca alive for ten months, in a jar of sea water stopped with a cork, *without changing the water.* He ascribes the prolonged purity of the water to the presence of a tuft of *Corallina officinalis.* A growth of *Conferva* had sprung up in the mean

time. Dr. Gould stated that his own observations would give confirmation to this conjecture. Sea water would remain pure for any length of time, if some marine vegetable were placed in it; otherwise it became putrid, and required to be changed every twenty-four hours. It struck him, that the experiment of Dr. J. settled the disputed question as to the vegetable or animal nature of the Corallina. It must be a vegetable.

Dr. Wyman mentioned an experiment by Dumas, in which a fish was kept alive in a closely stopped jar of water containing Conferva. While the light acted upon the vegetable matter, a sufficient quantity of oxygen was disengaged for the respiration of the fish, the fish giving out enough carbonic acid for the nourishment of the plant. When the light was excluded, the fish died.

Dr. Wyman made some remarks on some late experiments of Doyère of Paris, made with a view to test the fact first recorded by Leuenhoeck and Spallanzani, of the revification of animalcules after complete desiccation.

He has shown Spallanzani's experiments to be correct; and has succeeded in reducing to dryness rotifers and tardigrades by the complete evaporation of the drop of water in which they were contained; and, after exposing them to a heat equal to that of boiling water, they were easily reänimated by being moistened with distilled water. Dr. Wyman also stated that an experiment of his own showed them to be equally capable of bearing extreme cold. The water containing some, having been frozen for many days, the animalcules were found alive and active in the water when thawed.

Dr. Abbot stated that, to his knowledge, seven specimens of the Great Cinereous Owl, (*Strix cinerea*,) had been taken in Massachusetts within the past year; a bird hitherto considered by ornithologists as very rare in our State.

ADDITIONS TO THE CABINET.

Dr J. B. S. Jackson presented the teeth of *Delphinus globiceps* fixed on a black tablet in their order, showing, in the upper jaw, nine on each side, and, in the lower jaw, eight on one side and ten on the other. He remarked that the jaw exhibited no trace of the existence of the deficient teeth. Dr. J. also presented a very

beautiful figure of the animal drawn by Dr. W. T. Parker of South Boston.

ADDITIONS TO THE LIBRARY.

Proceedings of the Acad. of Nat. Sciences, Philad. Nov. & Dec. 1842. 8vo. pam. *From the Academy.*

Twenty-second Annual Report of the Mercantile Library Association, New York. 8vo. pam. 1843. *From the Association.*

Instructions for collecting and preserving various subjects of Natural History, with a Treatise on Insects, by J. T. Donovan. 8vo. 10. Lond. 1794--1801. *Courtis Fund.*

February 15, 1843.

Regular meeting—Mr. Bouvé in the Chair.

Dr. Wyman remarked upon some articles in the numbers of the Annals and Magazine of Natural History committed to him, particularly a paper on the growth of Fungi in Fruits.

Fungi attack both vegetable and animal structures, and late experiments have shown that healthy fruits may be infected with them by inoculation. Another paper in the same number, in a notice of Agassiz' work on Freshwater Fishes, states, that fungi also infest the ova of that class of animals. They are also found in the cavities caused by certain diseases of the lungs. To an inquiry from Dr. Wyman whether he had made any observations of their attacks on fruits, Mr. Teschemacher replied that he had, some time since, traced the discoloration of the cuticle of the St. Michaels pear to this source; also, the mould that infests the Gooseberry. All dark spots and scabs on fruits are probably of the same origin. They destroy the cuticle, and prevent growth. The Spores, diffused through the air, lodge wherever they find a spot favorable to their developement.

A perfect specimen of the flower of the *Cheirostemon*, the Arbol de Manitos of Mexico, preserved in alcohol, was presented by Mr. Lawrence.

Mr. Teschemacher stated that it belongs to the family Sterculiaceæ, tribe Bombaciæ, and is the only known species of the genus Cheirostemon, a name derived from its five stamens being arranged in a palmate manner. He also exhibited its interesting structure, and made some remarks on the mode of growth, &c.

Mr. Teschemacher presented specimens of Guano just received from the coast of Peru, containing feathers, with the request that they might be referred to the ornithological section of the Society to ascertain, if possible, their nature.

With reference to the opinion, entertained by some, that the Guano had been accumulating from a period perhaps prior to the origin of the human race, Mr T. translated the following passage from the "Memoriales Reales" of "Garcilasso de la Vega." Lisbon, 1609, p. 102. "On the seacoast, from below Arequipa as far as Tarapaca, which is more than two hundred leagues of coast, they use no other manure than that of marine birds, which exist on all the coast of Peru, both great and small, and go in flocks perfectly incredible, if not seen. They are reared on some uninhabited islands which exist on that coast, and the manure that they leave is of inconceivable amount. At a distance, the hills of it resemble the mounds on some snowy plain. In the time of the Incas there was so much vigilance in guarding these birds that, during the rearing season, no person was allowed to visit the islands under pain of death, in order that they might not be frightened and driven from their nests. Neither was it allowed to kill them at any time, either on or off of the islands, under the same penalty." Each district or territory also had a portion of these islands allotted to it, the penalties for infringement of which were very severe. From this extraordinary case it is probable that the Incas did not permit any remarkable consumption of this valuable manure beyond the annual additions; and the consumption during the depopulation of South America by the Spaniards could, by no means, have equalled those annual deposits. Even the greatest thickness of seven to eight hundred feet might, without extravagant calculation, be deposited in about three thousand years at the rate of two or three inches a year. The feathers do not appear

different from those of birds of the present day. Mr. Blake, a member of our Society, who has visited these deposits, has a shell found in the Guano, very much resembling the *Crepidula fornicata* of this coast, but not in any way fossilized. On this coast it never rains, so that the deposits of manure are not, like those on other coasts, annually washed away.

Mr. Teschemacher next exhibited dendritic appearances, artificially produced, resembling, in their forms, those of the Dendritic Manganese from Newton, Mass.

They were formed by laying finely pulverized earth on a slip of glass, moistening it with a few drops of water, and then covering it with a thin plate of mica without further pressure. On the gradual evaporation of the water, the particles of earth, under the slight pressure of the mica, aggregated themselves into these dendritic forms.

Mr. Stoddard read a paper entitled "An Hypothesis to explain the Changes of the Surface of the Earth," which, on motion of Dr. Gould, was committed to a select Committee for examination and report. Dr. C. T. Jackson, Dr. Binney and Mr. Emerson were chosen the Committee.

Dr. Binney said he had lately visited Washington, and stated that an unfavorable impression which he had received of the value of the collections of specimens in Natural History made by the late Exploring Expedition, and the care bestowed on their preservation, had been entirely removed.

Rev. Francis Mason, missionary in Burmah, was elected a corresponding member.

ADDITIONS TO THE LIBRARY.

Annals and Magazine of Natural History, for February, 1843. *Courtis Fund.*

Description des Cancellaires Fossiles des Terrains Tertiaires du Piedmont, per L. Bellardi. 4to. pam. Turin. 1841. *Dr. C. T. Jackson.*

Histoire Naturelle des Rainettes, des Grénouilles et des Crapauds, par Daudin. *From S. S. Haldeman.*

Illustrations of British Ornithology. By P. J. Selby. 8vo. 2. Edin. *Exchange.*

March 1, 1843.

Regular meeting—Dr. Binney, Vice President, in the Chair.

Dr. Wyman exhibited some specimens of *Linguatula*, parasites from the inner surface of the lung of a Boa, which he had lately dissected.

One was about three inches long, others from an inch to an inch and a half. They were alive when taken from the lung. Dr. W. had nowhere met with a description of this species.

Dr. W. also exhibited some specimens of Ascarides from the *Cyclopterus lumpus*, Lump fish. They were alive when taken, although the fish had been completely frozen for two days

Dr. Wyman remarked upon a work on Frogs by Daudin presented to the Society by Mr. Haldeman.

It is an old work, and some of the statements respecting American species were gathered from rumor. The author says the Bullfrog is common in the southern States, but rare in the north; that the inhabitants protect them, thinking they keep the waters pure; that one pair only inhabit a pond; that they have holes in the bank in which they live, only taking to the water when alarmed, &c. Dr. W. had himself observed them in variable numbers in the ponds at Mount Auburn, and other places.

The Librarian announced that he had received a subscription paper, of which the following is a copy:

"Understanding that Audubon's work on the Quadrupeds of America is to come out in numbers, and to be completed in five years, at the expense of three hundred dollars, and thinking that a copy should be in the Library of the Boston Society of Natural History, the subscribers agree to pay each one tenth part of the expense of a copy of that work for said Library.

G. B. Emerson,	J. A. Lowell,
N. I. Bowditch,	Geo. Parkman,
Amos A. Lawrence,	Wm. Sturgis,
Amos Binney,	F. C. Gray,
Geo. C. Shattuck, Jr.	J. J. Dixwell.

It was thereupon voted, "That the thanks of the Society be rendered to the gentlemen who have so liberally contributed to bestow upon it this valuable donation, and that the Secretary be instructed to notify each of the gentlemen of this vote."

ADDITIONS TO THE LIBRARY.

Report on the Geology of Connecticut. By J. G. Percival. 8vo. New Haven. 1842. *From the Author.*

Agricultural Address. By Henry Colman. 8vo. pam. Rochester. 1842. *The Author.*

Annals and Magazine of Nat. History, for March, 1843. *Courtis Fund.*

March 15, 1843.

Regular meeting—the President in the Chair.

Dr. Wyman was chosen Secretary, *pro tem.*

Dr. Gould read a paper on Zoölogical Nomenclature, founded on the proposition recently made by the British Association for a reformation in Zoölogical Nomenclature, and upon Agassiz's "Nomenclator Zoölogicus." (See Silliman's Journal. Vol. XLV. p. 1).

Dr. Abbot exhibited the following specimens recently added to the Society's collection of mounted birds, viz:

Strix asio, male,	Muscicapa ruticilla, female,
Tringa pectoralis,	Caprimulgus vociferus,
Cervus cristatus, male,	Caprimulgus Virginianus,
Vireo olivaceus,	Pyrrhula frontalis,
Vireo flavifrons,	Fringilla purpurea, male,
Muscicapa Cooperi,	F. graminea.

Dr. Binney read a critical notice of the species found in the United States, which, at present, are described as constituting the genus Pupa.

Having examined, with the aid of a microscope, well authenticated specimens from most of the public and private collections in

the country, he had arrived at the conclusion that identical species have, in many instances, been described under different names, and that a very considerable deduction ought to be made from the number of species now recorded. The number of species described by American authors he found to be 18. On these species, he submitted the following statement:

The original specimens of *Cyclostoma marginata* and *Pupa fallax*, Say, are identical.

The original specimen of Mr. Say's *P. placida*, in the Collection of the Academy at Philadelphia, is *Bulimus hordeaceus*, of Europe.

P. *ovata* and P. *modesta*, Say, are identical, the latter being an immature stage. In this opinion Dr. Gould coincides.

P. *procera*, Gould, is identical with P. *rupicola*, Say.

P. *curvidens*, Gould; P. *Tappaniana*, Adams; and P. *pentodon*, Say, are identical. Thus six of the eighteen species are struck out. Of the twelve remaining species, Dr. B. considered two uncertain, viz: P. *simplex*, and P. *carinata*, Gould.

Dr. Binney further observed that there was another well characterized species of Pupa which he had possessed for several years, and which seemed to be very common in the North-Eastern and Middle States, which had not yet been described. It was intermediate between P. *ovata*, Say, and P. *milium*, Gould, having, like them, a heart-shaped or double-curved aperture, the animal also, like theirs, having only two tentacles, and belonging evidently to the genus Vertigo of Muller. He proposes for it a specific name, and describes it as follows:

P. Gouldii. Testâ minutâ ovato-cylindricâ, sub-castaneâ; anfractibus pluribus quàm quatuor, apice obtuso; aperturâ sub-caudatâ, bilobatâ; dentibus quinque armatâ, labro subreflexo.

Animal, with two tentacles only. Black above. Foot grey, short posteriorly. Shell light chestnut, cylindrical ovate, whorls between four and five, rather ventricose; the last occupying nearly half the length of the axis; apex obtuse; aperture lateral, composed of two unequal curves, meeting in the centre of the outer lip, with five prominent white teeth, viz: one upon the transverse margin, two upon the umbilical margin, and two upon the labial margin; lip thickened, not reflected; umbilicus a little open.

If this species should be received, and the views of Dr. Binney

should be acquiesced in as regards the other species, there would remain eleven certain species, viz:

P. *fallax*, Say. Synon. P. *marginata*, Say; P. *albilabris*, Adams.

P. *armifera*, Say.

P. *contracta*, Say.

P. *rûpicola*, Say. Synonym, P. *procera*, Gould.

P. *pentodon*, Say. Synonyms, P. *curvidens*, Gould; P. *Tappaniana*, Adams.

P. *exigua*, Say.

P. *ovata*, Say. Synonym, P. *modesta*, Say.

P. *badia*, Adams.

P. *milium*, Gould.

P. *Gouldii*, Binney.

Dr. Gould made some verbal remarks on Dr. Binney's paper.

He concurred in most of Dr. B.'s conclusions. He allowed that no one would be justified in making a species of such imperfect specimens as Dr. B. had seen of P. *simplex*. Very few had as yet been found; but the characters of the entire specimens were so distinct, that he felt confident it would prove a good species. P. *carinata*, to be sure, was founded upon a single specimen, now lost. But he did not think that a shell so peculiar in so many respects could belong to any known species; nor was he satisfied that P. *rupicola* and P. *procera* were synonymous. The name P. *pentodon* might well give place to one of the other names, inasmuch as it is a *misnomer*, the name having been given to the immature shell, before the aperture was complete, and when only five teeth were to be found; or, it might be applied to the new species described by Dr. B. The characters of the aperture agree generally with P. *curvidens*; but, if they are the same, there is an extraordinary difference on account of locality; the western specimens, (P. *pentodon*,) being of a translucent spermaceti color, while the eastern variety, (P. *curvidens*,) is a third smaller, opaque, and covered with a thick, green epidermis.

Dr. Storer read a critical notice of De Kay's Report on the Reptiles of New York, in which he made several corrections of errors occurring in that report.

He observed that Dr. De Kay seems to have forgotten that my Report was upon the Reptiles of Massachusetts. In my description of the "*Cistuda Blandingii*," I observed "it has been detected as far north as Haverhill;" to which De Kay adds, "New Hampshire, in 44° north latitude."

Again,—under the head of *Kinosternon Pennsylvanicum*, Mud Tortoise, Dr. De Kay says, "I find no mention of it in Storer's Report on the Reptiles of Massachusetts, although it is cited in Hitchcock's Catalogue." If he had referred to the preface to that Report, he would have found why it *was not* mentioned. In that preface, I use these words: "The *Testudo Pennsylvanica* is plainly confounded with the *Sternothœrus odoratus*, a widely distributed species."

Our author has fallen into another singular and altogether inexcusable error respecting the *Triton millepunctatus*. While engaged in preparing my Report, I met with a beautiful little Salamander, which I described to this Society as having all the upper parts of the body, together with the feet, to the extremities of the toes and tail, sprinkled with innumerable black points;" and hence I called it "*Salamandra millepunctata.*" I had an accurate figure drawn, and thought I had found a new species, for the simple reason that I could meet with no description to correspond with my specimens. Dr. Holbrook, however, who visited this city while I was laboring upon my Report, thought it had been described by Dr. Harlan under the name of "*dorsalis*," from, as he describes it, "a white dorsal line extending from the occiput over the tail," which Dr. Holbrook could *not* point out to me, and which none of my specimens exhibited. Very reluctantly I published it in my Report, under the name of "*dorsalis*," reserving to myself, however, the liberty of throwing out a few suggestions upon this subject.

Dr. De Kay, although Dr. Holbrook calls it "*dorsalis*," is unwilling to call it by this name; but introduces it as the "*millepunctatus*" with the following remarks: "This species had originally the misfortune to be so badly named, and the description, which was taken from a changed cabinet specimen, gave such an imperfect and false idea of the animal, that we have adopted the name originally applied by Dr. Storer, both as more descriptive in itself, and as being the first true description of the species." I am much

obliged to Dr. De Kay for his course in this matter, and only wish I could stop here. But I am compelled to go on. In his description *he* also speaks of the belly being "punctured with black," and again, "the punctures extend over the belly, inside of the legs, and upper parts of the body and tail," and still, with these innumerable little punctures before him, he gives his *characteristics* of the species as follows: "Olive, with crimson spots; the two colors above and beneath distinctly separated;" or, in other words, while his description agrees with mine, he loses sight of the true specific characters, and supposes the word "*millepunctatus*" to apply to a few crimson spots upon the flanks, which, in *his words*, "vary from one to ten in number."

The Legislature of Massachusetts, having recently placed at the disposal of the Society, fifty copies of each of the Zoological and Botanical Reports of the State, Messrs. Binney, Gould and Emerson were chosen a Committee to take into consideration the best mode for their distribution.

On motion of the President, it was unanimously voted, that a copy of the Society's Journal, and copies of the State Reports be sent to Prof. Agassiz of Neufchatel.

DONATIONS TO THE CABINET.

A specimen of Emys biguttata from Dr. Newcomb of Troy, N. Y.

ADDITIONS TO THE LIBRARY.

Proceedings of the Acad. of Nat. Sciences, Philad. for Jan. and Feb. 8vo. pam. *From the Academy.*

Récherches d'Anatomie Comparée sur le Chimpansé, par W. Vrolick. fol. Amsterdam. 1841. *Courtis Fund.*.

North American Review, for April, 1843. 8vo. Bost. *Exch.*

April 5, 1843.

Regular meeting—Dr. C. T. Jackson, Vice President, in the Chair.

Mr. Teschemacher reported on the Transactions of the Imperial Mineralogical Society of St. Petersburg, 2 vols.

presented by Charles Cramer, Esq., committed to him at the last meeting.

He noticed the octahedrons of Rutile ; the account of the large, well known slab of Labradorite in the possession of the Duke of Devonshire ; mentioned the history of the Sancy diamond ; and explained the magnificent colored plates contained in this work, of the Siberian Emeralds in the Cabinet of the Emperor of Russia, and of the Siberian Chrysoberyl or Alexandrite.

He made observations on the new minerals therein described, viz. Cuboite, Perowskite, Volborthite, (a Vanadiate of Copper!) Kammererite, Worthite, and Xenolite. Of this last he exhibited a specimen from Mr. Alger's Cabinet, which he believed to agree, both in external physical characters, and in chemical composition, with Buchholzite, of which he also showed a small specimen, but especially with the Buchholzite of Chester, Penn., the constituents of which, according to Thompson's analysis, are : Alum : 52. 92 ; silica, 46. 40, with a trace of iron. He also pointed out the new localities mentioned in the works of Uwarowite, Malachite and Pyrophyllite. This last mineral he believed to be identical with the Vermiculite from Millbury, of which he produced a specimen, and exhibited its remarkable, and hitherto uninvestigated character of sudden and enormous increase of bulk under the influence of heat. Hermann's account of Pyrophyllite from its original locality states the color to be a greenish hue. In the new locality mentioned in these Transactions, it is stated to be of a Tombac brown ; consisting of shining, micaceous-like scales ; in which characters, as well as in those before the blowpipe, it also completely coincides with Vermiculite, which has not yet been analyzed. The Pyrophyllite, being found in the Emerald district of the Ural mountains, Mr. T. suggested the plausibility of this precious stone being found in the Vermiculite locality of Millbury.

He mentioned the account of the quantity of gold and platina collected in Russia during sixteen years ; noticed the very interesting paper on the gold and platina washings of the Ural chain, as well as that of the mineralogical tour in this district ; the paper on the various Manganesian Minerals, and on the Crustacean and other Fossils found in the neighborhood of St. Petersburgh ; and finally characterized these Transactions as being of exceeding interest

and value to Mineralogists and Geologists, particularly in this country.

Dr. Gould remarked briefly on a late publication, by Professor Gray, of the Scientific Correspondence of Cadwallader Colden, with Gronovius, Collinson, Linnæus and others.

Dr. Wyman exhibited the anal pouches of the skunk, (*Mephitis Americana,*) in which is secreted the offensive fluid which the animal ejects as a means of defence.

They consist of two glandular sacs of an oval shape, about three quarters of an inch in diameter, covered with a muscular envelope, and opening into the rectum, quite near to the anus, by two papillæ. These last, when not protruded, are surrounded by a fold of mucous membrane, and very nearly concealed by it. The fluid is ejected by the contractions of the muscular covering. A small band passes from each sac to the ischium, which rotates these bodies on themselves, and serves to bring their orifices to the anus. The fluid is a peculiar secretion like that of the Civet, and not the urine, as is commonly thought. The common opinion, that the animal scatters it with its tail is erroneous. The fluid is limited in quantity; and, having been discharged, the animal is harmless until the sacs are again filled by gradual secretion.

Dr. C. T. Jackson read a detailed notice of pamphlets sent to the Society by M. Elie de Beaumont, containing his instructions to the Geologists of the French Voyage of Discovery in the North of Europe, and an Abstract of the Results of the Expedition. He also remarked upon a pamphlet entitled, "Remarks on the Anthracites of the Alps by Alphonse Favre, Jan. 21, 1841."

ADDITIONS TO THE CABINET.

A letter was read from Dr. F. W. Cragin, dated Paramaribo, February 3, 1843, announcing his having sent to the Society 12 jars of reptiles and other specimens.

On motion of Dr. Binney, the thanks of the Society were voted to Dr. Cragin for this renewed instance of his friendliness and liberality. The articles sent were committed to Drs. J. Wyman,

J. B. S. Jackson and Abbot, to each such as fall within their respective departments.

ADDITIONS TO THE LIBRARY.

Voyages en Scandinaive, &c. Observations sur le Phénomène Diluvien dans le Nord de l'Europe, par MM. A. Brongniart et Elie de Beaumont. 8vo. pam. Paris, 1840. *From the Authors.*

Annual Report of the Superintendent of Salt Springs in Onondaga Co. New York. 8vo. pam. 1843. *From Rev. J. P. B. Storer.*

Schriften der Russischen Kaiserl. Mineralog. Gesellschaft. 8vo. 2. St. Petersburg, 1842. *From the Imperial Mineralogical Soc'y.*

Transactions of the Literary and Historical Society of Quebec, Vol. IV. Part I. 8vo. 1843.

Report of the Council of the Lit. and Hist. Society of Quebec, for the year ending January, 1843. 8vo. pam. *From the Society.*

Silliman's American Journal of Science, Vol. XLIV. No. 2. *From the Editors.*

April 19, 1843.

Regular meeting—the President in the Chair.

A letter from Rev. Rufus Anderson, Secretary of the American Board of Commissioners for Foreign Missions, addressed to Dr. Gould, was read, enclosing a copy of a letter from Rev. Dwight Baldwin, M. D. dated Lahaina, Maui, one of the Sandwich islands.

Accompanying Dr. B.'s letter were four roots of the Taro, one bunch of Bananas, two ripe Breadfruits, and a considerable number of the nuts of the Candle Tree; also, some leaves and flowers of the latter, and leaves of the Taro and Breadfruit. Dr. Anderson presents to the Society the above-named specimens, reserving a specimen of each for the museum of the A. B. C. F. M.

On motion of Dr. Gould, the thanks of the Society were voted to the A. B. C. F. M. for this valuable donation. The specimens were committed to Mr. Teschemacher.

Mr. Bouvé communicated a letter from Rev. Gordon Winslow, dated Annapolis, Md. March 27th, accompanying a box of Minerals and Shells, recent and fossil, from that locality, and promising future contributions. Thanks were voted to Mr. W. for these specimens.

Dr. S. L. Abbot communicated a note from Dr. Cotting, accompanying a donation of a suite of Fossil Shells, illustrative of the supercretaceous strata of Europe, arranged, ticketed and catalogued by Dr. C. according to specimens in the cabinet of the Lowell Institute, labelled by Mr. Lyell. The thanks of the Society were voted to the donor.

The President laid on the table a Lycopodiaceous plant, from Mexico, presented by J. J. Dixwell, Esq.

Dr. Gould presented a number of Fossil Shells from the vicinity of Darien, Georgia, sent to him by Mr. Couper of that place.

ADDITIONS TO THE LIBRARY.

Annals and Magazine of Zoology and Botany for April, 1843. *Courtis Fund.*

Proceedings of the American Philosophical Society, Vol. II. No. 25. Philadelphia. 1843.

Transactions of the American Philosophical Society, Vol. VIII. Part 3. 4to. 1843. *From the Society.*

Entomologists' Useful Compendium. By Geo. Samouelle. 12mo. Lond. 1819. *Exchange.*

May 4, 1843.

In consequence of the absence of many of the officers and active members to attend the meeting of the Association of American Geologists and Naturalists, at Albany, it was Voted, to postpone the business of the annual meeting until the next regular meeting.

Annual Meeting, May 17, 1843.

The President in the Chair.

The President read a paper, embodying the Reports of the Curators, the Librarian and the Treasurer, for the past year.

The Curator of Comparative Anatomy reports, that the general condition of the specimens in his department is good.

Valuable donations have been received from Drs. Savage, W. Lewis, Jr., D. H. Storer, F. W. Cragin, J. B. S. Jackson, N. B. Shurtleff, and Capt. Cook, of Provincetown.

The Curator of Herpetology reports the favorable state and regular increase of his department, and mentions in a recent donation from Dr. F. W. Cragin, of Surinam, the tadpole of the Rana paradoxa or Jakia, the largest tadpole known; which in this state is much larger than when adult.

The Curator of Ichthyology reports, that he has been able to obtain, since the last annual meeting, specimens of Argyriosus, of a Mustelus, of an Esox, and of a Monocanthus new to our Fauna, and a species of Torpedo which is new to science. "This last discovery," he says, "is exceedingly gratifying to me. It is the only specimen which has fallen into the hands of a naturalist. I have called it *Torpedo occidentalis*."

Donations have been made to this department during the past year by Dr. F. W. Cragin, of Surinam, Mr. J. G. Anthony, of Cincinnati, Mr. Olmsted, of E. Hartford, Conn., Mr. Horatio Leonard, of New Bedford, Dr. Leland. Dr. Toomey, of Chelsea, and Mr. W. T. Reynolds.

The Curator of Ornithology reports:

"During the past year, the additions to the collection of birds has been as follows, viz.: To the number of mounted birds of Massachusetts 66 specimens, comprising 56 species, the duplicates

being different in sex from the others—making the whole number of mounted birds of our State, in our possession, 172, including 131 species. We have had donations of foreign bird-skins, unmounted, to the number of 147—making the whole increase, in this department, during the past year, 213. Our whole collection consists of 753 specimens. The most important donations, since the last annual meeting, have been from Dr. F. W. Cragin, of Surinam, and Mr. W. T. Reynolds, of this city."

Valuable donations in the department of Entomology have been made by Dr. Savage, of Cape Palmas, and Dr. Yale, of Martha's Vineyard.

The Curator of Conchology reports the addition, during the past year, to the catalogue, of 84 species:

Nine species from Brazil, presented by the Curator; 7 from Greece, by Rev. Dr. Robertson; 8 from the Sandwich Islands, by Mr. J. J. Jarves; 17 from Santa Cruz, by R. E. Griffiths, Esq., of Maryland; 24 from the Feejee Islands, by T. J. Whittemore, Esq.; 5 from the Philippine Islands, by Dr. J. C. Jay, of New York. The remainder were contributed by Messrs. E. R. Mayo, J. P. Couthouy, A. Binney, D. H. Storer, Dr. Cabot, and the American Board of Commissioners for Foreign Missions.

The names of about 120 species have been ascertained and labels attached.

The Curator of Botany reports few additions in his department during the year past. The most valuable were presented by the American Board of Commissioners for Foreign Missions.

The Curator of Geology reports:

That at the commencement of the year, the collection under his charge consisted of not far from 600 specimens. Donations have been received from Prof. Locke, of Cincinnati, Dr. Cotting, Dr. Gould, Prof. Emmons and Rev. G. Winslow. A few valuable specimens have been purchased. The Geological Cabinet now consists of about 1000 specimens, of which about 200 are Silurian, 50 Carboniferous, 25 new red sandstone, 50 Cretaceous, nearly 500 Tertiary, 50 of unstratified rocks, lavas, &c., and the remain-

der yet undetermined. A few days prior to our last annual meeting, the State collection, deposited in the hall of the Society and under the charge of the Geological Curator, was increased by the reception of about 1100 new specimens, collected by Prof. Hitchcock in his re-survey of the State. These have been added to the rest of the collection, in the order corresponding to the full catalogue annexed to the Professor's final report.

In addition to the donations abovementioned, Fossils have been received from Signor Michelotti; specimens of slate, with dendritic markings, from the late William Pratt, Jr. Esq.; and other specimens, from Mr. A. Ward, Mr. Couper, of Darien, Ga., and Dr. John Randall, of this city.

No report from the Curator of Mineralogy, who is absent in Europe, was prepared.

The Librarian reports the addition, by donations and exchange, during the past year, of 105 vols. and 55 pamphlets, making the library to consist in all of 1071 vols. and 250 pamphlets. He has also 50 copies of each of the Legislative Reports of Messrs. Storer, Dewey, Harris and Gould, on the Natural History of Massachusetts, presented by a resolve of the Legislature.

The donors to the Library, during the past year, have been Messrs. S. G. Morton, J. J. Audubon, John Bachman, Henry Colman, J. P. Couthouy, R. I. Murchison, Benjamin Silliman, J. G. Palfrey, B. D. Greene, S. S. Haldeman, G. Michelotti, Asa Gray, Charles Cramer, J. E. Teschemacher, J. W. Bailey, T. W. Harris, W. C. Redfield, G. B. Emerson, C. T. Jackson, J. G. Percival, Thomas Lee and Edward Doubleday.

The Treasurer reports the

Current expenses of the Society for the past year,		$656 38
Excess of expenditure over income last year,		75 07
		731 45
To meet which there has been no other source of income than that arising from fees of members,		473 00
Leaving deficit on this account of		$258 45

Balance of the Courtis fund and income this year,	816 00
Expenditures charged to this account,	512 47
Balance in favor of the Society on this account,	$303 53

The meetings of the Society, though less numerous than usual, being only 22, have not often been wanting in interest. Many valuable communications have been received and read. Some of these have already appeared, and others may be expected in the Society's Journal. More than sixty reports of greater or less length, and all interesting, have been made by the active members of the Society.

Of these, 18 have been upon subjects of Comparative Anatomy, 6 upon Ichthyology, 12 upon Ornithology, besides notices of prepared specimens, 13 upon Conchology, 5 upon Botany, 6 upon Geology and Mineralogy, and several upon Books.

Then followed the Annual Address, from Dr. J. Wyman, a learned and interesting discourse on the progress of Science in the various branches of Natural History during the past year.

At the close of the Address, it was *Voted*, "That the thanks of the Society be presented to Dr. Jeffries Wyman, for his interesting and instructive Address, and that a copy be requested for publication."

The Committee for the nomination of Officers, for the ensuing year, announced that G. B. Emerson, Esq., who has filled the office of President, and E. S. Dixwell, Esq., who has been Corresponding Secretary, each for the term of six years, have severally declined a reëlection to those offices.

The Society then proceeded to the election of Officers, for the ensuing year, and the following gentlemen were unanimously chosen :

President.

Amos Binney, Esq.

Vice Presidents.

Charles T. Jackson, M. D.
D. Humphreys Storer, M. D.

Secretaries.

Augustus A. Gould, *Corresponding Sec.*
Thomas Bulfinch, *Recording Sec.*

Treasurer.

John James Dixwell.

Curators.

J. E. Teschemacher, *Botany.*
T. William Harris, M. D., *Entomology.*
Jeffries Wyman, M. D., *Ichthyol. and Herpetol.*
Andrew E. Belknap, Esq., *Conchology.*
Martin Gay, M. D., *Mineralogy.*
Thomas T. Bouvé, *Geology.*
Samuel L. Abbot, M. D., *Ornithology.*
Nathaniel B. Shurtleff, M. D., *Compar. Anat.*

Librarian.

Charles K. Dillaway.

Cabinet Keeper.

Henry Bryant.

June 7, 1843.

Regular meeting—Vice President, D. H. Storer, in the Chair.

Dr. Gould presented a paper entitled "A Catalogue of the Marine, Fluviatile, and Terrestrial Shells of the State of Maine and adjacent Ocean," by J. W. Mighels, M. D., Portland, March, 1843.

The paper contains many valuable remarks on the habits and distribution of species. The whole number of species enumerated is 228, belonging to 81 genera—besides 3 fossil species, Nucula Portlandica, N. antiqua and Bulla occulta, he gives 37 species not yet found in Massachusetts or its waters, most of which had been recently discovered and described by himself. Among them he enumerates *Solen Caribæus, Terebra dislocata* and *Arca*—species of a much more southern habitat. Dr. M. thinks their presence on the coast of Maine is accounted for by the fact that a southerly current sets upon it during a part of the year. Dr. M. considers the shell formerly described by him as *Pecten tenuistriatus*, the young of *P. Magellanicus*, and *Chiton fulminatus* Couth. as identical with C. *lævigatus* Fleming.

Dr. Gould also read extracts from a paper lately received by him from Rev. Francis Mason, Missionary in British Burmah and a Corresponding Member of the Society.

It gave an account of the geographical, botanical and geological features of Tavoy and Mergui, accompanied by a map, and specimens of the rocks; the principal of which are Granite, Sandstone, Clay Porphyry, Clay Slate, Chlorite Slate, Mica Slate, Limestone with veins of Trap, and Lignite. He mentions isolated masses of mural, mountain limestone, in one instance several hundred feet high, abounding with cylindrical pits a few feet in diameter, of unknown depth; which Mr. M. thinks may resemble the wells described by Mr. Murchison in the limestone of Wales. A series of Hot Springs runs parallel with the slate strata, and they are always found near the junction of the slate with the granite, or in the granite itself. The hottest of the springs mentioned by Mr. M. is at Pai, among granite rocks, through which water bubbles up, at a temperature of 198° Fahr. The water of all of them is free from sulphurous smell, and no mineral has yet been detected in solution. One, however, at the junction of slate with a trap dyke, is strongly impregnated with sulphuretted Hydrogen.

Sometimes the sides of the hills and the ravines between them are covered with diluvial and alluvial pebbles, among which Tin is found, but never at a greater depth than 8 or 10 feet below the surface. The principal deposit of Tin is evidently in the rocks of the neighboring mountains.

The notes upon botanical subjects are full and interesting. Among other observations, Mr. M. thinks he has discovered the tree which furnishes the Siam Gamboge, a point hitherto undetermined. He has no doubt that it is the *Garcinia pictoria* of Roxburgh. He mentions several other trees which afford a yellow resin of inferior quality, more or less resembling Gamboge, and also several trees which afford Kino, or a gum resembling it. The paper was referred to the Publishing Committee.

Dr. Wyman exhibited the prepared sternum of a male Trumpeter Swan, (*Cygnus buccinator.*)

The keel of this bone contains a remarkable cavity, extending its whole length, designed to receive the trachea, which traverses it from top to bottom, and then is folded upon itself, and returns by the opening at the top into the chest. It only exists in the male.

Dr. Abbot exhibited the nest and eggs of the Northern Humming-Bird, (*Trochilus colubris.*)

Mr. Snelling laid on the table a Catalogue of Seeds brought home by the Exploring Expedition, furnished him by Capt. Wilkes. He offered selections from them to gentlemen desirous of attempting their cultivation.

ADDITIONS TO THE CABINET.

Four jars of Fishes and Reptiles from Calcutta, from *J. L. Dimmock, Esq.*

Two jars of Reptiles and Fishes, from California, from *Dr. N. B. Shurtleff.*

A Ray, *(Raia ocellata)* from *Rev. Mr. Linsley, of Stratford, Conn.*

A seed vessel, from *R. B. Lincoln, Esq.*

ADDITIONS TO THE LIBRARY.

Entomologist, Nos. 12—26. Conducted by Ed. Newman. 8vo. London. 1841–2. *Editor.*

Proceedings of Academy of Nat. Sciences at Philadelphia. 8vo. Vol. I., Nos. 24, 25, for March and April, 1843. *Academy of Nat. Sciences.*

Annals and Magazine of Nat. History. Vol. XI., No. 71, for May, 1843. 8vo. London. *Courtis Fund.*

Engraved Heads of Joh. Casp. Bauhinus, Casparus Bauhinus, Joan. Bauhinus and Hieron. Bauhinus. *Prof. Asa Gray.*

Fourth Report on the Agriculture of Massachusetts. By Henry Colman. 8vo. Boston, 1841. *John A. Bolles.*

Army and Navy Chronicle. Vol. I., No. 20. 1 sheet. 8vo. 1843. *National Institute.*

June 21, 1843.

Regular meeting—The President in the Chair.

Dr. Binney, on taking the Chair, returned thanks to the Society for the honor conferred upon him in electing him President.

Dr. D. H. Storer read a paper upon such parts of Dr. De Kay's Report on the Fishes of New York as related to Fishes found in Massachusetts.

Dr. S., after speaking of the great amount of information contained in the work, proceeded to mention some of the defects and errors which he had noticed, confining his remarks to such species as are found also in Massachusetts, and promising promptly to retract any thing which should be shown to be unjust.

Page 16. *Pileoma semifasciatum.* Both the description and figure of this fish place it in the genus Etheostoma of Rafinesque.

Page 20. *Boleosoma tessellatum.* Dr. S. read a description of this fish before this Society, in April, 1841, which was published, with a figure, in the Society's Journal, January, 1842, under the name of *Etheostoma Olmstedi,* from its discoverer, Mr. C. H. Olmsted. Personal friendship, as well as the common rules of scientific etiquette, forbid that the scientific name should be thus unceremoniously changed.

Page 32. *Pomotis appendix.* The specific name being derived from a generic character, "opercle with an elongated membrane at its angle," will doubtless be hereafter changed.

Page 61. *Uranidea quiescens.* This is the *Cottus viscosus* of Haldeman.

Page 153. *Gunnellus mucronatus.* Mr. Yarrell, with the American fish before him, pronounces it to " be in every respect so similar to the British Gunnel, *(Murænoides guttata)* that there is little doubt it is the same species."

Page 162. *Lophius Americanus.* Until some one has, on comparison, pointed out some differences between our fish and the L. *piscatorius* of Linneus, Pennant and others, we must continue to regard them as identical.

Page 168. *Batrachus tau.* This species cannot be identified with the description while living, because the two lines which form the T only appear in the dried specimen.

Page 174. *Ctenolabrus uni-notatus* is merely a variety of the common Burgall, as may be readily seen in the fish-market.

Page 194. *Labeo gibbosus*, and page 199, *Catostomus tuberculatus.* So far from having claim to be arranged under different genera, Mr. W. O. Ayres, of East Hartford, Conn., has determined that they are not even distinct species.

Page 204. *Stilbe chrysoleucas.* Dr. De Kay has separated this fish from Leuciscus and formed a new genus, because he says there is " a short spine before the dorsal fin, which is short. Anal fin long." Klein characterizes the anal fin of Leuciscus as " short." Nor has Dr. S. been able to find the vestige of a spine in eleven specimens which he has recently examined. In all other respects it is clearly a Leuciscus, and the L. chrysoleucas.

Page 216. *Fundulus fasciatus.* This is an Hydrargira of Le Sueur. Dr. S. dissents from Dr. De Kay as to the imperfect elaboration of this genus.

Page 233. *Fistularia tabacaria.* The two specimens alluded to as having been obtained by Dr. Smith from Martha's Vineyard, have long been in the possession of the Society. One of these Dr. S. described in his report as the F. *serrata.* The identical specimen was sent to Dr. De Kay, who also described and figured it (p. 232,) as F. *serrata.*

Page 243. *Osmerus viridescens.* In his catalogue, Dr. S. gave this as the O. *eperlanus* of Artedi, on the authority of Cuvier ; and he has yet to learn that it is distinct from the European smelt.

Page 244. *Baione fontinalis.* This new genus has been formed upon what was unquestionably a young brook trout. (*Salmo fontinalis.*)

Page 250. *Clupea elongata.* In the description of the herring which has been copied from Dr. Storer's Report, without credit, an error has been unfortunately transferred. Instead of the eyes being "two diameters apart," it should be, "distance between the eyes less than the diameter of the eye."

Page 258. *Alosa tyrannus.* While it is not easy to see why Peck's prior name "*serrata*" is more "absurd and unmeaning" than "*tyrannus*," it is not a little surprising that the very acceptable and appropriate one of Dr. Mitchell, "*vernalis*," was not retained.

Page 269. *Amia occidentalis.* This must be the *Amia calva* of Kirtland, published Nov. 1840, in the Boston Journal of Natural History.

Page 283. *Lota inornata.* Dr. S. read a description of this fish April, 1841, under the name of *Lota brosmiana*, which was published, with a figure, in the Society's Journal, Jan. 1842.

Page 289. *Brosmius vulgaris.* Dr. De Kay is right in regarding this as distinct from the European fish. But when he says that "the Cusk of Storer is uniform dark slate," he overlooks the description of an adult fish on the following page, which reads "the color is brown upon the back, with yellowish sides and white abdomen."

Page 305. *Lumpus Anglorum.* Dr. De Kay says, "the dorsal lump without any vestige of rays; at least I find none in two which I examined," though Dr. S., in the Report which must have been before him, states that the "ridge is formed of distinct rays." A dried specimen was exhibited, in which eight rays were perfectly visible, and could not have escaped a slight dissection.

Page 310. *Anguilla tenuirostris.* The description of this species is admirable; but it is the *Muræna Bostoniensis* of Le Sueur. No other species is ever seen in Boston market, where Le Sueur found his specimen, and named it accordingly.

Page 319. *Syngnathus fasciatus.* This species was described and figured by Dr. S. several years ago, under the name of S. Peckianus. A careful comparison of the terms of description will exhibit no differences except as to the length of the head. Dr. S. exhibited several specimens to show the great differences in the proportionate dimensions of the head, rostrum and body.

Page 321. *Syngnathus viridescens.* Already described by

Dr. S. as S. *fuscus*. A mere difference in a shade of color, such as is here noticed, is of no importance as a specific character.

Page 341. *Lactophrys camelinus*. This genus appears to be altogether unnecessary.

Dr. C. T. Jackson reported on a paper committed to him and others for examination, entitled "an Hypothesis to explain, &c. the changes of the surface of the earth." By Charles Stoddard.

Dr. J. considers the theory of paroxysmal elevations of the earth's crust as satisfactorily proved, in opposition to the theory of gradual change proposed by Mr. Lyell, and that it only remains to examine into the *causes* of the paroxysms. Here we have three sets of causes to examine: 1st. the expansion of the internal matter of the globe; 2d. its secular refrigeration; 3d. a change of inclination of the earth's axis. The last is the power appealed to by the author of the paper before us. This hypothesis is eminently popular, for it seems to be illustrated by what we know of the forces acting on a revolving sphere composed of soft and yielding materials. Dr. J. remarks, "he does not know where it originated, but finds it is a common opinion among the people of New Hampshire and Maine, insomuch that he has often heard it advanced as a new theory by many different men."

Viewing the earth as a globe of molten matter, having a comparatively thin crust of solid materials, it is easy to conceive that with each change of axis of the revolving globe the surface would be elevated or depressed, and a force exerted adequate to the rupture of the earth's crust, and sufficient for the elevation of chains of mountains and whole continents at a single operation. The hypothesis, therefore, suggests an adequate cause of the phenomena to be explained.

The thesis under examination, Dr. J. remarks, is an ingenious and well written exposé of this hypothesis. The principal objection to it is, that the author has not shown any cause adequate to produce a change of axis of rotation of the earth. Dr. J. concluded by expressing his wish that the author would continue his researches upon the subject, and by recommending that an abstract of the paper be inserted in the Proceedings of the Society.

Dr. C. T. Jackson made a verbal communication on researches made by himself and Mr. A. A. Hayes, of Rox-

bury, respecting the saline and other ingredients of *Zea mays*, and other grains, exhibiting specimens of seeds to which Mr. Hayes' test of sulphate of copper, for the detection of the limits of the phosphates, had been applied. He also exhibited specimens to which tincture of iodine had been applied, which indicated the extent of the starch in each kind of grain and in several other plants. Mr. Hayes' discovery of the limits of a salt of the peroxide of iron was demonstrated by soaking Indian corn in sulphydrate of ammonia.

The relative proportions of oil in the different varieties of corn was shewn by sections of the kernel, also the relative proportions of the zeine of Gorham or the gluten of corn. The causes of the peculiar explosion and evolution of the starch and gluten of corn in parching, was explained by the decomposition of the oil in the cells of the transparent portions of the grain.

Dr. Jackson had observed, in April, 1840, while analyzing the ashes of Indian corn, that after combustion of the corn in a platina capsule, at a high temperature, the platina was rendered brittle, and was in part converted into a phosphuret of that metal. On examining into the cause of this, he discovered phosphoric acid united to some volatile or destructible base, mixed with the phosphates of lime and of magnesia.

His subsequent researches satisfied him that the volatile base in question was ammonia, which he separated by the action of potash and lime, at a temperature below that required for charring the grain.

By the action of nitric acid, he burnt out the carbonaceous matter from the ashes of corn, and procured a considerable quantity of glacial phosphoric acid. In all these experiments, thus far, the *whole* grain was employed.

In May, 1842, Mr. A. A. Hayes, of Roxbury, exhibited to the chemical association some specimens of southern corn, which had been cut in two and soaked in a solution of sulphate of copper; and this test most beautifully marked out the limits of the phosphates in that grain. Profiting by this interesting experiment, and observing that the phosphates were indicated only in the *cotyledon* of corn, Dr. Jackson dissected out the cotyledons, analyzed them

separately, and glacial phosphoric acid, phosphate of lime, phosphate of magnesia and ammonia were obtained. The proportions in the ashes of the whole corn was but 1 per ct. of phosphates of lime, magnesia and free phosphoric acid, and a little silica.

The cotyledons taken separately gave 6.4 per ct. of fusible matter, which ran freely when melted. It consisted of

Phos lime, - - -	2.4
Phos. acid, - - -	3.2
Phos. magnesia, - -	0.8

He also made an extensive series of researches on other seeds, both of the Monocotyledonous and Dicotyledonous plants, which determined the existence of the phosphates exclusively in their cotyledons. The specimens to which Mr. Hayes' test had been applied, and which were exhibited to the Society, were peas and beans of various kinds, squash and pumpkin seeds, horse chesnuts, the common chesnut, pea-nut, barley, oats, wheat, rye, buckwheat and cocoa-nut ; also potatoe tubers and turnip bulbs. In all these the existence of phosphates was demonstrated.

In almonds, walnuts, butternuts, and most oily seeds, the sulphate of copper fails to demonstrate the presence of phosphates.

The application of tincture of iodine proved the presence and limits of starch in the turnip, and in several other plants which were exhibited.

A sample of the hard and transparent portion of Indian corn, from which the oil and zeine had been removed by alcohol and ether, was proved by the iodine test to be starch. It was observed that weak tincture of iodine does not color this portion of the corn until the oil is removed. If strong tincture of iodine is employed, the alcohol removing the oil causes the freed starch to take the blue color.

Beans and peas, consisting mostly of legumine, discovered by Braconnot, do not take a blue color like the starch containing grains, but become dark brown.

Specimens of various germinated and growing plants were also tested before the Society. In the potatoe sprout the starch was traced up into the plumule about half an inch, where it disappeared, and dextrine was present, the starch having undergone a metamorphosis into that substance. Similar experiments were tried on In-

dian corn, which had been grown about two inches high, in pure powdered quartz. The changes which the seed had undergone were quite interesting, and it was seen, by the iodine test, that the starch of the albumen had been absorbed, and was changed in the plumule into dextrine and sugar. The portion of the corn, where the oil exists with starch and gluten, had begun to change, and iodine instantly forms a blue compound with the starch. On applying the sulphate of copper, the presence of phosphoric acid in the radicle and plumule, and a little around it, was readily proved.

On testing germinated English beans, the presence of phosphates was demonstrated in the cotyledons, but iodine did not prove the formation of starch from the legumin. The same experiment was performed with the common bean, with the same results. It will be interesting to study the changes which legumin, (a substance now supposed to be identical with caseine,) undergoes in the process of germination. As yet, we know of no chemical researches on its transformations in the living plant.

Dr. J. had observed that cucurbitaceous plants contained nitrate of potash, and had consequently directed its application around the roots of such vines. Observations on such plants grown on nitrous ground, where old barns had been removed, proved the value of that salt as a manure for squashes, pumpkins and melons.

Many important and interesting agricultural principles are to be discovered by investigations similar to these above noticed, but it may not be appropriate to lay any other facts before this Society than such as appertain to Natural History. It is evident that Organography and Physiology may derive much aid from the application of chemical tests to plants and their fruits. The subject is yet in its infancy, and we have much to expect when it shall become more mature.

Dr. Jackson exhibited to the Society a buff-coloured salt of lead, obtained by him, in 1841, from the maple sugar of commerce, by adding to its solution sub-acetate of lead.

This salt is humate of lead, and demonstrates the existence of humic acid in maple sugar, in which it was combined with ammonia and lime. March 18th, 1842.—Having procured some maple sugar made with care at Northampton, he repeated his researches, and discovered in it humic acid, apocrenic acid and crenic acid. These acids were proved to be combined, in part, with ammonia,

which was separated by the action of hydrates of potash and of lime abundantly. Lime was also discovered in combination with crenic acid.

The same researches were made on brown, beet and cane sugars, and the same acids and ammonia were discovered, but in less quantity.

Mr. R. Soule, Jr., while a pupil in Dr. Jackson's Laboratory, made an examination of exhausted bone-black, to ascertain what coloring matters are retained by it. The substances detected confirm the researches of Dr. J. respecting the coloring matters of brown sugar. They were lime, apocrenic acid, crenic acid, humic acid, extract of humus and humin.

These facts were mentioned in his public lectures at the time, and they have been alluded to in the North American Review, in a notice of Prof. Hitchcock's Survey of Massachusetts.

We would call attention to this, because the same discovery has very recently been announced by Herman, of Moscow, and has been noticed in the New England Farmer as a discovery of much interest. The discovery is properly American, and Mr. Herman's researches have, independently, reached the same result, which must be regarded as confirmatory of Dr. J.'s.

He would remark, however, that he has, during the two past seasons, demonstrated, by the analysis of maple sap, that the organic acid which it contains is the *glucic acid*, which is in combination with lime as a biglucate. This is readily converted into crenic, apocrenic and humic acids by heat. Hence its origin in sugar. Specimens of all the substances mentioned in this communication were laid upon the table.

Dr. Jackson remarked, that he had satisfactorily proved, that the gluten of Indian corn, or the zeine of Gorham, contained 5 per ct. of nitrogen, which was naturally overlooked at a time when the means for exactly separating that element were unknown. Corn also contains 6 per ct. of oil.

The following reflections naturally suggest themselves, on considering the ingredients of Indian corn:

1st. The phosphates of lime and of magnesia are essential ingredients of animal bones and of several different fibrous organs.

2d. Phosphate of ammonia exists in the albuminous and fibrous cerebral and nervous matters of animals.

3d. Nitrogen, so essential to animals, which is not absorbed in any other way than by the food received through the digestive organs, exists in the glutinous part of this grain.

4th. Starch, the matter which so readily undergoes transformations into other carbonaceous ingredients, exists in the corn, and is one of the most nutritive ingredients, capable of being converted into fat, or into any other matter having carbon, hydrogen and oxygen for their elements.

5th. The oil of corn is ready formed fat, requiring but little change in the animal economy.

7th. The peroxide of iron of corn, furnishes the red globules of the blood with that important ingredient, the transporter of oxygen, which gives the blood its renovating properties.

These ingredients, common also to other cereal grains, explain to us why they have been justly called the "staff of life."

Analysis of the Raspberry Bush:

Having noticed that the raspberry bush sprung up wherever fields had been burnt over, and also by the side of decomposing stone walls, Dr. J. was led to analyze it, with the expectation of finding an unusual amount of potash.

The following are the results of the analysis of the *Rubus strigosus*: 1000 grains of the dry raspberry bushes were burnt in a platina dish, in a muffle, and the ashes collected in this manner were found to be burnt perfectly free from carbon. The amount of ashes from 1000 grains of the bushes was 16.2 grains, or 1.62 per ct. It was easily melted, and flowed in the capsule. The fused ashes, analyzed in the usual manner, yielded

Silicic acid, - - -	0.25	or per ct.	0.025
Phosphate of Lime,	3.65	"	0.365
Carbonate of Lime,	3.40	"	0.340
Potash, - - - -	5.24	"	0.524
Soda, - - - - -	0.50	"	0.050
Ox. Manganese, - -	1.00	"	0.100
	14.04		1.401
Carbonic acid, - -	2.16		
	16.20		

Dr. Gould presented, on behalf of Dr. Mighels, a paper, entitled "Descriptions of seven species of shells regarded as new," by J. W. Mighels, M. D., Portland, Me.

Astarte Portlandica. A. testâ parvâ, solidâ, per-inequilaterali; umbonibus elevatis, approximatis, recurvis; lunulâ angustatâ; intus lividâ; marginibus simplicibus. Long. 2-5; alt. 9-20; lat. 1-5 poll. Casco Bay.

Bulla pertenuis. B. testâ minutâ, cylindraceâ, albidâ, hyalinâ; anfractibus quatuor; spirâ elevatâ; labro supernè recto, infra rotundato; aperturâ supernè angustatâ, infra latâ. Long. 8-100; lat. 4-100 poll. Casco Bay.

Limnea ampla. L. testâ amplâ, subovatâ; anfractibus quinque, convexis, supernè geniculatis; suturâ valdè impressâ; spirâ brevi; aperturâ latâ; umbilico profundo; columellâ valdè plicatâ. Long. 1.3; alt. 8; lat. 1 poll. *Habitat*, Second Eagle Lake, Maine. N. lat. 47°.

Phasianella sulcosa. P. testâ minutâ, ovato-conicâ, lævi; anfractibus quatuor subconvexis, transversìm sulcatis; suturâ impressâ; aperturâ ovato-oblongâ, intus transversìm fasciatâ. Long. 1-10; lat. 1-20 poll. Casco Bay.

Margarita minutissima. M. testâ minutissimâ, globoso-subovatâ; anfractibus tribus, convexis, longitudinaliter sulcatis; spirâ brevi, obtusâ; suturâ valdè impressâ; aperturâ orbiculari: umbilico magno, profundo. Long. 1-50; lat. circa 1-50 poll. Casco Bay.

Delphinula? coarctata. D. testâ parvâ, subdiscoideâ, imperforatâ; anfractibus tribus, convexis, longitudinaliter minutissimè striatis; ultimo anfractu maximo; suturâ canaliculatâ; aperturâ integerrimâ, circulari, intus flavidulâ. Long 1-5; lat. 1·5 poll. Casco Bay.

ADDITIONS TO THE CABINET.

Dr. Gould presented a section of the trunk of a Californian tree, and a gigantic Aculeus of some tree from Cuba, committed to Prof. Gray.

Dr. Binney, on behalf of Mr. Anthony, of Cincinnati, presented specimens of *Melania varicosa.*

B. N. Cumings, Esq., presented some specimens of coal plants.

ADDITIONS TO THE LIBRARY.

Haldeman, S. S. Monograph of the Fresh Water Univalve Mollusca. No. 6. 8vo. Pam. Philadelphia. 1843. *Author.*

N. American Review for July. 1843. 8vo. Boston. *By Exchange.*

July 5, 1843.

Regular meeting—Dr. C. T. Jackson, Vice President, in the Chair.

Mr. W. O. Ayres, of E. Hartford, Conn., presented, through Dr. Storer, the following general description of a new species of Leuciscus; observing that he should, at some future time, furnish the Society with a detailed account, together with a figure of the species, for publication in the Journal of the Society.

Leuciscus nasutus.—Body elongated, rounded anteriorly, compressed towards the tail. Head destitute of scales, pointed. Mouth small, semicircular, situated beneath the projecting snout. Color above and on the sides, very dark brown; beneath light, almost white. Nostrils anterior to the upper portion of the eye. Lateral line nearly straight. Dorsal and anal fins trapezoidal; dorsal situated posterior to the ventrals. Pectorals and ventrals rounded. Caudal lunate. Length of the largest specimen hitherto obtained, five and a quarter inches. Inhabits rapid streams. Connecticut and Massachusetts.

Dr. Storer remarked that he had lately obtained a flat-fish, which was very rarely taken in our waters, and had not as yet been described. Its specific characters are as follows:

Platessa glabra.—Body perfectly smooth. Color above greyish, mottled with dark brown. Dorsal, anal and caudal fins, reddish yellow, with well-marked, nearly black spots, more or less oval,

differing in their size. The eyes are less prominent than those of the P. *plana*. Between the eyes is a smooth ridge, covered by the common cuticle of the head as far back as the posterior angle of the orbit of the upper eye. From this point it becomes naked and rough, and is continued back to the superior angle of the operculum, where it is much larger than at any other point, and terminates in an obtuse point. The posterior extremities of the ventrals do not reach the anal fin. The teeth are cylindrical, slightly conical at their points. The hyoid bone has numerous blunted teeth. The fin rays are D. 54, P. 9, V. 6, A. 39, C. 16. Inhabits Boston harbor in company with P. *plana*.

Mr. Charles H. Olmsted, of E. Hartford, Conn., presented to the Cabinet, through Dr. Storer, specimens of the *Leuciscus nasutus* and *L. cornutus*, taken by him at Blandford, Hampden Co., Mass.

Dr. Wyman exhibited some microscopic sections of the teeth of the Duck-bill Gar, (*Lepidosteus platyrhinus*,) and of L. *oxyurus*. He pointed out the analogies which exist between the structure of the teeth of the Lepidostei and those of the Labyrinthodonts, described by Prof. Owen, in his Odontography.

Like those of the Labyrinthodonts they are characterized by processes of the pulp-cavity radiating towards the circumference, and by prolongations of the cementum towards the centre of the tooth, enclosing between them the "dentine." In the Labyrinthodonts the prolongations of cementum are more or less undulating, except in the L. *leptognathus*, where they present almost precisely the conformation met with in the *Lepidosteus oxyurus*. Of the existence of such a structure in fishes, Prof. Owen does not appear to have been aware, since he says, "such a disposition of the external substance may be traced at the base of the teeth of a few fishes, but is more conspicuous in the fang of the Ichthyosaurus." If the sections of the teeth of the Gars be compared with that of the tooth of the Ichthyosaurus, given by Prof. Owen, it will be at once seen, that the former present the same plan, but far more extensively carried out. Other analogies with the Labyrinthodonts

were found in the osteology of the Gars, but of these he proposes to speak in a future communication.

Dr. Abbot laid on the table a mounted specimen of *Numenius Hudsonicus*, Hudsonian Curlew, shot in Chelsea, Mass., in the month of May. This breeds so far north that its nest and eggs are unknown. It is not uncommon here in its northern and southern migrations, flying in small flocks.

Mr. Bouvé presented a specimen of Chalcedony, found by him at Nahant.

This mineral has not been found heretofore in the trap-rocks of this vicinity. Prof. Hitchcock, in his Survey of the Geology of Massachusetts, notes this fact as singular, since Chalcedony is of frequent occurrence in similar rocks, in the western part of the State.

ADDITIONS TO THE LIBRARY.

Wallich, N. Plantæ Asiaticæ Rariores. 3 vols. Folio. London. 1830. *J. P. Cushing, Esq.*

Silliman's Amer. Journal of Science and Arts. No. 1. Vol. XLV. 8vo. New Haven. 1843. *Editors.*

July 19th, 1843.

Regular meeting—the President in the Chair.

Dr. Gould read a notice of "Monograph of the Fresh-water Univalve Mollusca of the U. S., by S. S. Haldeman. No. 6. Genus Physa."

"This number, in its mechanical execution, fully sustains the reputation of the preceding numbers of this beautiful work. The author has seen fit to change the title of the work, for reasons, which would seem insufficient, on account of the perplexity in reference which will ensue. It is very doubtful whether he has succeeded in defining the limits of the very variable species of this genus. In illustration of this, there needs only to be mentioned

the fact, that the animal he has given, is, in truth, the animal of P. *ancillaria*, and not that of P. *heterostropha*, as he states; at least, of all the specimens of this omnipresent species, which I have observed, I have never seen an animal like that of the figure; whereas it *is* like the few specimens of P. *ancillaria*, which I have met with, and which is described in the 'Report on the Invertebrata of Mass.,' to be lemon yellow."

At the request of Dr. Gould, Mr. Thomas McCulloch, Jr., of Halifax, Nova Scotia, read a paper "On the importance of Habit, as a guide to accuracy in systematical arrangement: illustrated in the instance of the *Sylvia petechia* of Wilson and all subsequent writers."

The S. *petechia* differs little in external development from the true Sylvicolæ, but, as shown by the evidence of habit, belongs to the small genus Seiurus of Swainson. The characteristics of this genus are chiefly indicated by habit; and these, by the bird abovementioned, are exhibited quite as forcibly as by either of its congeners. Mr. McCulloch gave in support of his opinion, a minute and interesting detail of the habits of the bird, as observed by himself at various seasons, particularly at the pairing season. He concluded by expressing his regret at the necessity of disturbing, in any case, scientific arrangements which have long been acquiesced in, but, at the same time, his conviction that accuracy, in this instance, requires the change.

On motion of Dr. C. T. Jackson, the thanks of the Society were presented to Mr. McCulloch, for his communication, and a copy was requested for publication in the Journal of the Society.

The President, to whom had been committed a paper entitled "Descriptions of seven species of shells, regarded as new by Dr. J. W. Mighels, of Portland," reported thereon, expressing a doubt whether all the species described by Dr. Mighels, would prove to be new, but recommending the publication of the paper in the Journal.

ADDITIONS TO THE CABINET.

A note was read from Dr. Bass, Librarian of the Boston Athenæum, accompanying a deposite, on behalf of that institution, of the Cranium of an African Elephant, the under jaw of the Hippopotamus, and the horns of a Sicilian ox.

Dr. Gould, on behalf of J. M. Batchelder, of Saco, Me., presented a vertebra and bone of the forearm of a whale, lately found in the Saco river. They were probably recent.

Dr. Gould laid on the table specimens of *Helix*, (Streptaxis) *Blandingii* of Lea, and *Nucula recurva*, Conrad, from Africa, presented by Mr. George Perkins.

ADDITIONS TO THE LIBRARY.

D. H. Storer. Description of a New Species of Torpedo. 8vo. Pam. New Haven. 1843. *Author.*

Annals and Magazine of Natural History. Nos. 73, 74, for July. 8vo. Pam. London. 1843. *Courtis Fund.*

Chambaud et Bory de St. Vincent. Nouvelle Flore du Péloponnêse et des Cyclades. Folio. Paris. 1838. *Audubon Fund.*

Reliquiæ Baldwinianæ: Selections from the Correspondence of the late Wm. Baldwin. Compiled by Wm. Darlington. 12mo. Philadelphia. 1843. *Compiler.*

Notices of some works recently published on the Nomenclature of Zoology. By A. A. Gould, M. D. 8vo. Pam. New Haven. 1843. *Author.*

August 2nd, 1843.

Regular meeting—the President in the Chair.

The President announced to the Society the decease of their associate and former Vice-President, the Rev. F. W. P. Greenwood, as follows:—

GENTLEMEN,— It is my painful duty to announce to the Society, the decease of the Reverend Dr. Greenwood, one of its foundation

members, and for several years one of its vice-presidents, which event occurred at an early hour this morning.

Our distinguished associate and friend has been taken from us after a long illness, which has for several years indicated the near approaching termination of his life, and has lately incapacitated him for any active participation in our labors. There are some of us, however, who remember him as he appeared in this place, and who will not soon forget the lively interest which he manifested in our progress, the evident pleasure with which he was wont to listen to the communications which are accustomed to be made here, and the deep love of nature which was impressed upon his natural character, and strengthened by study and reflection. Long may we cherish these recollections, for in him we beheld the pure-minded Christian naturalist; one who, looking beyond the mere utilities, and even the intellectual gratifications of science, saw in the works of nature new reasons for adoring the Author of nature; and whose every advancement in the path of Natural History, increased his devotion and reverence for the Deity.

It is not however my intention to pronounce his eulogy; others will do it in more appropriate terms than I could; but in speaking of his connection with this institution, I may be permitted to say, that no one possessed a taste for the study of natural objects, more refined and cultivated than his; no one could appreciate more correctly the importance of the new views of life and organization constantly opening to us; and no one made a better application of the lessons of piety and humility drawn from them, to his own life and character, than he.

I cannot better close these few remarks, than in wishing that in these respects, each and all of us may keep in view his example.

Dr. Storer proposed the following resolutions, which were unanimously adopted.

"That this Society have learned, with deep regret, the decease of their late distinguished associate, Rev. F. W. P. Greenwood; who had endeared himself to us all by the umblemished purity of his character, no less than by the congeniality of his tastes."

"That our deep sympathy is extended to the widow and family of our deceased friend, and that, if grateful to their feelings, we will, as a Society, follow his remains to the grave."

Dr. Storer read a letter from Dr. Andrew Nichols, of Danvers, Mass., accompanying a specimen, which Dr. S. pronounced to be the *Bufo lentiginosus* of Shaw.

Dr. N. has known them more than forty years, by their amative croak, which he describes as "a shrill monotone, continued a second or more, thrice as long and more trilling, in about the same high, falsetto voice, as the *Hylodes Pickeringii:*" and adds, "there is no sound in bog, pond, fen, forest or air, at all like it." Many years ago he happened to see one in the act of uttering the well-known sound. From that time to the present, though he has every season heard them, he has never seen another singing. S. P. Fowler, Esq., of Danvers, captured the specimen now sent, immediately after seeing it sing.

Mr. James Elliot Cabot was unanimously elected a member of the Society.

ADDITIONS TO THE CABINET.

From Rev. J. H. Linsley, of Stratford, Conn., through Dr. Storer,—

Emys terrapin,
Hydrargyra ornata,
Leuciscus chrysoleucas.
" cornutus.
Leuciscus atromaculatus.
" pulchellus.
" atronasus.
Larvæ of Lepidoptera.

ADDITIONS TO THE LIBRARY.

Figures of Molluscous Animals. By Mrs. E. Gray. 8vo. London. Vol. I. *Mrs. Gray.*

List of the Specimens of Mammalia in the Collection of the British Museum. 12mo. London. 1843. *British Museum.*

Gualteri Charletoni Exercitationes de Differentiis et Nominibus Animalium. Fol. 2d ed. Oxoniæ. 1677. *John E. Gray, Esq.*

Prodromus Systematis Naturalis Regni Vegetabilis. Auctore A. P. De Candolle. Part VII. 8vo. 1838. Paris. *Dr. B. D. Greene.*

On motion of Dr. Gould, thanks were voted to Mr. and Mrs. Gray for the above donations.

August 16*th*, 1843.

Regular meeting—the President in the Chair.

Dr. Binney presented, on behalf of Mr. J. G. Anthony, of Cincinnati, Ohio, two specimens of Unio, viz.: U. Sayi, and U. siliquoideus: also, on behalf of Mr. S. S. Haldeman, "Indice d' Ittiologia Siciliana."

Dr. Gould announced the arrival of Dr. F. W. Cragin from Surinam, with numerous contributions to the Cabinet, procured at the expense of much labor and money, and proposed that suitable acknowledgments be made for the same.

Dr. Storer enforced the suggestion: and it was voted, that the thanks of the Society be rendered to Dr. Cragin for this and former instances of his liberality and coöperation, and that the Corresponding Secretary communicate fully to him our sense of obligation.

ADDITIONS TO THE LIBRARY.

Geological History of Manhattan, or New York Island. By Issachar Cozzens, Jr. 8vo. N. Y. 1843. *Author.*

Annals and Magazine of Nat. History. No. 75, for Aug. 1843. 8vo. London. *Courtis Fund.*

Audubon's Quadrupeds of America. Nos. 1 to 15. Folio. 1843. *Subscribers:*—N. I. Bowditch, Geo. B. Emerson, Amos A. Lawrence, Amos Binney, G. C. Shattuck, Jr., John A. Lowell, George Parkman, Wm. Sturgis, F. C. Gray, J. J. Dixwell.

September 6*th*, 1843.

Regular meeting—Dr. C. T. Jackson, Vice-President, in the Chair.

Dr. Gould stated, that since the publication on the cover of the Journal, Vol. IV., No. 1, of the specific characters of

some shells supposed to be new, he had ascertained that the following had been previously described, viz.:

Helix penicillata is said to be the young H. *gilvus*, Fer.
Helicina glabra is H. *nitida*, Pfeiffer.
Pupa carinata is the young of P. *procera*, Gould.
Siphonostoma lituus, is *Cylindrella elegans*, Pfeif.
Cyclostoma clathratum is C. *rugulosum*, Pfeif.
Cyclostoma Mahogani is C. *Sagra*, D'Orbigny, and C. *pictum*, Pfeif.
Cyclostoma bicolor is C. *auriculatum*, D'Orb.

The following do not appear to have been elsewhere described, viz:

SIPHONOSTOMA PORRECTUM. Testâ gracillimâ, fusiformi, glabrâ, pellucidâ, maculis lacteis subquadratis obscurè tessellatâ; anfractibus ad 24, ultimo disjuncto et valdè porrecto; aperturâ campanulatâ, subquadratâ, peristomate albo, reflexo. Long. 3-5; lat. 7-100 poll. Habitat, Cuba.

CYCLOSTOMA CATENATUM. Testâ conico-turritâ, fulvo-virides-cente; anfractibus quinque convexis, striis elevatis volventibus, fusco articulatis; aperturâ sub-orbiculari, anfractu penultimo dis-juncto; peristomate reflexo, posticè dentato; operculo albo, calca-reo. Long. 1-2; lat. 2-5 poll. Habitat, Cuba.

CONUS CASTRENSIS. C. testâ lævi, conicâ, anticè admodum con-strictâ; spirâ planulatâ, apice mamillatâ, flammulis radiantibus cas-taneis notatâ; anfractibus 10, supra concavis, ultimo colore albo, lineis et maculis angulatis castaneis reticulatâ; basi castaneâ. Long. 3: lat. 1 1-2 poll. Habitat, (——— ?)

Dr. Gould also presented the conclusion of his "Mono-graph of the Pupadæ of the United States," which treated of the following species, viz.: P. *ovata*, *modesta*, *Gouldii*, *pentodon*, *Tappaniana*, *rupicola* and *fallax*; to which he added descriptions of two foreign species, viz:

PUPA SERVILIS. Testâ parvâ, ovato-oblongatâ, glabrâ, rufescente, umbilicatâ; anfractibus quinque convexis; aperturâ semi-ellipticâ, dentibus quinque armatâ, quorum unus contortus posticè affixus, unus ad basin, duo ad labium; labro reflexo. Long. 1-10; lat.

1-20 poll. Inhabits Cuba and Santa Cruz, and is closely allied to P. *rupicola*, Say.

Pupa lyrata. Testâ parvâ, plerumque sinistrorsâ, castaneâ, latè umbilicatâ ; anfr. 5 convexis, costulis flexuosis ad 20 concinnè clathratis ; aperturâ sub-orbiculari, campanulatâ ; posticè dentibus duobus lamellosis, in faucibus duobus aliis armatâ. Long. 22-200; lat. 13-200 poll. Inhabits one of the Sandwich Islands.

Dr. Gould had examined the shells not long since announced as having been received from the Rev. Francis Mason, missionary at Tavoy, in British Burmah. The collection proves to be highly interesting; a large proportion of the shells appearing to be hitherto undescribed, some of which he proceeded to characterize, viz.

Helix procumbens. Testâ discoideâ, supra planulatâ, subtus convexâ, epidermide pallidè corneâ, latè umbilicatâ ; anfr. quatuor, ultimo deflecto ; aperturâ rotundatâ, labro reflexo, albo. Diam. 3-4 ; alt. 1-4 poll.

Belongs to the group of which H. *planulata* is the type.

Helix infrendens. T. orbiculatâ, depresso-conoideâ, corneo-virescente, subcarinatâ, supra rugosè striatâ, infra glabrâ, nitidâ, regione umbilicali indentatâ ; anfr. 7 convexis, suturâ impressâ ; aperturâ coarctatâ, labro vix reflexo, dentibus tribus pliciformibus instructâ. Diam. 2-5 ; alt. 1-5 poll.

Very closely allied to H. *Rangiana*, Fer.

Helix (Caracolla) gabata. Testâ albido-corneâ, supra planulata, infra valdè convexâ, latâ et profundè umbilicatâ ; anfr. 4 1-2, leviter striatis, ultimo carinâ castaneâ circumdato; aperturâ subquadratâ, labro albo, reflexo. Diam. 4-5 ; alt. 7-20 poll.

Much like H. *scabriuscula* in form and aperture, but quite different as to surface, color, and umbilicus.

Helix (Caracolla) retrorsa. Testâ orbiculatâ, sinistrorsâ, utrinque convexâ, pallidè castaneâ, arctè umbilicatâ ; anfr. 5, lineis longitudinalibus et volventibus minutè rugosis, ultimo carinato ; aperturâ rotundatâ, labro acuto. Lat. 1 3-4; alt. 1 poll.

Young specimens might be confounded with H. *Himalana*, Lea, which is much more rounded, the surface smoother, the carina quite indistinct, and the umbilicus smaller.

Helix (Caracolla) anceps. Testâ lenticulari, pallidè corneâ

acutè carinatâ, supra striatâ, subtus nitidâ, vix perforatâ ; anfr. 6, suprâ planulatis, suturâ submarginatâ ; aperturâ lunulari, labro simplici, angulatâ. Diam. 7-10 ; alt. 7-20 poll.

In general form, color and sculpture it resembles H. *acies*, Fer., but is much smaller and not umbilicated.

VITRINA PRÆSTANS. Testâ depressâ, fragili, nitidâ, stramineâ ; anfr. tribus, striis incrementi et striis volventibus reticulatis ; aperturâ sub-coarctatâ. Lat. 4-5 ; alt. 2-5 poll.

The largest species yet described.

BULIMUS ATRICALLOSUS. Testâ solidâ, imperforatâ, oblongo-ovatâ, vix striatâ, sulphureâ ; anfr. 7 convexiusculis, ad suturam constrictis ; aperturâ lunato-ovali, basi sub-effusâ, labro albo, reflexo, marginibus callo atro junctis. Long. 2 1-3 ; lat. 1 poll.

Allied to B. *vittatus*, *Dryas*, &c., from Philippine Is. The colors of the aperture are distributed as in B. *iostoma*.

CLAUSILIA INSIGNIS. Testâ fusiformi, sinistrorsâ, solidâ, castaneâ ; anfr. 9 convexis, leviter striatis ; aperturâ purpureâ, rotundatâ, lamellis duabus fortibus posticè, quinque tenuibus, per testam apparentibus, intus instructâ ; labro valde reflexo. Long. 1 ; lat. 1-5 poll.

Allied to C. *Macarana*, and is the largest and most ponderous species known.

CYCLOSTOMA PERNOBILIS. Testâ depresso-conicâ, apice acutâ, latè umbilicatâ ; anfr. 6 subdepressis, striis incrementi conspicuis et striis volventibus rugulosis, ultimo carinâ costali albidâ cincto ; aperturâ magnâ, intus cærulescente, labro crasso, expanso, vividè sanguineo : coloribus piceis et lutescentibus supernè variè nubeculatâ ; infra albidâ, lineis piceis volventibus interruptâ. Alt. 1 ; lat. 2 poll.

This superb species closely resembles C. *involvulus*, Sowb.

CYCLOSTOMA SECTILABRUM. Testâ turritâ, spirâ acuminatâ, arctè umbilicatâ, brunneâ ; anfract. 8 sub-ventricosis, vix striatis, penultimo sub-gibbo ; aperturâ sub-orbiculari, intus rubescente, peritremate duplici, incrassato, albo, propè angulum posticum canali parvo interruptâ. Alt. 1 ; lat. 2-5 poll.

Resembles C. *altum*, Sowb., but has the fissure of the peritreme on the opposite side. C. *croceum*, Sowb., may be a faded specimen of this shell.

UNIO TAVOYENSIS. Testâ rotundatâ, solidâ, sub-equilaterali,

fuscâ, posticè dilatatâ, sub-angulatâ ; umbonibus elevatis, unà cum latere postico corrugatis ; dentibus cardinalibus pyramidatis, lateralibus flexuosis : impressionibus musculorum profundis ; margaritâ albido-incarnatâ. Long. 2 ; alt. 1 1-2 ; lat. 4-5 poll.

Closely allied to U. *corrugata*, Lam., which is less rounded and less corrugated.

Unio crispata. Testâ ovali-elongatâ, inequilaterali, anticè rotundatâ, posticè subrostratâ, costâque umbonali ; umbonibus parvis ; colore virescente, fusco variegatâ ; rugis angulatis radiantibus undique crispatâ : intus lividâ ; dentibus parvis obtusis. Long. 1 7-10 ; alt. 9-10 ; lat. 1-2 poll.

Unio foliacea. Testâ parvâ, compressâ, fragili, fusco-virescente, inequilaterali, transversè oblongo-ovatâ, posticè sub-angulatâ ; umbonibus parvis, subtilissimè corrugatis ; dentibus exilibus, rectis, ad marginem parallelis ; margaritâ lividâ, iridescente. Long. 1 3-5 ; lat. 1-2 ; alt. 9-10 poll.

Closely allied to U. *Bengalensis* and *Corrianus* Lea.

Unio exolescens. Testâ transverso-oblongatâ, inequilaterali, sub-compressâ, fusco-virescente ; posticè dilatatâ, sub-biangulatâ ; umbonibus sub-elevatis ; dentibus cardinalibus parvis, obliquis, interdum exoletis ; lateralibus remotis, rectis ; margaritâ lividâ vel ferrugineâ. Long. 2 3-4 ; alt. 1 1-4 ; lat. 3-5 poll.

In form and color resembles some stinted varieties of U. *complanatus*.

Dr. J. B. S. Jackson stated that the female Chimpanzee, which had lately been exhibited at the Boston Museum, having died, the internal organs had been obtained for the Society.

ADDITIONS TO THE LIBRARY.

Linsley, J. H. Catalogue of the Birds of Connecticut. Pam. 8vo. *Author.*

Proceedings of the Academy of Nat. Sciences, at Philadelphia. Nos. 26—29. 8vo. Pam. *Academy of Natural Sciences.*

September 20th, 1843.

Regular meeting—the President in the Chair.

Dr. Binney read a paper "On the influence of physical causes on the geographical distribution of the genera and species of terrestrial mollusks of the United States."

In this paper the author first gave a concise description of the great geographical divisions of the territory of the United States, which he divided into the three distinct regions, viz.

1. The Pacific Region,—that lying between the Pacific Ocean and the Rocky Mountains.
2. The Central Region,—that between the Rocky Mountains and the Alleghany Mountains, including the whole country watered by the Mississippi River and its tributaries.
3. The Atlantic Region,—lying between the Alleghany Mountains and the Atlantic Ocean.

He then discussed the question, whether *merely geographical* features exercised any influence on the distribution of the terrestrial mollusks, and arrived at the conclusion, that unless combined with climatal causes, they offered scarcely any obstacle to their extension. The Rocky Mountains, rising above the limits of perpetual frost and snow, were considered to form an impenetrable barrier; while the Alleghany Mountains, of moderate elevation, and covered to their summits with forests, were traversed in every direction by these animals, so that the same species are for the most part found on both sides of them. Hence he inferred that the country west of the Rocky Mountains, constitutes a distinct zoological region, and the country between these mountains and the Atlantic Ocean another.

The other causes considered were the following:—Climate, Elevation, Geological Structure, Vegetation, Humidity and Dryness, which were classed as primary and constant causes; and Inundations, Fires, Agriculture, Increase of Domestic Animals, Proximity of the Sea, Commercial intercourse with Europe, Excessive Heat or Cold of particular seasons, and Oceanic currents, which were set down as accidental or secondary causes. After

stating the effects of these, the author proceeded to suggest, as the result of his observation, that the facts known in relation to the subject, would authorize the belief that the country is divided (so far as concerns these animals,) into several distinct zoological sections, each more or less perfectly defined, and each inhabited by certain species peculiar to itself. These he indicated as follows:—

Sect. 1.—The peninsula of Florida.

Sect. 2.—The Alluvial Region of the southern Atlantic coast and of the Gulf of Mexico.

Sect. 3.—The Southern Inland Section, comprising the territory between the preceding and the river Ohio, and the State of Virginia.

Sect. 4.—The Southern Inland Section, lying between the Ohio River and the great Lakes, and embracing the middle Atlantic States and a part of New England.

Sect. 5.—The Northwestern Section, west and northwest of the great Lakes.

Sect. 6.—The Northeastern Section, between the river St. Lawrence and the Atlantic Ocean.

The physical features of each of these sections, were described, and catalogues of the species inhabiting each were given,—and the author concluded with some general remarks concerning the introduction of foreign species.

ADDITIONS TO THE CABINET.

Dr. Gould presented, on behalf of Dr. Wright, of the U. S. Navy, a skull of *Diomedea exulans*, Wandering Albatross, from Van Dieman's Land; also a skin of a *Galeopithecus*, from Manilla?

From Mr. Brazer, Fossils from Alabama, consisting of Shark's teeth, and a fragment of the Jaw-bone of a reptile, with teeth, from the marl of Alabama river. Three consecutive vertebræ of a Saurian, from Lowndes Co., Ala.; Encrinites from Prairie Bluff, on Alabama river, and a Coprolite. Also valves of Unio.

ADDITIONS TO THE LIBRARY.

Annals and Magazine of Nat. History. No. 76, for Sept. 8vo. Pam. London. 1843. *Courtis Fund.*

Proceedings of the Zoological Society of London. Part X. 8vo. 1842. *Zoolog. Soc.*

Reports of the Council and Auditors of the same. 8vo. Pam. 1843.

N. A. Review for Oct. 1843. 8vo. Boston. *Exchange.*

October 4th, 1843.

Regular meeting—Dr. C. T. Jackson, Vice President, in the Chair.

Dr. Gould continued his account of the Shells from Burmah, received from the Rev. Mr. Mason.

PALUDINA DOLIARIS. Testâ tenui, conico-globosâ, luteo-viridescente, arctissimè umbilicatâ; anfract. 5 ventricosis, striis minutissimis reticulatis, costulis numerosis inequalibus, purpureis, cinctis; aperturâ sub-circulari; columellâ reflexâ, non appressâ, albâ; labiis posticè disjunctis. Long. 11-10; lat. 9-10 poll.

Differs from P. *Burroughiana* and *elongata* in form and aperture; but is nearly allied to P. *subcostata*, Griffith's Cuvier.

PALUDINA PETROSA. Testâ solidâ, imperforatâ, subglobosâ, apice erosâ, saturatè viridi, rufo fasciatâ; anfract. 3, ultimo amplo, suturâ præcipuè marginatâ; aperturâ semi-circulari, columellâ latè planulatâ, rufescente; intus nigrescente vel holosericâ; operculo apice subcentrali, elementis concentricis.

Resembles Anculotus or Littorina, but its place is determined by the operculum.

MELANIA BATANA. Testâ turritâ, solida, fusco-virescente, apice erosâ, anfract. 6—7, planulatis, posticè sub-coronatis, costulis longitudinalibus et volventibus gemmularum series tres efformantibus; aperturâ angusto-ovatâ, posticè coronatâ, intus cærulescente, columellâ albâ. Long. 1; lat. 2-5 poll.

Very closely resembles M. *Hydeii*, Conrad.

MODIOLA VARICOSA. Testâ fragili, lucidâ, inequilaterali, transversè ovato-oblongatâ, sub-falcatâ; colore luteo-viridescente, supra costâ umbonali maculis venosis obliquis notatâ; margaritâ argenteâ, ad umbones purpurea. Long. 1-2; lat. 7-20; alt. .5.

A beautiful and delicate shell, which I suspect to be an inhabitant of brackish, or even fresh water.

Dr. Storer reported on the Papers of the Rev. R. T. Lowe, recently presented to the Society by the Author. He complimented them highly for their scientific accuracy, and the exquisite beauty of the figures.

Dr. Abbot reported upon some of the birds from Surinam, presented by Dr. F. W. Cragin. He remarked upon their structure and habits, and exhibited the following species, which were in excellent condition.

Galbula albirostris,	White-billed Jacamar.
" paradisea,	Paradise "
" grandis,	Great "
Alcedo bicolor,	Rufous and Green Kingfisher.
Trogon Curucui,	Red-bellied Curucui.
" viridis,	Yellow-bellied "
Cuculus tranquillus,	Wax-billed Barbacou.
Bucco Tamatia,	Spotted-bellied Tamatia.
Momotus Braziliensis,	Brazilian Motmot, 2 specimens.
Columba speciosa,	Scallop-necked Pigeon, 2 specimens.
" Martinica,	Copper-colored Ground Dove.
" ruffina,	Russet " " Male.
" passerina,	Ground Turtle. Male.
" frontalis,	Grey-fronted Pigeon, 2 specimens.
Tinamus variegatus,	Variegated Tinamou, 2 specimens.
Perdix Guianensis,	Guiana Partridge, 2 specimens.

Mr. F. Alger, member of the Society, read an interesting paper on the identity of the Beaumontite of M. Levy, and the Lincolnite of Prof. Hitchcock, with Heulandite, and illustrated his remarks by differently modified crystals of these substances, specimens of which he laid before the members.*

The derivation of the secondary forms of the Beaumontite, from the primary right oblique-angled prism of Heulandite, was very clearly proved, and the source of fallacy pointed out, by which Mr.

* Mr. Levy read his paper before the Academy of Sciences, Paris, and an abstract of it may be seen in the Lond. and Edinb. Mag. for February, 1840. Prof. Hitchcock's account may be found in his Final Report on the Geological Survey of Massachusetts.

Levy had been led to describe the mineral as new. It was shown to agree in all its chemical, external, and crystallographical characters, with Heulandite, as found in Nova Scotia, where it offers a peculiarity in its crystalline form, not before observed, excepting in the Beaumontite. This peculiarity is in the near approximation of the crystals to a right square prism, (supposed by Mr. Levy to be the primary form,) by the undue extension of the replacements on the acute lateral edges of the common crystals of Heulandite. The *gradual* changes by which the ultimate figure is produced, was beautifully exemplified in the crystals from Nova Scotia, while they are not seen in the Beaumontite. The supposed Beaumontite occurs with Haydenite, near Baltimore, and it has hitherto been highly esteemed among mineralogists. The Lincolnite, named by Prof. Hitchcock, in honor of the late Governor of Massachusetts, occurs in the trap-rock of Deerfield, Mass., and in the gneiss at Bellows Falls. It was shown to differ from the ordinary crystals of Heulandite, only by the absence of the replacements upon the obtuse solid angles of the right oblique angled prism; a peculiarity which, Mr. Alger remarked, was not confined to those crystals, as others similar to them had lately been found on New York Island, and at Suckasunny, New Jersey. From measurement with the common goniometer, Prof. Hitchcock had found a difference of 10° in the incidence of planes M on T, which led him to figure and describe it as a new species. But Mr. Teschemacher, whose accuracy in the use of the reflecting goniometer is well known, has measured the same crystals, at Mr. Alger's request, and found them to agree precisely with the recorded angles of Heulandite.

A copy of Mr. Alger's paper was requested for the Journal of the Society.

Professor Charles Brooks was unanimously elected a member of the Society.

ADDITIONS TO THE CABINET.

Dr. Wyman, on behalf of Mr. Brazer, presented the cranium of a Lepidosteus and of a Beaver, (Castor fiber.)

Dr. Gould, on behalf of Dr. Dodd, U. S. Navy, presented two bottles containing fishes from the Grand Banks; and in behalf of

Mr. E. R. Mayo, a Cyclostoma, from Madagascar; also from an unknown donor, a piece of petrified wood, from Shreveport, La.

Dr. Storer presented, on behalf of Mr. H. W. Abbot, a beautiful specimen of *Trichiurus lepturus*, Silvery Hair-tail, from Mobile Bay. Also from Rev. Zadock Thompson, a bottle of Fishes.

Thanks were voted to Messrs. Brazer, Abbot, Thompson, and Dr. Dodd, for their donations.

ADDITIONS TO THE LIBRARY.

History of Vermont. By Zadock Thompson. 8vo. Burlington. 1842. *Author.*

Mollusca. Fresh Water and Land Shells of Vermont. By C. B. Adams. 8vo. Pam. 1843. *Z. Thompson.*

Catalogue of Vermont Plants. By Wm. Oakes. 8vo. Pam. 1843. *Z. Thompson.*

Proceedings of the Amer. Philosophical Soc. Vol. II. No. 27. May, 1843. 8vo. Pam. Philadelphia. *A. P. Society.*

Erichson, G. F. Genera et Species Staphylinorum Insectorum Coleopterorum Familiæ. Pars I. 8vo. Berolini. 1839.

Spinola, M. Insectorum Liguriæ Species.

Bristol Institution. Proceedings of 13th Annual Meeting. 8vo. Pam. 1836.

On certain Crystalline Forms of Sulphate of Strontian, found at Pyle Hill, near Bristol. 8vo. Pam. 1840.

Abstract of a Memoir on Physical Geology. By W. Hopkins. 8vo. Pam. Cambridge (Eng.) 1826.

Catalogue of Hemiptera, in the collection of Rev. F. W. Hope. 8vo. Pam. London. 1837. Nos. 1 and 2. With Latin Descriptions by J. O. Westwood. All from *Rev. T. S. Savage.*

Silliman's Amer. Journal of Science. No. 2. Vol. XLV., for July, Aug. and Sept. 1843. 8vo. N. Haven. *Editors.*

Lieut. Fremont's Report of his Exploring Expedition to the Rocky Mountains. 8vo. Pam. Washington. 1843. *Hon. R. C. Winthrop.*

Proceedings of Amer. Philosophical Soc. No. 26. Vol. II. 8vo. Pam. Philadelphia. 1843. *A. P. Society.*

October 18*th*, 1843.

Regular meeting—Dr. C. T. Jackson, Vice-President, in the Chair.

Mr. G. B. Emerson made some remarks upon the Report of the Regents of the University of New York, committed to him at a former meeting. He spoke chiefly of the want of attention to the subject of Natural History in the New York system of education.

Mr. E. was sorry to see that the subject was much neglected. He attributed this, in part, to the want of suitable books; none having appeared since the work of Smellie, so suitable for the purpose, as the American edition of this work, edited by Dr. Ware, greatly enriched by the valuable notes of the editor. At present, this is the best text-book we have. But this is entirely inadequate to supply the want at present felt. Children in New England want a book of instruction in Natural History which draws its illustrations from objects seen every day about us, and familiar to all, and not from foreign examples, whose very names are entirely new. Mr. E. expressed a hope that before long such a work would be prepared by some one of this Society, and anticipated that it would be far more valuable for New England schools than any now existing.

Dr. Storer exhibited beautiful drawings of *Sphyræna borealis* and *Caranx chrysos*, from specimens which he had lately received.

He was not aware that either of these existed in our waters at the time his Report on the Fishes of Massachusetts was made. The former of these species was sent to him by Dr. Yale, from Holmes's Hole; the latter was taken in Boston, from one of the bridges leading to Charlestown. Both are described by Dr. De Kay as New York fishes.

Dr. Gould reported on papers of the Rev. R. T. Lowe relating to the plants and land shells of Madeira.

He dwelt upon some detailed experiments made by the author,

with a view to ascertain the nature of the respiratory system of the animals of Melampus and Pedipes. These experiments were numerous and conducted with great care, yet they led the author to a result which subsequent observation has shown to be false, in consequence of not reversing his experiments. Finding that the animal could sustain life for a week or more when confined in a bag under water, so as to prevent all access to the surface, he inferred that it was a water-breathing animal; but it is also a fact, that some animals known to be air-breathing, can endure a like or longer confinement under water, sustained by supplies of air, which they inspire and retain, till a renewed opportunity of rising to the surface is afforded.

Several matters of business were disposed of.

ADDITIONS TO THE CABINET.

Specimens from the Infusorial Strata of Richmond, Va.

Specimen of *Posidonia Keuperi*, from Prof. *W. B. Rogers.*

Cranium of an African Leopard from Dr. *T. S. Savage.*

Beautiful specimens of Fluor Spar, covered with crystals of Quartz; specimens of Galena and other minerals, from Mr. *Nathan Metcalf, Jr.*

A Crustacean, from Dr. *James Jackson.*

Specimens of about fifty species of wood, from Surinam, with the native names annexed, from Dr. *F. W. Cragin.*

The thanks of the Society were voted to Messrs. Rogers and Metcalf for their donations.

ADDITIONS TO THE LIBRARY.

Fifty-sixth Report of the Regents of the University of New York State. 8vo. Albany. 1843.

R. T. Lowe's Description of a new Genus of Acanthopterygian Fishes. 4to. Pam. Cambridge (Eng.) 1838.

Fishes of Madeira. 4to. Pam. Cambridge (Eng.) 1836.

Synopsis of the same. 4to. Pam. Cambridge (Eng.) 1837.

Supplement to Synopsis. 4to. Pam. Cambridge (Eng.) 1839.

Additional Observations on Alepisaurus. 4to. Pam. 1835.

Novitiæ Floræ Maderensis. 4to. Pam. 1838.

Primitiæ Faunæ et Floræ Maderæ et Portus Sancti. 4to. Pam. 1831.

Description of the Animal to which belongs the shell Helicolimax Lamarckii. By R. T. Lowe. 8vo. London.

Remarks on the Nature of the Respiratory Organs in certain Littoral Mollusca of Madeira. By Rev. R. T. Lowe. . 8vo. Pam. London.

On the Genera Melampus, Pedipes and Truncatella. By Rev. R. T. Lowe. 8vo. Pam. London.

Notes on the Morbid Appearance in the Dissection of the Chimpanzee. 8vo. (2 leaves and 2 plates.) 1836. London.

Description of two species of Araneidæ. 8vo. Pam. London. By Rev. R. T. Lowe. All from *Rev. R. T. Lowe.*

Description of 12 new species of Unionc. By Isaac Lea. 8vo. (1 leaf.) 1843. Philadelphia. *Author.*

Annals and Magazine of Nat. History. No. 77, for Oct., 1843. 8vo. London. *Courtis Fund.*

Reply to the Accusations of J. D. Dana. By Joseph P. Couthouy. 8vo. Pam. New Haven. 1843. *Author.*

November 1*st*, 1843.

Regular meeting—the President in the Chair.

Dr. Abbot continued his report upon the South American birds, of Dr. Cragin's donation, and exhibited the following species, viz:

Lanius Cayanus, Cayenne Shrike, two specimens, adult and young. L. *rubiginosus*, Rusty Shrike. *Tanagra Cayana*, Rufous-headed Tanager, male. T. *punctata*, Spotted Green Tanager. T. *atro-coccinea*, Marone Tanager. *Muscicapa* (———), Orange-crowned Fly-catcher, Lath., two specimens. *Ampelis pompadora*, Pompadour Chatterer. *Pipra albifrons*, White-faced Manikin. P. *pareola*, Blue-backed Manikin, young male. P. *pectoralis*, Gold-breasted Manikin.

Dr. Samuel Cabot, Jr., read a paper on a species of *Ortyx* discovered by him in Yucatan, the male of which had been recently described by Mr. Gould, of London, under the name of O. *nigrogularis*, but previously characterized by himself in Stephens' Incidents of Travel, &c., Vol. I., Appendix, p. 474.

He gave a full account of its habits, note, &c., and stated that Mr. Gould's measure of the bird (8 inches,) was too short, being probably taken from a dried skin. The shortest he measured was $8\frac{1}{8}$ inches, and some were as much as $8\frac{3}{8}$ inches. The color of the eye is hazel.

The *Female* is 8 to $8\frac{1}{4}$ inches long. Tarsus $1\frac{1}{8}$ inch. Middle toe, $1\frac{1}{4}$ inch. Tail, $2\frac{1}{8}$ to $2\frac{3}{8}$ inches long, and consists of twelve feathers, rounded. Bill 9-16 inch, nearly black. Top of head, back of neck, back, rump, upper tail coverts, dark brown with buff, reddish brown, and black, intermixed; edges of wing coverts, very light buff, almost white. Throat, chin, line across the forehead and between bill and eyes to cheek, line over eyes and along superciliary ridge to nape, deep buff or yellowish brown. Feathers of breast, flanks and belly not fringed with black, as in the male, but having a light reddish color at the part nearest the quill, then a mark like the crown of a bicuspid tooth, of very dark brown, on some feathers almost black; then a large spot of very light buff, on some feathers, white; and then a slight tip of dark brown, on the margin. The light spots on the breast are much smaller than those on the abdomen. Large spots of reddish and dark brown on the flank feathers. Under the tail-coverts, nearly white, with a lanceolate spot of dark brown or black along the middle of each. Legs light flesh-colored. Primaries, ash brown, fourth and fifth longest.

A paper from Dr. T. W. Harris was read, entitled "Description of an African Beetle, allied to Scarabæus Polyphemus, with remarks upon some other insects of the same group."

Dr. H. had enjoyed the rare opportunity of seeing all the Goliath beetles brought from western Africa by Dr. Thos. S. Savage and Mr. Geo. Perkins. Among them were several males and a female

of this rare and noble species, the latter of which was before unknown, together with both sexes of another scarcely inferior to it in size and beauty; and at the request of Dr. S., he had prepared descriptions of them. They both belong to the sub-genus Mecynorhina of Hope.

M. Polyphemus. Opaque, velvet green, above; top of the head, five longitudinal stripes on the thorax, three rows of rounded spots on each elytron, a spot on the scutel, two large square spots on the podex, and the sides of the breast, pale buff-colored; margin of the clypeus, horn, antennæ, and tarsi, black.

Male.—Head, three-horned; the anterior horn curved upwards, forked, and denticulated at the end; the lateral horns elevated perpendicularly, compressed and denticulated. Intermediate stripe on the thorax abbreviated behind, anterior femora six-toothed internally, and notched at the base. Body beneath, except the sternum and abdomen, covered with a yellowish, velvet-like pile. Length, exclusive of the horns, $2\frac{1}{4}$ inches; central horn, $\frac{3}{4}$ of an inch, or more.

Female.—Clypeus narrowed before, and widely emarginated on the anterior edge. Thorax grossly punctured; the intermediate vitta obsolete. Body beneath entirely green, polished, grossly punctured, and scarcely clothed with tawny hairs. Length, $2\frac{1}{8}$ inches.

M. Savagii. Thorax opaque velvet-green above, with five broad yellowish stripes; scutel green, with a broad yellowish stripe in the middle; elytra velvet-black, with three rows of tawny spots on each elytron, and an indented stripe of the same color on the suture, the marginal and subsutural spots confluent from the base to the middle; head of the male and central horn above, two spots on the vertex of the female, two square spots on the podex, and sides of the breast, yellowish gray; sternum, abdomen, and legs, dark green, and polished; horns and margin of the clypeus, anterior and intermediate tarsi, black; posterior tarsi pale rufous, with the articulations and claws black.

Male.—Head three horned; the anterior horn horizontally extended, and forked at the end; lateral horns smooth and tapering, extended forwards and outwards; anterior femora with three unequal robust teeth on each side, those on the outer edge abruptly bent downwards. Length nearly 2 inches; horn more than half an inch.

Female.—Clypeus quadrate, truncated before; sides of the breast covered with a yellowish gray substance, intermixed with coarse hairs. Length, $1\frac{3}{4}$ inches.

Dr. H. accompanied these descriptions with an account of the characters of the sub-genera, into which the Goliath beetles had been distributed, and subjoined the notes of Dr. Savage relative to their habits, food, and habitat. Dr. S. says that he "has seen Professor Klug's *G. regius*, which is no more nor less than the female of *Drurii;* of this I am as certain as that the *princeps* of Hope is the female of *Cacicus.*"

Dr. Gould exhibited about 50 species of Shells, received from Dr. Savage, from Cape Palmas.

There were among them several new species, which he should hereafter describe. A valve of *Unio ochraceus* was among them. He had once before received a valve of U. *complanatus* from the same region, which was supposed by the person who brought it to have been indigenous there. These instances show with how much caution the alleged localities of shells should be regarded.

Dr. Henry J. Bigelow was elected Cabinet keeper in the place of Dr. Henry Bryant, resigned. Several matters of business were disposed of.

ADDITIONS TO THE CABINET.

Dr. J. B. S. Jackson presented a mass of Egg cases of Buccinum, fished up at Marblehead, Mass.

ADDITIONS TO THE LIBRARY.

Constitution and By-Laws of the Northern Academy of Arts and Sciences. Pam. 1843. From the *Academy.*

Meteorological Register for 1822—25, by Joseph Lovell; also from 1826—30, by Tho. Lawson. 8vo. Philad. 1840. From Hon. *R. C. Winthrop.*

Monograph of the species of the genus Pupa, found in the U. S. By A. A. Gould. 8vo. Pam. From the *Author.*

November 15th, 1843.

Regular meeting—the President in the Chair.

Dr. Wyman, communicated through the President, a paper on the anatomical structure of the genera TEBENNOPHORUS, Binney, and GLANDINA, Say.

The paper gives all the details of a minute dissection of every organ, but the following are the main anatomical features by which the genera are characterized. The species examined were *Tebennophorus Carolinensis*, Bosc, and *Glandina glans*, Say.

TEBENNOPHORUS. On making a longitudinal section through the shield, along the back, there is found between the shield and the viscera, a large cavity occupying the whole extent of the dorsal and lateral region. It has no communication with the respiratory sac, nor does it communicate externally with the air. Its internal surface is lined by a thin, smooth, delicate membrane, enveloping the viscera, so as to unite them into a single mass, and from them it is reflected upon the tegumentary parietes, like the peritoneum of the higher animals. In the Limaces, the membrane by which the viscera are invested, is attached by a loose cellular tissue to the parietes, so that no similar cavity can be said to exist. In Tebennophorus, there is no cavity in the cuirass for a calcareous body, as in Limax.

The respiratory cavity presents a very remarkable variation from that of the Limaces, in being attached to the viscera, and in having no connection whatever with the shield. In the *Limaces* the shield contains two cavities, one of which secretes and contains the calcareous body or rudimentary shell, and the other the organ of respiration, the heart and kidneys.

GLANDINA. In the general characters of its organization, it resembles that of the genera Limax and Helix, but differs from them in the existence of an additional pair of tentacles and a corresponding modification of the nerves distributed to them ;—in the arrangement of the teeth upon the tongue;—in the complicated form of the stomach, and in some other characters of less importance. With

the genera Achatina and Bulimus, it is more intimately allied and has been confounded with them. The buccal pouch is many times longer than its breadth, while in all the above genera it is ovoidal. There is no horny beak at the entrance of the mouth. The teeth are arranged *en chevron* instead of transversely, and there is no teeth on the median line. It has the anterior portion of the membranous part of the stomach terminating in a cul de sac. The salivary glands form a distinct collar around the œsophagus, and are not separate as in the other genera. In Bulimus and Achatina the anterior lobe of the liver is largest; in Glandina it is smallest. There appears to be but one bile duct in the latter, while there exist two large ones in the smaller. The third pair of tentacles, so prominent in Glandina, are very slightly developed in Bulimus and do not exist in Achatina. In the two former, they are provided with a special nerve. In Achatina, the male organ is enveloped in a large and muscular sheath, which does not exist in any of the other genera.

Dr. Cabot exhibited three birds from Yucatan, which he regarded as new, and of which he read descriptions.

Corvus vociferus. Male, about 16 inches long. Tail, 1½ inches. Bill, 1½ inches along ridge, and 1¾ along gape; ½ inch diameter at base. Nostrils rounded, partially covered with bristly hairs. Tarsus, 1¾ inches. Middle toe, 1½ inches long. First primary shortest; 5th, longest. Dark brown on head, chin, neck, back and upper part of tail. A steel grey spot on checks. Tail consists of 12 feathers, all tipped for about one-third their length, with white, except the middle ones, which have merely a white mark on each side the shaft, near the tip. Under parts and flanks are white. Bill, black. Iris, brown.

Female, 15¼ inches in length; brown, lighter than the male. Bill, yellow.

Oriolus musicus. Male, 9½ inches long. Tarsus, 1 1-16 inches long. Bill, ¾ of an inch along gape; ⅞ along ridge. Tail, 4⅛ inches long. Head, neck, cheeks, breast, belly, rump, tertiaries, and nearly the whole length of the two outer tail feathers, and the lower part of the third, and sometimes a stripe on the fourth, bright chrome yellow. Face, throat, primaries, secondaries, back, and four. sometimes six tail feathers, black. Legs,

bluish. Bill, black, except base of lower mandible, which is bluish.

Female, $8\frac{7}{8}$ inches long, marked like the male, but not so brilliant. Irides, hazel. Tail consists of 12 feathers.

Momotus Yucatacensis. Black-throated Motmot. 15 to $15\frac{3}{8}$ inches long. Bill, $2\frac{1}{8}$ inches long; gape, $1\frac{5}{8}$ inch along ridge, $\frac{1}{2}$ inch broad, 7-16 of an inch through at base from above downwards. About 50 serrations can be counted on each edge of upper mandible, and 32 on each edge of lower. A strongly marked ridge runs along roof of mouth to within $\frac{3}{8}$ inches of point of bill. Tarsus, $\frac{7}{8}$ of an inch long. Tail, $8\frac{1}{4}$ inches long, bare part of two central tail feathers, about $2\frac{1}{2}$ inches. Along top of head, upper part of back, rump, cheeks, breast and sides of neck, reddish green or olive. In middle of back is a spot of bay. A stripe of very light blue, like some of the salts of copper, passes from base of bill almost to nape, along each side of head. A black stripe extends under each eye to neck. Another black stripe passes down middle of chin to upper part of breast, growing broader as it descends, and mixed with light blue on chin, and bordered on each side with the same color. Abdomen, under tail coverts and flanks, bright rufous. Primaries and tail light green, changing to blue in some lights, tipped, and more or less bordered with black. 1st primary, longest; 4th, shortest. Ten tail feathers. The expansion at end of two middle tail feathers, about half bright pale green varying to blue, and the other half black. Eyes, hazel. Legs and bill nearly black.

Mr. Bouvé reported upon some fossil shells from the Tertiary of Europe, which had been committed to him, and made some remarks upon the prevalence of the different strata of this class in Great Britain, as also of their paleontological contents.

In relation to what has been published upon the subject, he took the opportunity of calling the attention of any present, who might not be aware of the fact, to the discrepancy in the different accounts of the English Tertiary, found in the most popular works. For instance. In Mantell's Wonders of Geology, the author, remarking upon the Miocene (Tertiary) deposits, states that there are *no* good

types of this group in Great Britain; and in the Elements of Geology, by Mr. Lyell, it is also said that in England the Miocene strata are wanting, the Tertiary being limited to the Eocene and the Pliocene. In the Principles of Geology, edition of 1842, the Coralline Crag of Suffolk, and the Red Crag, succeeding, two extensive deposits, are both ranked as belonging to the strata, said in the other cases to be wanting—the Miocene. Now there is nothing to show in this last published edition why the author makes a statement so different from that in his Elements and in other works. The reader of these only, is therefore left in doubt as to the correctness of either. A satisfactory explanation is, however, contained in an address delivered by Prof. Buckland before the Geological Society of London, in 1840. An account being there given of a visit made by Mr. Lyell to Norfolk and Suffolk, for the purpose of determining, with the assistance of others who accompanied him, the age of the deposits there, by a comparison of their fossil shells with the recent. It was found that the number of extinct species, in both the Coralline and Red Crag, brought them both within the limits of the Miocene, and that the views before held by geologists had been erroneous.

Dr. Storer read extracts from a letter of Mr. S. S. Haldeman, as follows:—"I have a third undescribed species of Percina, from the Susquehannah, which may be characterized as follows."

"P. BIMACULATA. Light yellow, sides transversely and irregularly branded with black, and dorsal fins clouded with brown, a distinct black spot at the extremity of the lateral line. Slender, lateral line sub-rectilinear, above the middle; ten or twelve irregular transverse bands upon the back and side; rays of the second dorsal and caudal fins crossed by bands of dark brown.

D. 15 — 15 : P. 13 : V. 6 : A 11 : C 17.

The length of the pectoral fins deserves mention as a generic character."

Dr. Gould read descriptions of shells received from Drs. Savage and Perkins, from Africa. They are as follows:—

HELIX (CARACOLLA) PELLUCIDA. Testâ fragili, pellucidâ, pallidè

corneâ, orbiculari, carinatâ, vix perforatâ : spirâ depressâ, sub lente striis subtilissimis decussatâ ; infra convexâ, nitidâ : anfractibus 6 subconvexis, externis propè suturam excavatis : aperturâ lunatâ, labro angulato. Lat. 17-20 ; alt. ½ poll.

Bulimus rubicundulus. Testâ oblongo-conicâ, tenui, rosaceo-erubescente ; anfractibus 7 convexiusculis, ultimo obsoletè carinato. suturâ marginatâ, albidâ, eleganter crenulatâ ; aperturâ ovatâ, columellâ tenui, labro subreflexo, intus sub-incrassato. Long. 1½ ; lat. 7-10 poll.

Allied to B. *Boholenis* Brod., and is colored like some varieties of B. *concinnus*, Brod.

Bulimus interstinctus. Testâ ovatâ, apice mamillatâ, imperforatâ, pallidè incarnatâ, striis liturisque purpureis et pallidis hic et illic variegatâ ; anfractibus 7 ventricosis, ultimo magno, partem dimidiam spiræ æquante ; suturâ marginatâ, albidâ, notissimè crenulatâ : aperturâ parvâ, sub-quadratâ ; columellâ rosaceâ, evolvente, posticè sinuatâ ; labro acuto, intus callo rosaceo incrassato. Long. 1¾ ; lat. 9-10.

Achatina torrida. Testâ ovoideâ, apice mamillatâ, rufo-castaneâ : anfractibus 7 ventricosis, striatis, ultimo magno, basi deorsum contractâ ; suturâ marginatâ, perspicuè crenulatâ ; aperturâ parvâ, ovatâ ; columellâ albâ, fusco-marginatâ, basi leviter truncatâ ; labro simplici, fuscescente, intus albo, incrassato. Long. 3 ¼; lat. 1½ poll.

Allied to A. *Saulcydi*, Guerin, a reversed species.

Achatina involuta. Testâ turritâ, elongatâ, apice mamillatâ, imperforatâ, fuscescente ; anfractibus 12 leviter striatis, quatuor superioribus sub-equalibus, ultimo carinato ; suturâ impressâ, minutissimè crenulatâ ; aperturâ ovatâ, spiræ partem sextam æquante, columellâ arcuatâ, involutâ, tubulum efformante. Long. 1 1-10 ; lat. ¼ poll.

Allied to A. *octona*, *decollata*, &c.

Pupa pumilio. Testâ obovatâ, ventricosâ, sursnm auctâ, apice rotundatâ, imperforatâ, albida, nitidâ : anfractibus 7 planulatis, leviter striatis, ultimo deorsum attenuatâ ; suturâ lineari ; aperturâ parvâ, semi-ellipticâ, lamellâ unicâ posticâ, cum labro continuâ, et plicâ umbilicali angulatâ impeditâ ; peritremate albo, undulato, leviter et inequaliter reflexo. Long. 13-20 ; lat. 7-10 poll.

Pupa capitata. Testâ cylindraceâ, apice rotundatâ, albidâ, imperforatâ ; anfractibus planulatis, concinnè obliquè striatis, ultimo

deorsum attenuatâ, basi carinatâ, externè et sub suturâ umbilicali indentatâ ; suturâ conspicuâ ; aperturâ angustâ, protensâ, subovali, basi sub-angulatâ, lamellâ posticâ, alterâ columellari, dentibus quatuor inequalibus, plicaque umbilicali dentiferâ ringente ; peritremate candidâ, reflexâ. Long. 11-20 ; lat. $\frac{1}{4}$ poll.

Melania mutans. Testâ turritâ, spirâ elongatâ, saturatè fuscâ, decollatâ ; anfractibus superstitibus 8 planulatis, plicis longitudinalibus ad 16 et lineis volventibus decussantibus compresso-granulatis, vel eorum vice, carinis compressis, acutis, flavescentibus, plus minusve eminentibus cinctis ; ultimo basi striis ad 12 deorsum diminuendis spiraliter exarato ; aperturâ angustâ, ellipticâ, basi mediocriter effusâ, intus cœrulescente, fusco variegatâ ; columellâ lutescente ; labro acuto. Long. $1\frac{1}{2}$; lat. 9-20 poll.

Possibly the same as M. *quadriseriata*, Griffith's Cuv.

December 6th, 1843.

The President in the Chair.

Dr. Storer read a letter from Maj. Le Conte, tendering for publication in the Journal a Monograph of the Histeridæ, which that gentleman has in preparation. The offer was thankfully accepted.

Dr. S. alluded to some errors which had occurred in his paper in the number of the Journal recently published.

" An error occurs on page 80, Vol. IV., No. 3, which should be corrected,—because it might be inferred from the text, as it now stands, that a mistake, which Mr. Ayres has pointed out, did not exist. The asterisk, instead of being placed where it is, should occur in in *the first line of the page*, *after the period.* And 'Mr. Ayres' should be substituted for 'De Kay,' in the note."

Dr. S. also remarked, that the species of flat fish, known in our market as the "*turbot*," and which had been supposed to be the *Pleuronectes aquosus*, Mitchill,—but which Mr. Ayres, in his late communication, in an article upon the "Fishes of Brookhaven, L. I., considered a new species, he had been enabled, by Dr. De Kay's

Report, satisfactorily to determine to be the *Pleuronectes oblongus*, Mitchill,—of which the *Platessa ocellaris*, DeKay, is a synonym.

Dr. Cabot exhibited the male and female Thibetian Polyplectron (P. *Tibetanus*.)

The male differs from the description in the Naturalist's Library, in having a crest, and in being marked with spots of black, instead of undulated bands.

Temminck's description of the female is obviously wrong, that is to say, if we suppose the present specimen to be an adult. We find on the wings and wing coverts, lanceolate, black spots, with some bright reflections, instead of round, brilliant spots, as in the male. Spots near tip of tail only on the outer side of shaft, instead of on both sides, and surrounded with black only, without the yellowish white. Length between 17 and 18 inches. This bird was bought in Canton, by Mr. R. B. Forbes, and presented by him to me.

Dr. Gould read descriptions of two species of Anodon, from the river Salwen, in British Burmah, sent him by Rev. F. Mason.

A. SALWENIANA. T. trapezoideâ, compressâ, subtenui, retrò dilatatâ, posticè truncatâ, colore piceâ; supra costam umbonalem radiatim plicatâ: umbonibus parum elevatis; margine superiori rectâ, compressâ, ligamentum occultante, ante umbonibus excavatâ; utraque valvâ processu dentiformi cardinali, uno ante altero aptante, instructâ; cavitate minimè profundâ; impressionibus muscularibus minimè impressis; margaritâ sub-lividâ. Long. $5\frac{1}{2}$; lat. $1\frac{1}{4}$; alt. $2\frac{1}{3}$ poll.

Resembles small specimens of *Alas. complanata*, but is much less ponderous.

A. INOSCULARIS. T. transversè oblongâ, sub-ovata, solidâ, subventricosâ, piceâ: umbonibus parum elevatis; margine supra brevi, recto, ad angulum posticum rotundato, posticè subtruncato; infra arcuatâ; utraque valvâ processu cardinali crassa, dentiformi, instructâ, uno ante altero aptante; margaritâ albidâ; impressione musculari antico profundo. Long. 3; lat. $1\frac{3}{4}$; alt. $1\frac{1}{8}$ poll.

Very closely allied to A. *edentula*, Say, but is a more solid shell, and the cardinal apophyses are more elevated and stronger.

The prominent toothlike apophyses of these shells, render their position among the genera of Naiades, as now received, somewhat equivocal; uniting, as they do, Alasmodon and Anodon; and they strengthen the idea entertained by many, that the modifications in the number, position, or absence of teeth, according to which the genera are now founded, are so gradual as to authorize us to regard them as merely sub-genera of one grand genus. Should this view be adopted, and to it Dr. G. is much inclined, he believes that another subgeneric group might be instituted, equally as characteristic as any now received; and proposes as follows:

Subgenus PSEUDODON. Hinge margin with a tooth-like apophysis on each valve, the surface of which is not fractured, but smoothly covered with enamel, fitting into corresponding undulations in the opposite valve, that on the right valve closing in front of that on the left.

Anod. inoscularis would be the type of this group, and to it would belong A. *Salweniana*, *edentula*, *Stewartii* and perhaps some others.

Dr. Gould read a letter lately received from Mr. McClelland, of Calcutta, acknowledging the notice of his election to Corresponding membership.

Mr. Emerson read portions of a letter from Hon. H. Barnard, of Nantucket, accompanying specimens of the nut of *Laodoicea Seychellarum*, and also a mass of Resin which "exudes from a tree very similar to our white pine. It came from the west coast of Central America, and is used for such purposes as we use our pitch pine."

Dr. C. T. Jackson gave an abstract of Lieut. Fremont's Report of his Exploring Expedition to the Rocky Mountains.

The narrative abounds in incident, and the facts collected are very interesting. The river Platte was traced to its sources in the Rocky Mountains, the highest peak of which was ascertained to be 13,570 ft. above the sea. The rock formations are limestone and sandstone to 109° west longitude, where they rest immediately upon the granite. About 350 species of plants were collected.

Dr. C. T. Jackson announced that he had recently made a chemical analysis of the Pink Scapolite, of Bolton, in which he had discovered oxide of Cerium,—to which the mineral apparently owes its beautiful color.

He stated also that he had analyzed a mineral, which Prof. Hitchcock had found among some minerals which he collected in Worcester county, though he did not know in what town it occurred.

Prof. H. supposed it to be Yttrocerite, from its resemblance to specimens received from Mr. Tamnau, of Berlin, and from some tests he had applied. This mineral does not agree exactly with the description of the foreign Yttrocerite, although it contains the Fluorides of Yttria and Cerium. Dr. J. thinks it may have been obtained in Bolton or Boxborough. Analyses of these minerals will be communicated to the Society at a future meeting.

Dr. J. also remarked that he had been engaged in the examination of the composition of Red Cedar (*Juniperus Virginiana*), with a view to ascertain the nature of its antiseptic properties.

He had discovered in it a peculiar red coloring matter of a resinous nature, combined with a peculiar oil and tannin. This peculiar matter can be extracted by means of boiling alcohol, and may then be infused into other kinds of wood, to which it would probably communicate its antiseptic properties, and would render cabinets and boxes thus imbued with it, free from the attacks of moths and other insects. He proposes also to examine the antiseptic principle in the Locust and other trees. It is remarkable that no researches have hitherto been made in this important subject, which can only be properly investigated by chemists.

Dr. Shurtleff, in behalf of the committee for procuring a suitable apparatus for destroying, by means of heat, insects pernicious to the collections, reported that they had procured an apparatus, which, on trial, was found to answer the purpose perfectly.

The thanks of the Society were voted to Dr. Shurtleff, to whose invention and supervision the Society feels much indebted.

ADDITIONS TO THE CABINET.

A box of valuable Brazilian Insects, from *Dr. R. J. Dodd, U. S. N.*

Specimens of various species of wood, with leaves, fruit, &c., about 60 species, from the Sandwich Islands, from *Jos. P. Couthouy.*

December 20, 1843.

Regular Meeting—Dr. Gould in the Chair.

Prof. H. D. Rogers, of Philadelphia, gave an interesting account of the Mammoth Cave, in Kentucky.

He mentioned particularly the incrustations of Sulphate of Lime, which assumes the form of fibrous, columnar crystals, projecting from the walls and ceiling. At first in clusters, and resembling in shape rosettes, they afterwards become longer and curved. Prof. Rogers explained the probable manner of their formation, which he considered analogous to that of the fibrous columns of ice common in clay banks.

Dr. H. J. Bigelow mentioned similar smaller formations, which he had seen in one of the great pyramids, on the walls of a chamber lately opened, specimens of which he had procured on the spot. They exhibit the same fibrous and columnar structure as those of the Kentucky Cave, and probably owe it to the same cause. They are crystals of common salt.

Dr. Cabot mentioned the occurrence in Yucatan of cavities in the earth called Senotes, resembling closely in their structure the hollow spires or pinnacles in the Mammoth Cave, described by Prof. Rogers. These spires are supposed to be produced by dropping water wearing away the floor on which it fell, and carving niches and buttresses on the walls. In the Senotes the water is apparently at the same level in all; from which circumstance, together with the fact that those immediately on the sea coast are brackish, Dr. Cabot was led to suspect an underground communication, by infiltration, with the ocean.

ADDITIONS TO THE CABINET.

Specimens of Lichens and Mosses, collected by Dr. Porter, of Plainfield, Conn., and presented by him. The thanks of the Society were voted to him for the donation.

ADDITIONS TO THE LIBRARY.

Collections of the American Statistical Association, Vol. I., Part I. 8vo. pamph. 1843. *From the Association.*

Zuccarini, Dr. J. G.—Monographie der Americanischen Oxalis Arten. 4to pamph. *From Prof. Gray.*

Annals and Mag. of Nat. History. Nos. 79 and 80.

System of Nature, by Edward Newman. 8vo. London, 1843 *From the Author.*

North American Review, for January, 1844. *Exchange.*

January 3, 1844.

Regular Meeting—Dr. C. T. Jackson, Vice President, in the Chair.

Dr. Cabot read descriptions of three new species of Woodpecker, from Yucatan, viz.: Picus dubius, P. parvus and P. Yucatanensis, and exhibited the specimens. The descriptions are as follows, viz.

PICUS DUBIUS. *Cabot.*

Male, $9\frac{3}{8}$ inches long. Bill $1\frac{1}{8}$ inch along ridge; $1\frac{3}{8}$ inch along gape. Tarsus $\frac{6}{8}$ of an inch long—Tail $3\frac{1}{2}$ inches long, of 10 feathers. First primary shortest, third and fourth longest. Whole top of head and neck bright vermilion. A white band, $\frac{1}{4}$ inch wide across forehead. Spot of bright vermilion at base of bill, above nostrils. Back, wing coverts and secondaries black, crossed with about thirty transverse white bands. Upper tail coverts white. Lower tail coverts black and white, in wavy lines. Tail feathers black, except two outer ones, which are tipped and spotted on outer edge with dull white. Cheeks, line over eyes, chin, breast and flanks light cinereous; almost white on chin, darker on breast and sides of neck. Abdomen light vermilion. Bill horn-black. Legs slate color. Iris reddish.

PICUS PARVUS. *Cabot.*

Male—Length $6\frac{1}{8}$ inch. Bill $\frac{6}{8}$ of an inch. Tarsus $\frac{9}{16}$ of an inch. Tail $2\frac{1}{8}$ inches, consisting of 10 feathers. Crown red, with a light spot near quill of each red feather. Back, wing coverts, secondaries and primaries, black barred with white. Cheeks black, with a white stripe from base of bill to ear. White line over eye. Chin, throat and breast, white; breast marked with black spots. Vent and under tail coverts white, banded with black. Upper tail coverts black. Two outer tail feathers barred with black and white. White marks on outer edge of third feather. Rest of tail black. Legs bluish black. Bill horn-colored. Iris hazel. 1st primary shortest, 2d longest.

PICUS YUCATANENSIS. *Cabot.*

Male—Length $8\frac{7}{8}$ inches. Bill 1 inch along gape, $\frac{7}{8}$ along ridge. Tail 3 inches, of 10 feathers. Tarsus $\frac{5}{8}$ inch. 1st primary short-

est, 3d and 4th longest. Top of head cinereous black. Hind head, nape, along superciliary ridges to base of bill scarlet. A patch of the same from base of lower mandible along ramus to angle of lower jaw. Space between eye and bill, and extending under eye to side of neck, greyish with darker bars, growing more distinct towards neck. Chin black, spotted with white. Neck, breast, abdomen, upper and under tail coverts and flanks olive, transversely barred with yellowish white. Back, upper wing coverts, outer edge of secondaries and outer edge of primaries olive. Two outer tail feathers yellowish, others black with some yellowish near upper part. Iris hazel. Legs bluish. Bill horn-color.

Dr. C. T. Jackson read a description and analysis of Yttrocerite, from Worcester County, Mass.

It was found by Prof. Hitchcock among some geological specimens from Worcester Country. The precise locality is unknown. This mineral was suspected to be Yttrocerite from its resemblance to a specimen of that mineral from Sweden, sent to Prof. H. by Frederic Tamnau, of Berlin. A brief notice of it was read by Prof. H. at the last meeting of the Association of Geologists and Naturalists at Albany. Since that time a portion of the specimen had been sent to him for description and analysis.

It occurs in narrow veins in quartz and albite, containing silvery white mica and a few red garnets, and pink fluor spar.

Thickness of the veins from 3 to 4 millimetres. They run irregularly through the rock, and invest the quartz in very thin layers. The mineral also penetrates the felspar and fluor spar communicating a pink color.

It is massive, with some traces of crystalline structure.

Color—Violet blue, inclining to grey or lilac. Thin laminæ on the quartz translucent and of a delicate pink color.

Hardness—4¼ of the scale of Mohs.

Specific Gravity—3.076.

Lustre—pearly ; streak and powder greyish white. Before the blowpipe, alone on charcoal, turns yellow ; fuses, at a full red heat, into a greenish yellow porous glass or slag, which becomes lighter colored when cold.

With carb. soda O. fl. fuses into a yellow green opaque enamel. R. fl. becomes nearly white when cold, but remains opaque.

With borax dissolves readily into a transparent glass, which is

orange red while hot and colorless when cold. With salt of phosphorus it fuses into an opaline glass, which is orange red while hot but colorless when cold.

In this glass white particles of silica remain undissolved, and communicate to it a milky opalescence.

When a fragment of the mineral is fused with salt of phosphorus, there remains in the bead a skeleton of silica.

With gypsum the mineral fuses readily and forms a greenish yellow enamel, which becomes lighter colored in R. fl.

When the pulverized mineral is made into a paste with sulphuric acid in a platina crucible, and a waxed plate of glass, with letters marked through the wax is placed upon it; on application of heat to the crucible the letters become rapidly and deeply etched in the glass, demonstrating the presence of fluorine.

The above characters shew that this mineral differs somewhat from the Yttrocerite of Sweden, but these differences arise from the presence of some additional foreign matters as will be seen by the following analysis:

One gramme of the mineral was crushed to powder in a steel mortar, and then rubbed to impalpable powder in one of agate.

It was then dissolved in chlorhydric acid and formed a lemon yellow solution, leaving a portion of silicate of cerium undissolved.

The solution was then analyzed according to the directions of Berzelius, by means of a crust of crystals of sulphate of potash, which threw down a white powder of sulphates of potash cerium and yttria. The yttria salt was then dissolved out by a concentrated solution of sulphate of potash, and the cerium salt collected was dissolved in boiling water, and the oxide of cerium precipitated by means of a solution of pure potash. The lime was separated as a sulphate and the alumina was precipitated by carbonate of ammonia. The fluorine was determined by the difference in weight of the mineral, and the results obtained.

Oxide of lanthanium is *inferred* to be present from the color of the cerium obtained, no accurate process for its proportional separation yet being made known.

The results of the analysis on 1 gramme were as follows:

Lime,	=	.347
Yttria,	=	.155
Oxides of Cerium and Lanthanium,	=	.133

Alumina and Oxide of Iron, . .	= .065
Silex and Silicate of Cerium, . .	= .106
Fluorine by difference, . .	= .194
	1 · —

It is mixed with fluor spar in the thick part of the vein.

This rare mineral is now proved to occur in this country, and it may interest mineralogists to know that it probably will be found in Boxborough or Bolton in this state, since I have found other cerium minerals at those places, associated with the scapolite and petalite at the lime quarries.

The albite in which the yttrocerite occurs is like that found at the Boxborough lime quarries.

Dr. J. also read a description and analysis of the pink Scapolite, of Bolton, which is composed of the following ingredients:

Silicic acid, ...	45.94
Alumina, ...	28.84
Lime, ...	14.81
Soda, ...	5.43
Lithia, ...	1.58
Potash, ...	0.64
Magnesia, ...	0.21
Oxide of Cerium, ...	2.00
Water, ...	0.50
	99.95

This mineral occurs in abundance at Whitcomb's lime quarry, near the junction of the white, granular limestone with gneiss rock at the top of the quarry.

The cavities in the pink scapolite are frequently filled with a yellow powder, which on analysis was found to be a hydrous cerium ochre.

One grain of this substance contains of

Oxides of Cerium and Lanthanum, . .	0.2
Yttria, ...	0.1
Scapolite, ...	0.7

It dissolves readily in muriatic acid and forms a lemon yellow solution; with borax forms easily a transparent glass—orange red while hot, and pale delicate green when cold.

January 17, 1844.

Regular Meeting—The President in the Chair.

Dr. Storer laid on the table a specimen of Limulus Polyphemus, of large size, picked up on the beach at Nahant. The dimensions are as follows, viz.:

Greatest width, ...	$10\frac{3}{4}$ inches.
Length without tail, . . .	14 "
Across abdomen, ...	7 "
Length of carapace, . . .	$7\frac{1}{2}$ "
Distance between the eyes, . .	$6\frac{3}{4}$ "
Weight (tail wanting.)	

Dr. Storer, on behalf of Mr. S. S. Haldeman, presented a paper containing descriptions, with beautiful figures, of several species of Aphis, inhabiting Pennsylvania, as follows:

The following species are left in the genus as originally established, and they are not all characterized from mature individuals. A considerable number have been described by Rafinesque, who also instituted several sub-genera; but as far as I have been able to consult his papers, he has not noticed those here given.

1. A. QUERCUS-MONTICULA: brick red, varied with light yellowish; antennæ and legs pale, annulate with black; abdomen flat above, sometimes pale green; appendages short, two-jointed; eyes round and projecting. Varies considerably.

2. A. RUBECULA: deep brick red, outer extremities of the thighs and legs black; appendages long and taper.

3. A. CASTANEA-VESCA: body flat above, appendages obsolete; *young* white, legs and antennæ black, two marginal and two dorsal rows of large black spots; *adult* nearly black, with the spots obsolete.

4. A. BICOLOR: light yellowish green; head, antennæ, appendages, mesothorax, legs (except the anterior femora and part of the leg) blackish.

5. A. MARGINIPENNIS: light brown, covered with white down; thorax dark, abdomen large and inflated, appendages short; rostrum and antennæ corneous, with the extremity black; eyes prom-

inent, reddish brown; wings large, external margin brown. Female (fig. 6) black, somewhat hirsute; legs brown, ciliated; head, antennæ and thighs, pale corneous. A large species. Hab. Pinus mitis.

6. A. PILOSA: grey, with a short dense pile, which is wanting upon the numerous circular black spots of the surface; base of the antennæ and femora corneous; feet and tibiæ black, except a small testaceous portion next the knee joint of the 2d and 3d pairs. Perhaps Aphis salicis, Lin. as it occurs upon an exotic species of salix.

7. A. DISCOLOR: black, abdomen brownish yellow; anterior legs brown; appendages short.

Dr. Binney reported that the Crustacean, committed to him at a recent meeting, proved to be the female of Lithodes arctica, a species common to the northern parts of Europe and the corresponding coast of N. America.

It is the second specimen recorded as taken upon our shores. It was taken from the stomach of a codfish near Nahant, and from the fact of another specimen having been taken in the same neighborhood, from the stomach of the same species, and both hardly altered by the action of that organ, it may be reasonably inferred that its habitat extends from Greenland to our own vicinity. Both specimens were procured in the winter. The cast off shells have never been noticed thrown up on our shores, while those of other species are common.

Mr. Perkins presented a specimen of Vegetable Tallow, brought by him from Africa.

Mr. Teschemacher remarked that he supposed it to be the Shea butter, a substance which he had seen mentioned as collected by Dr. Stanger on the late expedition to the Niger, and which is supposed to be the inspissated juice of *Bassia Parkii*, specimens of the dried fruit of which were lately presented to the Linnean Society of London, by Mr. Smith, of Kew. Mr. T. has seen in a late publication that this plant has flowered in some of the conservatories in England.

This substance was referred for chemical examination to Dr. C. T. Jackson.

Mr. P. also presented a specimen of African Cotton.

It is the produce of a large tree, and is found on the ground when the seed vessels drop. Mr. Teschemacher observed that the seed indicated the tree to be of the Malvaceous family; the staple, although fine and silky, was very short and weak.

Mr. Teschemacher reported on some papers in the Acta Curiosorum, presented by Dr. A. Gray, on the system of Crystallography, by M. L. Frankenheim.

On the Jura Limestone, of Kurkowitz, by E. F. Glocken.

Mr. T. observed that it contained a minute and excellent detail of the locality, and that it was remarkable for giving an account, with a plate, of dendritic deposits of maganese, in sand stone, exactly resembling those presented lately to this Society by G. B. Emerson, Esq., which were obtained in digging a well at Newton, in this vicinity, and on which Mr. T. made a report. The star-like appearances, and the lines exhibited in the plate, might be supposed to have been copied from those found at Newton. The writer of the paper hints at the possibility of their being produced by electricity.

The only fossil shell he found was a species of *aptychus*.

Dr. Cabot stated, that he had lately found in the market a specimen of what he considered to be the common American Deer, *Cervus Virginianus*, but possessing *palmated horns* of large size, of which he exhibited a sketch.

He had not found this anomaly anywhere described, and suggested that their occurrence in this instance might serve to indicate a variety.

ADDITIONS TO THE CABINET.

Fossils from New Jersey, from *Prof. H. D. Rogers.*

Several phials, containing African ants, from *Dr. T. S. Savage, of Cape Palmas.*

ADDITIONS TO THE LIBRARY.

Herbarium Diluvianum, collectum a Johanne Jacobo Scheuchzero, M. D. Lugduni, 1723. *From Dr. Binney.*

Zoölogical Contributions, No. 2. 8vo pamph. *From S. S. Haldeman.*

Schembri Antonio—Catalogo Ornitologico del Gruppo di Malta. 8vo. pamph. *From the Author.*

February 7, 1844.

Regular Meeting—Dr. C. T. Jackson, Vice President, in the Chair.

Mr. Bouvé reported on some fossils from the green sand of New Jersey, presented by Prof. Rogers.

There were vertebræ of the mosasaurus and crocodile, and some shells of kinds already represented in our cabinet. He also exhibited a specimen of limestone, from Kittaninny valley, N. J., which had been altered by igneous action, and in connection gave an account of the geological character of that district.

Dr. Gould gave a favorable notice of a pamphlet of S. S. Haldeman, on the nomenclature of Zoölogy.

Dr. Abbot continued his report on the Surinam birds presented by Dr. F. W. Cragin, describing their habits and structure. He exhibited the following species, viz.:

Tanagra melanopsis, Black-faced Tanager—male; *Sylvia æstiva*, Summer Yellow-bird; *S. Cayana*, Cayenne Warbler; also a variety of the same; *Turdus cinnamoneus*, Black-breasted Thrush; *Cassicus cristatus*, Greater-Crested Cassican; *C. icteronotus*, Yellow-backed do.; *C. hæmorrhous*, Crimson-rumped do.; *Oriolus xanthornus*, Lesser Bonana Oriole; *Certhia cærulea*, Blue Creeper; *C. cyanea*, Black and Blue do.; *C. spiza*, Black-Headed do.; *Hirundo purpurea*, Purple Martin—male and female; *H. leucoptera*, White-winged Swallow; *Caprimulgus Virginianus*, Night Hawk—male and female.

Dr. Abbot also reported on a Catalogue of the Birds of Malta and the adjacent islands—"Catalogo Ornitologico del Gruppe di Malta, Antonio Schembri." It is not a mere catalogue, but contains notices of the species registered, and mentions among other rare visitors the Snow Bunting, *Plectrophanes nivalis*, and the Puffin, *Mormon arcticus*—both northern species.

Dr. C. T. Jackson reported on a Vegetable fat, brought from the western coast of Africa by Mr. Perkins.

This singular substance is said to be the spontaneous exudation of some tree unknown to the gentleman who presented the specimen to the Society.

It occurs in large masses. Sub-crystaline or massive ; color white, inclining to yellow, resembles in appearance and feel some varieties of hard soap, but is very light, floating on the surface of alcohol but sinking in ether.

It melts at the temperature of 90° F. remains fluid when cooled down to 67°, but on crystalizing, the temperature rises suddenly to 80°.

It is not a volatile oil, but may be distilled over with alteration of its composition, becoming very strongly empyreumatic and disagreeable.

Soluble in hot alcohol and precipitable by water.

Soluble in boiling ether, but lets fall a heavy fixed oil on cooling, and then crystaline stearin in the form of a white flocculent mass.

Saponifies readily with pure potash and forms a soft soap. Salt separates a harder soap, but not so hard as the animal fats produce.

It is then a concrete oil, containing a large proportion of stearine with elaine.

Its ultimate analysis will prove it to consist of carbon, hydrogen and oxygen.

No ammonia is disengaged from it by potash, hence it does not contain nitrogen.

Its use in the arts is evident from its composition. It will prove valuable both for soap making and for fuel for lamps, for it will yield both oil and hard fat or stearine.

The Secretary gave some notices of the Herbarium Diluvianum of Scheuchzer, an author of the date of the early part of the last century.

This author thought that he had discovered the fossil remains of man, which he called "Homo Diluvii testis." These remains were afterwards shown by Cuvier to be those of a gigantic extinct salamander. The work is instructive, as showing the difficulties and delusions in the path of early geologists.

February 21, 1844.

Regular Meeting—The President in the Chair.

Mr. Stodder gave a notice of the Report on the Mineralogy of New York.

He dwelt particularly on that part of the work which gives an account of the saline and mineral springs of that state. The origin of these was inquired into, and the various theories on the subject stated and examined.

Mr. James Hall, of New York, corrected some of the statements of the work, and added some facts of his own observation. In particular the occurrence of a knob of serpentine discovered by himself in the neighborhood of Syracuse, being the only mass of igneous rock known in the vicinity of the salt springs.

Mr. Hall exhibited a geological map of the middle portion of the United States, as far west as the Mississippi, compiled from his own observations and information furnished by other geologists. He also exhibited fossils from various localities, calling attention to the fact, made obvious from the specimens shown, that fossils of the same species are found of larger dimensions and fuller development as we proceed westward.

Dr. Gould read portions of a letter from Rev. Mr. Mason, of Burmah, a Corresponding Member of the Society, accompanying some specimens of shells and seeds from that region.

ADDITIONS TO THE CABINET.

A species of Raia, from Porto Rico, presented by *J. Tyler, Jr. Esq.*, of this city, was referred to Dr. Storer. The thanks of the Society were presented to the donor.

ADDITIONS TO THE LIBRARY.

Mineralogy of New York, by Lewis C. Beck, M. D. 4to. Albany, 1842. *From the Author.*

Zoölogical Contributions, No. 3. 8vo pamph. *From S. S. Haldeman.*

March 20, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

Dr. S. L. Abbot reported the addition to the Cabinet of the following mounted birds of Massachusetts:

Crested Titmouse,	*Parus bicolor.*
Summer Red-bird—male,	*Tanagra æstiva.*
Sharp-tailed Finch,	*Fringilla caudacuta.*
Swamp Sparrow,	*Fringilla palustris.*
Brown Titlark,	*Anthus spinoletta.*
Shore Lark,	*Alauda alpestris.*
Purple Gallinule,	*Gallinula martinica.*
American Bittern,	*Ardea minor.*
Carolina Turtle-dove—male and female,	*Columba Carolinensis.*
Pied-bill Dobchick—male,	*Podiceps Carolinensis.*
Ring-neck Duck—male,	*Fuligula rufitorques.*

The last two were presented by Mr. George Lieb, of Philadelphia. The turtle doves by Dr. T. M. Brewer.

Dr. Gould exhibited a Helix, sent him from Dr. T. R. Ingalls, of Greenwich, N. Y.

Dr. G. identified it with H. lucida of Europe; this adds another to the introduced species. He also described two species of Helix from the Sandwich Islands, which he named *Helix setigera* and *H. stellula.*

H. SETIGERA. Testa discoidea, parva, tenui, fusco et luteo tessellata; supra planulata, apice indentata; anfractibus quinis, clathris creberrimis setigeris aliquando denudatis insignibus; subtus late umbilicata; apertura lunata, lamellis duabus internis conspicuis volventibus.

H. STELLULA. Testa parva, discoidea, supra planulata, subtus convexa, utroque umbilicata, fusca interdum luteo maculata, anfractibus quatuor triquetris, costibus frequentibus elevatis, acutis, ad peripheriam carinatam stellatis; apertura rhomboidea, lamella unica interna, elevata, volvente instructa; labro simplici.

Dr. Cabot read a letter from Dr. Bachman, in answer to

inquiries made with regard to a specimen of deer with palmated horns, to which the attention of the Society was called at a previous meeting.* Dr. Bachman considered them merely variations from the normal condition, and that the individual was a specimen of *Cervus Virginianus.*

The following gentlemen were elected to corresponding membership:

George Lieb, of Philadelphia.
Spencer F. Baird, of Carlisle, Penn.

ADDITIONS TO THE LIBRARY.

Michaux N. American Sylva. Edited by Thos. Nuttall. Parts I. and II. of Vol. IV. 8vo. Phil. 1842.

Schembri, Antonio; Quadro Geografico Ornitologico, ossia Quadro comparativo della Ornitologia di Malta, Sicilia, &c. *Presented by the Author.*

April 3, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

Dr. Binney mentioned the fact that the piers of the bridge erected at E. Boston, about nine years since, were so far eroded by marine animals as to have become reduced to one fourth the original size, and suggested that the subject was deserving the attention of the Society.

Dr. Gould remarked, that the animal by which the erosion was effected was the Limnoria terebrans, noticed in the Report on the Invertebrata of Massachusetts, where the best method for guarding against its depredations is pointed out.

DONATION TO THE CABINET.

Skin of a Wolverene, taken on the Fish river, near Houlton, Maine, from *Major Townsend, U. S. Army.*

A seed vessel of from *Dr. J. B. S. Jackson.*

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* Jan. 17th, 1844.

ADDITIONS TO THE LIBRARY.

Silliman's Journal, for April, 1844, from the *Editors.*

Audubon, J. J.—plates 21—25 of Quadrupeds of North America, from *Subscribers.*

Deshayes, G. P.—Description des Coquilles fossiles des environs de Paris; 4to. 2 vols. Plates. Paris, 1824—1835. *Courtis Fund.*

April 17, 1844.

Dr. Binney, President, in the Chair.

The Secretary being absent, Dr. Wyman was chosen Secretary pro tem.

Mr. Bouvé gave an analysis of a work referred to him at a previous meeting, entitled Coquilles fossiles des environs de Paris.

Dr. S. L. Abbot announced the addition to the Cabinet of the following mounted specimens of Massachusetts Birds:

Pileated Woodpecker—male,	*Picus pleatus.*
Canada Fly-catching Warbler—male,	*Myiodioctes Canadensis.*
Bay-breasted Wood-Warbler—male,	*Sylvicola castanea.*
Chestnut-sided Wood-Warbler—female,	" *icterocephala.*
Black-throated green Wood-Warbler—male,	" *virens.*
Blackburnian Wood-Warbler—male,	" *Blackburniæ.*
Black and Yellow Wood-Warbler—male,	" *maculosa.*
Pine Creeping Wood-Warbler—male,	" *pinus.*
Golden-winged Swamp Warbler—male,	*Helenaia chrysoptera.*
House Wren,	*Troglodytes ædon.*

He also reported the addition to the Cabinet of the following mounted birds from Yucatan, viz. :

Lesser Ani.	*Crotophaga Ani.*
White-fronted Parrot.	*Psittacus leucocephalus.*
Peruvian Jay.	*Corvus Peruvianus.*
Black-throated Quail—male.	*Ortyx nigrogularis, Gould.*
Yucatan Motmot.	*Momotus Yucatacensis, Cabot.*

All the above specimens were received from Dr. Cabot, in exchange for duplicates in the collection of the Society.

He announced that 19 specimens of birds, from Dr. Cragin's donation, had been mounted and placed in the collection.

Dr. Abbot announced the donation of a valuable collection of birds' eggs, from Dr. T. M. Brewer. *Rallus crepitans, Quiscalus major, Turdus polyglottus, Fringilla passerina, Icterus spurius, Troglodytes palustris, Muscicapa crinita*—American species. *Turdus merula, Emberiza citrinella, Vanellus cristatus, Lanius collurio, Passer domesticus, Turdus musicus, Perdix rubra, Perdix coturnix*—European species.

The President read a letter from the Baron Delessert, acknowledging his election to corresponding membership.

Dr. Gould announced the donation of several species of minerals of Nova Scotia, from Mr. Tho. McCulloch.

ADDITIONS TO THE LIBRARY.

Owen, Richard. Lectures on the comparative Anatomy, &c. of Invertebral Animals. 8vo. London, 1843. *From Audubon Fund.*

Newport, George. Address before the Entomological Soc. of London. 8vo. pam. 1844. *Author.*

57th Annual Report of Regents of University of N. York. 8vo. Albany, 1844. *T. R. Beck.*

Linsley, J. H. Catalogue of Reptiles of Connecticut. 8vo. pam. New Haven. *Author.*

Browne, P. A. Essay on Solid Meteors. 8vo. pam. Philadelphia. *Author.*

Annals and Mag. of Nat. History, No. 84, for April, 1844. 8vo. London. *Courtis Fund.*

Dana, J. D. System of Mineralogy. 8vo. N. York and London, 1844. *Author.*

Review of the same. 8vo. pam. New Haven, 1844. *Author.*

Proceedings of Amer. Philos. Society, Vol. IV., No. 28. 8vo. pam. Philadelphia. *A. P. Soc.*

Annual Meeting, May 1, 1844.

The President in the Chair.

The President gave some notices of the early history, progress, and present state of the Society. He stated the pressing necessity for enlarged accommodations for the Collections and Library, and his belief that an appeal should now be made to the public for aid. He then read the Reports of the Curators, Librarian and Treasurer, of which the following are abstracts.

Entomology.—The collection of insects in the hall has been infected to an alarming extent by the Anthrænus. This has induced the Curator to retain a large portion of the collection in his own keeping, which, with the utmost vigilance and at no little trouble, he has succeeded in saving from destruction. He earnestly recommends that tight glass cases be provided, as the only effectual means of preserving the insects.

Mineralogy.—The most valuable specimens, about 600 in number, are arranged in the glazed cases. These will, in general, compare favorably with corresponding specimens in most cabinets. They are arranged on the chemical system of Beudant. There are also many valuable specimens in the drawers. The principal donations have been a box from Rev. Mr. Winslow, of Maryland, and Mr. Thomas McCulloch, of Halifax.

Ichthyology.—The fishes are all scientifically arranged, in good preservation, and good condition for study. There have been added several species from Connecticut, by the late Rev. J. H. Linsley ; *Leuciscus nasutus,* by W. O. Ayres ; *Trichiurus lepturus,* by H. W. Abbot ; *Platessa glabra, Sphyræna borealis* and *Caranx chrysops,* by the Curator,—the first a new species, and all previously unknown in the waters of Massachusetts.

Herpetology.—Numerous additions have been made by Mr. J. L.

Dimmock, Dr. N. B. Shurtleff, Rev. J. H. Linsley, Dr. F. W. Cragin, and Dr. Thomas S. Savage. Dr. Cragin's donation consisted of 23 jars, containing nearly 100 specimens of Saurian, Ophidian and Batrachian reptiles, all in excellent preservation. It is greatly to be regretted that so rich and valuable a collection must remain in comparative obscurity until more ample apartments are provided for the cabinet.

Ornithology.—There have been obtained 23 specimens of the birds of Massachusetts, comprising 20 species. These have all been mounted and placed in the cases. Fifteen species of birds' eggs have been presented by Dr. T. M. Brewer. Nineteen skins, from Dr. Cragin's donation, and 5 Yucatan species, from Dr. Cabot, have been mounted. The whole collection has been baked, and is quite free from insects. The names of most of the species received from Dr. Cragin have been ascertained, and labels attached. The whole number now mounted is 233, of which 195 are birds of Massachusetts, unmounted skins 592 ; in all 825.

Geology.—The principal donations have been, fossils from the cretaceous formations of Alabama, by James Brazer ; from New Jersey green sand, by Prof. H. D. Rogers ; shells, from Wilmington, N. C., by Dr. Gould ; silurian remains, from Nova Scotia, by T. McCulloch. The cabinet contains about 1000 specimens, about one half of which are tertiary, the remainder of the older formations ; a large number are yet undetermined, and must remain so until the library is better supplied with works on Paleontology.

Comparative Anatomy.—Few additions have been made, but articles of value are in preparation. Every specimen in the cabinet has been freed from insects by being subjected to over 180° Fahr. in the society's steam oven, and future ravages prevented by the free application of poisonous washes.

Library.—There have been added 26 vols. and 68 pamphlets, among which are the " Plantæ Asiaticæ rariores" of Dr. Wallich, by J. P. Cushing, Esq. ; and the " Quadrupeds of America," of Audubon, by several subscribers. The several works are specified, from time to time, in the Society's " Proceedings."

Treasury.—Income from the Courtis Fund, - - $604 00
On hand, May 1, 1842, - - - - - - 212 00

$816 00

Of which there has been expended:		
For the Library, - - -	- 116 49	
For the Cabinet, - - -	- 170 00	
For the Journal, - - -	- 225 98	
		512 47
Balance on hand, - - - - -		- $303 53
Income from assessments, - - - - -		- 473 00
Ordinary Expenses, - - - - - -		- 656 38
Deficit, - - - - - -		- $183 38

In two years, a debt of $258 45 has been incurred, in consequence of members having withdrawn, either from the necessity of economizing, or from a want of interest in its objects. These vacancies have not been filled by the accession of new members. The Treasurer urges the necessity of instant and active exertions, to draw to the support of the Society a large number of new members, who will give the aid of their money, if not of their time and talents.

The Annual Address was then given by Prof. Asa Gray, of Harvard University. It gave an abstract of the recent progress and present state of Vegetable Physiology, and was listened to with profound attention by a numerous audience.

Voted, that the thanks of the Society be presented to Prof. Gray, for the eloquent and appropriate address delivered before it this day, and that he be respectfully requested to communicate a copy for publication.

Voted, that the President be requested to prepare a sketch of the doings of this annual meeting, together with his remarks on the wants and claims of the Society, to be circulated extensively in a pamphlet form, among the members and friends of the Society.

Mr. Bulfinch and Dr. J. B. S. Jackson were chosen a committee to procure an Address for the next annual meeting.

The Society then proceeded to ballot for officers for the

ensuing year. Mr. Belknap and Mr. Abbot having declined a rëelection as Curators, the following gentlemen were unanimously chosen.

President.

Amos Binney.

Vice Presidents.

Charles T. Jackson,
D. Humphreys Storer.

Corresponding Secretary.

Augustus A. Gould.

Recording Secretary.

Thomas Bulfinch.

Treasurer.

John James Dixwell.

Curators.

Botany.—J. E. Teschemacher.
Entomology.—T. W. Harris.
Ichthyology and Herpetology.—Jeffreys Wyman.
Conchology.—Augustus A. Gould.
Mineralogy.—Martin Gay.
Comparative Anatomy.—N. B. Shurtleff.
Geology.—Thomas T. Bouvé.
Ornithology.—Samuel Cabot, Jr.

Librarian.

Charles K. Dillaway.

Cabinet Keeper.

Henry J. Bigelow.

On motion of Dr. C. T. Jackson, it was voted, that the thanks of the Society be presented to Dr. Abbot for his efficient and valuable services for two years past as Curator of Ornithology.

The meeting was then adjourned.

ADDITIONS TO THE LIBRARY.

Annals and Mag. of Nat. Hist., No. 83, for March, 1844. London. *Courtis Fund.*

Proceedings of Amer. Philos. Society, Vol. IV., No. 29. 8vo. pam. Philadelphia. *A. P. Soc.*

Audubon's Quadrupeds of America—Plates 26 to 30. *Subscribers.* (See page 137 of this vol.)

May 15, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

The Secretary presented, in behalf of G. H. Snelling, Esq., a phial containing sand from the Desert of Sahara, collected by Commander Nicholson. Dr. C. T. Jackson took charge of it for examination.

Dr. Storer stated, that he had received a letter from Mr. John L. Le Conte, of New York, informing him that he had prepared a monograph of the genus Scarites, containing six American species, for which he asks insertion in our Journal. He has added also several new species of insects from Missouri, viz., one Cicindela, two Calosoma, one Dytiscus, a new genus of Heteromera, and a magnificent Lamia, nearly two inches long.

The subject of Mr. F. S. Stallcknecht's bill for services, in relation to the exchange of our Journal with scientific bodies abroad, was called up, and after debate it was voted, that the Treasurer be authorized and instructed to pay him fifty dollars.

Voted, that the Librarian be requested to prepare a list of the Societies to which the Journal is sent in exchange; and also to state if publications in return for it are duly received. Voted, also, that the Corresponding Secretary be requested to propose an exchange of the Journal for the "Comptes rendus" of the French Institute.

Drs. J. B. S. Jackson, J. Wyman and H. J. Bigelow were chosen a committee to consider what profitable disposition may be made of the Solar Microscope belonging to the Society.

Dr. Abbot requested permission to use the Hall of the Society for a course of lectures which he proposes to give on Ornithology. Voted unanimously.

ADDITIONS TO THE LIBRARY.

Transactions of Amer. Philos. Society, Part I., Vol. IX. 4to. Philadelphia. *A. P. Soc.*

Annals and Mag. of Nat. History, No. 85, for May, 1844. *Courtis Fund.*

Gray's (G. R.) Genera of Birds, No. 1. Long 4to. London, 1844. *Audubon Fund.*

June 5, 1844.

Dr. D. H. Storer, Vice President, in the Chair.

Dr. Cabot announced the addition of the following specimens of birds, new to the collection, viz.: *Cuculus Americanus*, female; *Sylvia coronata*, male and female; *Troglodytes brevirostris*, male; *Fringilla palustris*; *Sylvia Americana*:—also the following duplicate specimens, viz.: *Sylvia parus*, *S. coronata*, (male and female,) *S. varia*, (male,) *S. icterocephala*, (male,) *S. marilandica*, (male,) *Vireo olivaceus*, (two males,) *Troglodytes brevirostris*, (male,) *Tanagra rubra*, (male,) *Turdus Wilsonii*, (male,) *Picus auratus*, (male.)

On motion of Dr. Cabot, Voted, that it be recommended to the Curators to publish, from time to time, in the Proceedings, lists of duplicate specimens, which it may be considered expedient to offer in exchange.

Dr. Cabot exhibited a specimen of *Columba Trudeauii*, Audubon, which he had procured in Yucatan. He had exhibited this dove to Mr. Audubon, in the summer of 1842, and had been informed by Mr. A. that the species was already described. He saw, therefore, with surprise, Mr. A.'s descriptions and figure in his late number of the "Birds of America," where it is announced as a new species.

Dr. Gould reported on Part I., Vol. IX., of the Transactions of the Philosophical Society. A paper by Mr. I. Lea, describing shells supposed to be new, was particularly noticed. The descriptions are brief, and drawn from the

shells alone, the animal being in all cases omitted. Considering the great variations which species of Melania are known to exhibit, Dr. G. thought there was reason to apprehend that many of the supposed species would prove merely varieties.

Dr. J. B. S. Jackson called the attention of the Society to the injury which the button-wood tree has for several years past undergone, from some unknown cause; and suggested the propriety of appointing a Committee to investigate the subject. Rev. J. Lewis Russell was chosen a committee, with the request that he would communicate the result of his observations for publication.

Dr. Storer read a letter from Mr. J. P. Couthouy, relating to the termination of the controversy between him and Mr. James D. Dana, in which Mr. D. acquitted him from the charge of plagiarism he had previously made against Mr. C.

The report of the Librarian on the state of the exchange list of the Journal was read, and it was Voted, that the Corresponding Secretary write to Societies which have been remiss in forwarding their publications, enquiring whether they wish to continue the exchange, and notifying them of the non-reception of their publications.

Voted, that the future meetings of the Society, during the summer, be held in the Hall of the Society, at 4 o'clock, P. M.

ADDITIONS TO THE LIBRARY.

Annual Report of Commissioner of Patents, (Congressional Doc.) 8vo. pam. *R. C. Winthrop.*

Forskall, P. Flora Ægyptiaco Arabica. 4to. Hauniæ, 1775. *Amos Binney.*

June 19, 1844.

Dr. Storer, Vice President, in the Chair.

A communication from Mr. J. E. Teschemacher was read, as follows:

There are in this State very extensive palm-leaf manufactories,

in which the sweepings and dust, arising from splitting the leaf, accumulate to a large amount, and are thrown away as useless. I here present two specimens of vegetable wax, extracted from these sweepings, one of which has been melted in hot water. Also the two proximate ingredients, Cereine and Myricine, into which I have separated it, in order to prove its identity. The Cereine is originally deposited in a white gelatinous mass. This I have melted.

That this wax is the glossy covering which is spread by nature over the surface of the leaf and stem, may be seen on inspecting the two specimens of leaf, one previous to, and the other after my operation to deprive it of the wax. The so called wax of the common Myrica cerifera, as is well known, is a vegetable tallow, containing Stearine and the other ingredients of fat.

I am of opinion, though without having made any detailed and exact experiments, that from these sweepings may be extracted sufficient wax to pay a good profit; for from what I have tried, I cannot imagine the expense would exceed 40 or 50 per cent. of the value of the wax made. It can easily be made of a pure white color.

Dr. Storer presented from Mr. J. Le Conte a paper entitled "Monograph of American Histeroides," for publication in the Journal. Twenty-five species are characterized as new, viz.:

P. COARCTATUM. Elytris striis quatuor integris æqualibus, quinta et suturali abbreviatis, hac breviore. Habitat in provinciis Australibus.

P. GRACILE. Syn.: Hister frontalis, Say.

P. ATTENUATUM. Fronte excavato. Elytris striis dorsalibus quatuor primis et suturali integris, quinta e serie punctorum constituta. Hab. in prov. Australibus.

OMALODES BOREALIS. Thorace lateribus punctatis, stria margini valdè approximata. Elytris striis dorsalibus quatuor, marginali valdè abbreviata, suturali nulla. Tibiis omnibus 4-dentatis. Hab. ad Insulam longum, Nov-Eboraci.

O. HARRISII. Punctatus. Thorace bistriato, striis integris, approximatis. Elytris striis omnibus integris. Tibiis anticis 4-dentatis. Hab. in Pennsylvania.

HISTER FŒDATUS. Syn.: H. melanarius, Dej. Cat.

H. DECISUS. Thorace punctatissimo, striis inequalibus. Elytris

striis profundè punctatis, quatuor primis dorsalibus integris, marginali dislocato-interrupta. Tibiis anticis crenato-denticulatis. Hab. in Georgia.

H. SPRETUS. Thorace margine postico punctato, striis subæqualibus, insterstitiis lævi. Elytris striis tribus integris, quarta et suturali abbreviatis, quinta penè obsoleta, marginali dislocato-interrupta ; tibiis anticis 2 seu 3-dentatis. Hab. Georgia.

H. CURTATUS. Thorace striis inequalibus. Elytris striis dorsalibus quatuor integris, marginali utrinque valdè abbreviata. Tibiis anticis 3-dentatis ; dente anteriori emarginato. Hab. Pennsylvania.

H. DISPAR. Thorace striis inequalibus, exteriore brevissima. Elytris striis dorsalibus tribus, cum suturali integris. Tibiis anticis 3-dentatis. Hab. Georgia.

H. COGNATUS. Thorace lateribus punctatis, stria marginali posticè abbreviata, Elytris striis quatuor integris, quinta et suturali anticè abbreviatis. Tibiis anticis 5-dentatis. Hab. Nov-Eboraco.

EPIERUS MINOR. Thorace punctato. Elytris punctulatissimis, striis omnibus integris, punctatis, lateralibus duabus. Tibiis anticis ciliatis. Hab. in provinciis Australibus.

TRIBALUS AMERICANUS. Punctatissimus; elytris striis obliteratis; lateralibus duabus, tibiis inermibus. Hab. in Georgia et Carolina.

PAROMALUS AFFINIS. Punctatus. Elytris striis dorsalibus, excepta prima, obsoletis ; tibiis anticis subquadridentatis. Hab. Nov-Eboraco.

SAPRINUS IMPERFECTUS. Fronte impressa ; thorace disco, elytrisque anticè impunctatis ; stria suturali utrinque abbreviata. Tibiis anticis crenato-dentatis. Hab. Pennsylvania.

S. PICEUS. Thorace antice, lateribusque punctato, medio postice lævissimo. Elytris punctatis, macula magna basali propè suturam lævi. Tibiis anticis crenatis. Hab. ad oris maris.

S. MINUTUS. Thorace disco lævi, lateribus latè, margineque postico angustè punctatis. Tibiis anticis 5-dentatis. Hab. in excrementis bovinis.

S. IMPRESSUS. Thorace anticè utrinque grandè et profundè impresso, disco lævi, marginibus punctatis. Elytris posticè et lateribus punctatis. Tibiis anticis dentato-spinosis. Hab. Georgia.

S. DELETUS. Ubique punctatus. Thorace æquali. Elytris vix macula impunctata ad basin, stria suturali ferè obliterata, brevissima ; tibiis anticis 4-dentatis. Hab. Georgia.

S. OREGONENSIS. Ater; fronte marginato. Thoracis lateribus margineque antico et postico punctatis. Elytris posticè introrsum punctatis. Tibiis anticis crenatis. Hab. Oregon.

S. BIGENER. Thorace lateribus punctato-subrugosis, disco parvo lævi. Elytris posticè punctatis. Tibiis anticis 4 dentato-crenatis. Hab. in cadaveribus piscium.

ONTHOPHILUS PLURICOSTATUS. Thorace lineis sex elevatis, prima anticè, tertia posticè paulò abbreviatis. Elytris costis 14 elevatis. Hab. Georgia.

O. NODATUS. Thorace lineis sex elevatis, prima anticè abbreviata, secunda integra, tertia posticè paulò abbreviata. Elytris costis octo elevatis. Hab. Georgia.

ABRÆUS ACICULATUS. Aciculatus. Thorace anticè vix emarginato. Elytris stria basali obliqua. Hab. Georgia et Carolina.

A. SIMPLEX. Puncticulatus. Elytris stria rudimentali vix conspicua. Hab. Georgia et Carolina.

A OBLIQUUS. Punctatus. Elytris stria basali obliqua, abbreviata. Hab. Carolina.

A FIMETARIUS. Grossé punctatus. Elytris stria obliqua abbreviata basali obsoletissima. Long. lin. ¼. Hab. Georgia.

Dr. Gould communicated, on behalf of Dr. J. W. Mighels, some specimens of shells, with descriptions:

PUPA COSTULATA. Shell ovate-conic, scalariform, light yellowish brown, thin and fragile, whorls four, convex, the last two prominently ribbed, the first two smooth; suture distinct; aperture semi-circular, slightly oblique, unarmed; lip simple or modified by the last rib; umbilicus distinct. Length, 2-15 inch; breadth nearly 1-10. Hab. Portland.

HELIX SUBMERIS. Shell conic-globose, smooth, incremental striæ distinct, apex subacute; spire elevated, whorls five and a half, suture distinct, epidermis dark chesnut or mahogany colored, mottled, with an interrupted white zone around the body whorl; convex beneath, umbilicus minute, the region white; lip simple, thickened within; internal lip blending with the last whorl, and, with the inner margin of the outer lip, of a beautiful rose tint. Height, 1-2 inch; breadth the same; depth, 2-5 inch. Hab. Key West, Florida.

OSTEODESMA ÆRUGINOSA. Shell irregular oval, thin, semi-per-

laceous, opaque, inequilateral; rounded anteriorly, elongated and truncated posteriorly; beaks prominent, umbonial region tumid, compressed posteriorly; epidermis thin, wrinkled, of a rusty brown color, with raised lines of a darker color radiating from the beak. Width, 3-5 inch; height, 1-3; depth, 3-8 inch. Hab. Gulf of St. Lawrence.

TELLINA ELUCENS. Shell sub-oval, thin, white, shining; incremental striæ fine and delicate; inequilateral, short and somewhat pointed behind; produced, widened and rounded before; one cardinal tooth in each valve, lateral teeth obsolete. Width, 2-5 inch; height, 1-4; depth, 1-10 inch. Hab. Casco Bay.

MYTILUS MINGANENSIS. Shell oblong-oval; beaks terminal, slightly curved; basal and ligament margins equally curved, greatest width nearly central; rounded anteriorly; epidermis dark reddish brown; deep blue internally; muscular impressions violet, iridescent. Length, 2 1-4; breadth, 1 3-10 inches. Hab. Gulf of St. Lawrence, at Mingan.

BULLA INCINCTA. Shell small, cylindrical, opaque, white; whorls three, the first slightly depressed, the last distinctly girded above the middle; epidermis yellowish; spire obtuse, elevated; suture canaliculate; aperture narrow behind, wide and rounded before; right lip sharp, entire, advanced in the central region, with a fissure posteriorly. Length, 3-25; breadth, 3-50 inch. Hab. Casco Bay.

CYPRICARDIA NODULOSA. Shell oblong, very inequilateral, tumid and rounded anteriorly; produced, compressed and pointed posteriorly; beaks elevated, delicately pointed and curved forward; color a light yellowish brown, with numerous dark colored spots, distributed irregularly; surface with about eighteen strong, nodulous ribs radiating from the beaks; interior white, with a tinge of purple posteriorly; two flat, sub-conical cardinal teeth, under and anterior to the beak in the right valve, one tooth, with a groove in the left; a thin lamina and pit in each valve behind and near the beaks, with a distinct, elongated, distant lateral tooth in each valve, with alternate, corresponding grooves. Width, 1-10; height and depth 2-5 inch. Hab. Key West, Florida.

CYPRICARDIA CORRUGATA. Shell angular, oblong, very inequilateral, much inflated, thick and solid; irregularly rounded before; attenuated, produced and obliquely truncated behind; beaks ob-

tuse, slightly elevated, nearly terminal; color dirty white; ligament mostly external, lines of growth coarse, and corrugated; interior white, with a stain of purple on the posterior and hinge margin; three unequal cardinal teeth in each valve; a strong, projecting, triangular, flat tooth in the left valve, with a corresponding disunion in the right. Width, 1 3-5; height, 9-10; depth, 2-5 inch. Hab. Zanzibar.

PLEUROTOMA INSCULPTA. Shell slender, turretted, surface cancellated; whorls eight, angular; suture impressed, with an approximate, raised, revolving line; aperture about one third the length of the shell; fissure distinct, broad; canal short and wide; color white, excepting two or three of the upper whorls, which are reddish brown. Length, 7-10; width, 1-4 inch. Hab. Key West, Florida.

SCHIZOSTOMA CYLINDRACEA. Shell nearly smooth, cylindrical, thick, with slight revolving undulations; epidermis olivaceous; spire ovate-conic, eroded; whorls three or four, flattened, shouldered; suture distinct, aperture oval; fissure deep and wide. Hab. Warrior River, Alabama.

SCHIZOSTOMA CURTA. Shell short, sub-globose, smooth, thick and solid; epidermis dark green, with two or three revolving bands of a darker color; spire short, obtuse, eroded; whorls three or four, flattened in the middle; suture superficial; aperture pear-shaped; fissure distinct. Hab. Warrior River, Alabama.

Dr. Gould added, that he regarded the *Pupa costulata* as being the *Helix harpa* of Say,—the only Helix that author described which had not been previously re-discovered. Mr. Say found his specimen in the Northwest Territory; and it is not a little singular that the shell should come to light again at so wide a distance in the northeast. He had also received the *Cypricardia nodulosa* from Mr. Conrad, under the name of *Carditamera Floridana.*

Dr. Storer mentioned the formation of a Natural History Society at Portland, and suggested the donation of our Journal and Proceedings. The Secretary was directed to correspond on the subject.

The President communicated a letter from the Royal Academy of Literature and Science of Munich, offering an ex-

change of publications. Voted, that the Librarian be instructed to send a copy of the Journal and Proceedings to the Academy, and request such of their publications as relate to subjects of Nat. History in exchange.

Dr. Cabot announced the donation to the Society of an Eagle, mounted, from Increase S. Smith, Esq., of Hingham.

ADDITIONS TO THE LIBRARY.

Annals and Mag. of Nat. Hist., Nos. 86 and Supp. 87, for June, 1844. *Courtis Fund.*

Thomson, Wm. Report on the Fauna of Ireland. Div. Invertebrata. 8vo. pam. London, 1844. *Author.*

Waterhouse, G. R. Observations on Classification of the Mammalia. 8vo. pam. London. *Author.*

Waterhouse, G. R. Contributions to the Entomology of S. America. 8vo. pam. London. *Author.*

Alger's (F.) Phillips' Mineralogy. 8vo. Boston, 1844. *Editor.*

North American Review, for July, 1844. 8vo. Boston. *Editor.*

July 17, 1844.

The President in the Chair.

Dr. Brewer called the attention of the Society to some facts tending to clear up the confusion and errors in the history of the Hermit Thrush, (*Turdus solitarius*, Wilson.)

There are three distinct species which, by different authors, have been strangely mixed up. Wilson described one as *Turdus mustelinus*, tawny thrush. This is common, and is now known as *T. Wilsonii.* The second is described by Wilson under the name of *T. solitarius*, hermit thrush ; but under the same name he has also given a figure of a third species, every way distinct. This last is not described in either of the works of Audubon.

Swainson recognizes three species, but has confounded them in a most remarkable manner. The first, he describes as a new species, *Merula minor ;* the second he describes as *Merula solitaria*, but accompanies it with a plate of the third species ; while he confounds the third with *T. Wilsonii.*

In De la Sagra's work on Cuba, all three species are thrown together, and called *Merula minor*. In Audubon, correct descriptions are given of two species, but the habits, locality, &c. of the third, are given as those of *M. solitaria*.

The specific marks of the three species may be briefly summed up:

MERULA WILSONII. Uniform foxy color; breast clouded rather than spotted; common in New England and to the north; not found in Pennsylvania except in its migrations; nests in bushes; eggs blue, unspotted.

MERULA SOLITARIA. Rufous brown, back tinged with olive; tail rufous without the olive; cinnamon spot on the under part of wing; breast deeply spotted on a white ground; tail slightly forked. Passes north early in April; a northern species, rarely breeding so far to the south as Massachusetts; nests on the ground; eggs bright green, unspotted.

MERULA OLIVACEA, Brewer. Back uniformly olive brown, no tinge of rufous; tail uniform with the back; ground color of breast salmon, strongly spotted; tail even; nests on trees; eggs spotted with brown, on a blue ground; most abundant in the State of Pennsylvania and to the south.

A paper from Mr. J. E. Teschemacher was read, as follows:

"A parcel of the Beryls from Ackworth, N. H., having arrived here lately, I have had an opportunity of examining them in quantity, and have found, on the smoky quartz in which many are embedded, the mineral Uranium, both in green and yellow cubic crystals and in the state of yellow oxide. This not being mentioned in the recent works of Dana and Alger, is reason for thinking the locality new for Uranium.

Whether the dark yellow color of many of these Ackworth beryls, particularly those in the dark quartz above mentioned, may not be derived from this substance, is perhaps worth enquiry; but the chief purport of this communication is to draw attention to the fact, that all the appearances of this mineral, Uranium, at Ackworth, are so very similar to those of its appearance in the Tourmaline locality at Chesterfield, that a close comparison of the two localities would seem to be an object of considerable interest to

the well practised geologist and mineralogist. These two places also afford small quantities of a mineral which I consider as new, and which is now under analysis. Ackworth is, I believe, about 90 miles N. N. E. from Chesterfield."

The following persons were elected Corresponding Members, viz.:

Dr. J. Lawrence Smith, of Charleston, S. C.
Prof. E. Mitchell, of Chapel Hill, N. C.
Mr. Tuomey, Esq., of Petersburg, Va.
Dr. J. W. Mighels, of Portland, Me.

DONATIONS TO THE CABINET.

Mr. Bouvé presented, in behalf of *Mr. Nathaniel Brewer*, nine silurian fossils, viz.: *Asaphus longicaudatus*, 3 specimens; *Hypanthocrinus cælatus; Caryocrinus ornatus;* Calymene—; *Gorgonia reticulata.*

Dr. Gould presented, in behalf of *Dr. Wheatland*, of Salem, several specimens of Land Shells;—and from *J. G. Anthony*, a specimen of Scorpion, from Little Rock, Arkansas.

Thanks were voted to the donors.

ADDITIONS TO THE LIBRARY.

Annals and Mag. of Natural History, No. 88, for July, 1844. London. *Courtis Fund.*

Gray's Genera of Birds, Nos. 2 and 3. London. *Audubon Fund.*

Silliman's Amer. Journal of Science and Arts, No. 1, Vol. XLVII, for July, 1844. 8vo. New Haven. *Editor.*

Audubon's Quadrupeds of America—Plates 31 to 35. *Subscribers.* (See page 137.)

Proceedings of Acad. of Nat. Sciences of Philadelphia, No. 1, Vol. II. *A. N. Sc.*

Morton, S. G. Inquiry into the distinctive characteristics of the Aboriginal Race of America. 2d Edition. 8vo. pam. Philadel. 1844. *Author.*

Morton, S. G. Crania Ægyptiaca. 4to. Philadelphia, 1844. *Author.*

August 7, 1844.

Dr. Storer, Vice President, in the Chair.

Rev. J. L. Russell read a report of his observations and conclusions respecting the disease of the button wood tree. After a general description of the phenomena attending the loss of the foliage, and mentioning the causes to which it has been attributed, such as *worms* gnawing the leaves, *aphides*, *psoci*, *scolyti*, *fire blight*, &c., he proceeds:

In order, if possible, to discover the cause, I cut some healthy twigs of the previous summer's growth, on March 7th, and found, that even then, many of the buds were already dead, and below these, and some of the other buds also, a streak of incipient decay was to be seen. This streak of decay, examined by a powerful achromatic lens, exhibited no presence of *fungi*, or, indeed, any immediate cause of death to the tissue. In some of these buds I found *ova* of insects,—and in a dead spot on a twig, beneath the bark, I extracted a very minute *larva*; and from a sketch of it which I showed Dr. T. W. Harris, it was pronounced as probably that of a Psocus, an insect infesting only diseased or decayed wood and bark. It is to be observed, also, that on the decay of the bark and buds, innumerable minute swellings are to be found on the *exterior* of the twigs, which are a species of Fungus, also always present in the decaying wood or bark of a great variety of trees and shrubs, belonging to the genus *Stromatosphæria*, but as in the case of the Psoci, not the cause of the disease.

The winter of 1843-4 was unusually cold, and destroyed vast numbers of fruit trees in some sections of the vicinity of Boston. These fruit trees exhibited a similar appearance to that of the Buttonwoods, except that in their case the result has been fatal. Young peaches, cherries, pears, have gradually died, even after leafing, flowering and setting their fruit. In fact they were winter killed. I think that this is the condition of the Buttonwood trees about Boston. Well-ripened wood is always essential to vigorous health in perennial vegetation. For several years no such young wood has been seen in these trees. Neither have they produced any flowers since the disease was noticed, excepting a few in the year 1842.

Now these flowers, and the *button balls*, (seeds,) are produced on the twigs of the previous summer. These twigs being uniformly killed, an entire new growth is made from adventitious buds, bursting from the base of the twigs. From these, sometimes grow shoots three or four feet long, as they did this past summer. *The disease, then, is in the young growth*, and until a mild winter, or other circumstances, favor the ripening of the shoots, the trees will suffer. Severity of winter does not necessarily destroy a young growth; one of the most certain causes is the continued growing, produced by warm autumnal weather protracted beyond the usual period, especially if it be moist or rainy, succeeding a dry summer.

It is difficult to determine *when* these trees were first winter killed. Dr. Harris, to whom allusion has been previously made, thinks this occurred about five years ago, and from a freezing and very cold storm late in the spring, when the leaves were pushing forth. That we have late severe weather is familiar to every one; and I find, according to my diary, that so late as May 2d, in 1837, after the foliage of the Horse Chesnut, (*Æsculus hippocastanum, W.*) had expanded in Salem, there was a very severe freezing and considerable ice.

But the interesting question occurs,—Will the trees die? I answer, probably not. The great vigor in the larger limbs will eventually enable them to survive, until favorable circumstances facilitate the ripening of the young wood. Doubtless some will perish, and I have noticed several fine old shade trees destined for death. But these have been generally exposed to some previous injury,—such as cutting away the roots,—or else had been planted in some unfavorable situation. It seems to me, that whoever would save his trees should let them alone, trusting to the natural causes of vital and vegetative principles to renovate them; and that severe pruning, or wholly depriving them of their branches, cannot produce any good end, and may prove fatal.

Dr. Storer exhibited a very singular specimen of the *Platessa oblonga*, Mitchill, (*P. ocellaris, De Kay.*) Both sides were colored and the head distorted. The upper eye was situated directly upon the top of the head, and about a quarter of an inch back of the eyes was a large arch, from the anterior angle of which arose the dorsal fin. He re-

marked that a similar deformity had been noticed and figured by Yarrell, when describing *Pleuronectes rhombus*.

Dr. S. also presented a beautiful specimen of *Pleuronectes maculatus* or *aquosus*, Mitchill, called by the fishermen, on account of its translucency, the Watery Flounder.

From Mitchill's inaccurate figure, Dr. S. had been led to suppose this fish to be the *Platessa oblonga*, and he had so arranged it in his "Fishes of Massachusetts;" but had been corrected by the good description and figure of this fish by Dr. De Kay. The specimen now presented was the first he had heard of as being taken in the waters of this State. It was caught at Provincetown.

Dr. Storer also stated that a Sunfish, *Orthagoriscus mola*, weighing from 300 to 400 pounds, had been recently taken at the upper south bridge, in this city, where it had strayed and was harpooned.

A specimen of Copper Ore, from Lake Superior, was presented by R. Gale, Esq.

Henderson Inches, Esq. and B. A. Gould, Jr. were elected members.

August 21, 1844.

Dr. Storer, Vice President, in the Chair.

Dr. Wyman exhibited specimens of male and female Ichneumon Wasp; also their larvæ, inhabiting the pupæ of a Vanessa. Of numerous specimens which he had examined, more than one half were infested with these larvæ, in different stages of development.

Prof. Lewis R. Gibbes, of Charleston, S. C., read a description of a new species of Salamander, recently discovered by him in the neighborhood of Charleston, S. C. Its characters are as follows:

SALAMANDRA MELANOSTICTA. Toes four; inferior surface silvery white, dotted with jet black spots; snout yellow; tail twice the length of the body.

The description, with a beautiful drawing, was placed in the hands of the Publishing Committee.

September 4, 1844.

Dr. Storer, Vice President, in the Chair.

Dr. Wyman mentioned, that, on a late visit to the Magalloway River, he had noticed, in the river bed, mounds of pebbles, two or three feet in diameter, which he was told were heaped up by a fish called the Chub, at its breeding season, and that its eggs were deposited among the stones. He referred to the statement of a similar fact with regard to the Lamprey Eel, in Dr. Storer's report, and remarked that he was not aware of any other instance of the kind.

Dr. W. also mentioned that Dr. H. J. Bigelow had observed, in the same river, specimens of fresh water sponge, (*Spongia fluviatilis.*) The masses were generally of a flat form, half an inch thick and six or eight inches in diameter. Spiculæ were found in it as in marine sponge. Lamarck maintained that fresh water sponges were devoid of spicula, but later observations have disproved this.

ADDITIONS TO THE CABINET.

Two living specimens of Agama, from Texas; and a phial containing eggs, 18 of which were deposited by one individual. Also Gophers, from Florida. *From Capt. Gerry*, U. S. N.

Specimens of Vegetable Ivory. *From Mr. John A. Lerow.*

Cranium of a Woodchuck, with a remarkable distortion and prolongation of the incisors. *From Mr. Wright*, through Mr. Ogden.

A beautiful Trilobite, embedded in a fragment of limestone, picked up on Long Island, in Boston Harbor. *By Mr. Ogden*, in behalf of a friend.

Thanks were voted to the donors.

ADDITIONS TO THE LIBRARY.

Gray's Genera of Birds, No. 4. *Subscribers.* (See page 137.)

Proceedings of Amer. Philos. Soc., No. 30, for April. June, 1844. *A. P. Soc.*

Almanach der Koniglichen bayerischen Akademie der Wissenschaften. 12mo. Munchen, 1843. *Akademie.*

September 18, 1844.

Dr. Storer, Vice President, in the Chair.

Some conversation arose on the subject of the mounds in the Magalloway River, mentioned at the last meeting, supposed to have been built by the fishes, for the purpose of depositing their eggs within the pile.

Dr. Bigelow stated, on the authority of an experienced angler, that the stones are removed by the fish, for the purpose of depositing the spawn in the cavity thereby left in the sand.

Dr. J. B. S. Jackson exhibited a parasitic Worm, one of several found in the *Python Natalensis.*

Dr. J. also reported on the cranium of a Woodchuck, presented at the last meeting. He supposed the elongation of the incisors had arisen in consequence of an injury to the jaw, by which the direction of the teeth had been changed, and thus their opposition being destroyed, the usual wearing away of their points had not taken place. The marks of disease were perceptible on the jaw.

Dr. Storer exhibited a figure of *Scomber zonatus*, Mitchill, from Wellfleet harbor. The fish was taken in a pool left in the mud by the bottom of a vessel, and was the only specimen he had known to be taken in Massachusetts waters.

Mr. Henry M. Parker was proposed for membership.

ADDITIONS TO THE CABINET.

Operculated tube of a Spider, *(Cteniza nidulans)* from Jamaica. *By Dr. J. B. S. Jackson.*

Beautiful specimen of Sponge, from the Mediterranean, attached to a stone. By Edward Codman, in behalf of *Edward Lamb, Esq.*

Body of a young Albatross? found in African guano. *By Henry Sheafe.*

ADDITIONS TO THE LIBRARY.

Annals and Mag. of Nat. Hist., Vol. XIV., No. 90, for Sept. 1844. *Courtis Fund.*

Gray's Genera of Birds, No. 5. London. *Subscribers.* (See page 137.)

October 2, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

Dr. C. T. Jackson had recently made a tour to Lake Superior for scientific purposes, and laid before the Society some of the specimens he had obtained. These were the skins of fishes, whose local names were Trout, Pike, White Fish, Boney Pike, Siskewit and Mullet; several shells, among which were two species of Anodon, Unio purpureus, Say: Limnea jugularis, Say: and a few odd valves of Unio.

Dr. Gould thought it worthy of note, that one or more species of Unio, which are chiefly confined to the region east of the great mountain range, should be found so far to westward. He had never heard of their having been before found west of the limits of New York.

Dr. J. also presented the skins of a Raven and a Canada Jay, in behalf of Mr. C. C. Douglass; and a Bat from that region, in behalf of Capt. B. A. Stannard, of the brig Astor, of Cleveland.

Dr. Wyman presented, in behalf of Mr. T. J. Crawford, of the White Mountains, a Salamander, resembling *S. symmetrica*, but distinguished by spots on the back.

Dr. Storer presented, in behalf of Capt. E. H. Faucon, specimens of Barnacles, from the bottom of ship Clarkson, of Nantucket, absent 45 months, on a whaling voyage, in the Indian Ocean.

Thanks were voted for these several donations.

Henry M. Parker, Esq., was unanimously elected a member.

ADDITIONS TO THE LIBRARY.

North American Review for Oct. 1844. *Editors.*

Silliman's American Journal of Science and Arts, Vol. XLVII, No. 2. *Editors.*

Gray's Genera of Birds, No. 6. *Subscribers.* (See page 137.)

Annals and Mag. of Nat. History, No. 91, for Oct. 1844. *Courtis Fund.*

Gray, John E. List of Specimens of Birds in British Museum, Parts I and III. 12mo. London, 1844. *Editor.*

Gray, John E. List of Specimens of Mammalia in British Museum. *Editor.*

Gray, John E. List of Specimens of Myriapoda in British Museum. *Editor.*

Gray, John E. List of Specimens of Tortoises, Crocodiles and Amphisbænians in British Museum. *Editor.*

November 6, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

The description of a new fish, from the continuation of Dr. Kirtland's paper on the Fishes of Ohio, was read:

Leuciscus Storerianus. *Head* small, quadrangular, flattened between the eyes, angulated above the nostrils, which are separated by a longitudinal sulcation. *Nose* obtuse, somewhat conical, projecting beyond the mouth. *Nostrils* large, on a line with the eye. *Eyes* oblong oval; iris silvery and slightly gilt on inner margin; pupils black. *Operculum* and *præoperculum* smooth, lustre bright, silvery. *Mouth* diagonal, and, when closed, the lower lip is nearly concealed beneath the snout.

Body elongated, slightly compressed laterally. *Back* rises rapidly from the head to the dorsal fin, from thence to the tail it slopes more gradually and uniformly. *Abdomen* expands beneath the pectoral fin, and continues of the same size to the vent; it then rapidly diminishes to the tail. *Lateral line* straight, except that near its base it curves as high as the upper edge of the operculum.

Dorsal fin elevated, trapezoidal; caudal elongated, bilobed, with the tip of each lobe acute; anal fin falls short of the dorsal; ventral horizontal, and reaches to the vent; pectoral falcate, nearly horizontal, not attaining to the ventral by half an inch.

Length 8 inches; head 1 3-8 inch; tail 1 5-8 inch; depth of body at the commencement of the dorsal fin 1 5-8 inch.

Color. Back and upper surface of body and head olivaceous; sides silvery and of a brilliant metallic lustre, with a brownish band extending the whole length of the lateral line; pectoral and ventral fins yellowish, anal white and translucent; three or four exte-

rior rays of the caudal fin sometimes milky and opaque, and the intervening dusky.

D. 9 ; C. 23 ? ; A. 9 ; V. 9 ; P. 15. Hab. Lake Erie.

Dr. C. T. Jackson read a paper communicated by Richard Soule, Jr., giving an account of experiments on the juice of Cornstalk, made Sept. and Oct. 1844, an abstract of which is as follows :

Having failed to procure some stalks which had been prepared by cutting off the embryo ears, some stalks of vigorous growth were taken from a field of White Virginia Corn, which had produced no ears, having sprung from seed sown broad cast.

Eighty-one pounds, crushed between iron rollers, yielded three gallons of clear juice, of a density of 6° of Beaumé's hydrometer. This was evaporated over muriate of lime to 9° Beaumé, and allowed to stand over night, when a copious green precipitate was found. It was again heated, clarified by white of eggs, strained and evaporated to the proof point of crystallization. After standing twelve hours no crystals were yielded, and it remained a dense sweet syrup, with a perceptible flavor of acidity. It weighed $2\frac{3}{4}$ lbs.

A portion of this was diluted ; treated, when hot, with clear lime water. A copious brown precipitate soon fell, which I took to be apocrenate of lime. This was separated by filtration, and the syrup evaporated again to the proof point, but no crystals could be obtained.

It was now suspected that the syrup contained nothing but grape sugar ; and upon comparing it with syrup made by the action of sulphuric acid on starch, and subjecting the two to similar tests, the suspicion was proved to be correct.

The experiment cannot be regarded as decisive, because the stalk was not cultivated with suitable preparation for the production of sugar. It may be doubted whether a stalk, which, from any cause, does not produce an ear, contains juices in the same state, as regards saccharine matter, as stalks which have put forth ears that have been subsequently removed.

The syrup was also examined to see if it contained *ammonia*, and the *crenic, apocrenic* and *humic acids*, after the manner pointed out by Dr. C. T. Jackson, in his report on the Geology of Rhode Island, and they were all found. *Extract of humus* might doubtless have been found, if any method were known of separating it from such a mixture.

Dr. Storer presented a paper which had been forwarded to him, entitled "Descriptions of some new species of Coleopterous Insects inhabiting the United States, by John L. Le Conte." The following species are characterized and figured:

Scarites substriatus, Haldeman, *S. otus*, Nob. Ms.

Scarites ephialtus. Mandibulis totis obliqué striatis; capite anticé rugoso: impressionibus frontalibus rugosis. Long. lin. 14½; lat. 4½. Hab. in provinciis Australibus.

Scarites intermedius. Mandibularum sulco valdè profundo, indiviso, lævi. Impressionibus frontalibus laterioribus, rugosis, profundioribus. Long. lin. 12; lat. 3½. Hab. in provinciis occidentalibus.

Scarites subterraneus, Auct. Hab. ubique.

Scarites affinis. Mandibulorum sulco lineâ obliqua elevata diviso, lævi; impressionibus frontalibus rugosis, linea obliqua selita satis distincta. Long. lin. 9; lat. 2¾. Hab. ubique.

Scarites patruelis. Mandibularum sulco profundo, excavato, lævi; impressionibus frontalibus profunde rugosis. Long. lin. 6¾; lat. 2¼. Hab. Georgia.

Cicindela Audubonii. Viridis; capite thoraceque æneo-micantibus; elytris margine laterali aureo, fascia media sinuata, abbreviata, gutta postica submarginali, lunulaque terminali albis. Hab. flum. Yellow-Stone.

Calosoma lepidum. Nigrum; elytris nigro-brunneis, profundé striatis, transversé rugosis, foveisque viridi-æneis triplici serie. Hab. Missouri.

Calosoma triste. Nigrum; elytris obsoletissimè punctato-striatis, punctisque majoribus triplici serie impressis. Hab. Missouri.

Dytiscus marginicollis. Ellipticus; supra viridi-olivaceus, infra brunneus; thoracis limbo, scutello, elytrorum margine, pedibusque testaceis. Hab. flum. Missouri.

Lamia Bellii. Nigra; transversè albo fasciata. Hab. Missouri.

Dr. Gould read an interesting letter from Rev. Francis Mason, missionary at Tavoy, acknowledging a notice of his election as Corresponding Member, containing some ac-

count of the state of science there, and many zoölogical and botanical notices :

The province of Tavoy and the other adjacent provinces are almost entirely unexplored. They were visited by Dr. Wallich many years ago, and some of his botanical discoveries were published in his " Plantæ Asiaticæ rariores," a copy of which never has reached that coast. Dr. Griffiths also made an excursion there, and made extensive collections, but no account of them has ever been given, so that the flora is yet almost wholly unknown.

Somewhat more has been done in zoölogy, and yet very little certain information is abroad concerning even the quadrupeds. There are five or six species of deer, but not one of them is identified with certainty. The name of the most common monkey is not known positively. A British officer had not long since written that he had procured a monster from a Karen, such a beast as no one had before seen. It proved to be a Tapir, the first that had been seen on the coast by Europeans, though Mr. M. had been aware of its existence, from native descriptions, for many years.

Several collections of birds had been made and carried to Bengal, but he was not aware that collections of either the reptiles, insects or shells had been made. Mr. M. was collecting in the two latter departments.

He alluded to a remarkable climatal difference between this and the opposite, or Coromandel coast, as indicated by the vegetation. Several plants were mentioned, which, in the latter place, grow on elevated land, but which are found at a level with the sea in Tavoy. He accounts for this difference by the fact, that on the Coromandel coast, the monsoons in the summer season blow overland from the south-west; while it is a sea breeze, and accompanied by 200 or 300 inches of rain, in Tavoy. On the other hand, in the winter, the Tavoy wind comes overland from the mountains of China, while it is a sea breeze on the opposite coast; so that the cold season, as well as the hot season, is rendered cooler.

He mentioned that, as the business of collection was considered somewhat anti-missionary, very little assistance could be obtained from others; but that he should avail himself of such opportunities as would not interfere with his proper duties, to collect objects for the Society.

Dr. C. T. Jackson exhibited specimens of the following minerals, which he had obtained during his recent explorations on Keweenan Point, Lake Superior:

Datholite, from a large vein in trap rocks, in large and brilliant crystals, having a violet tint near their edges, owing to the presence of oxide of manganese. The crystals of this mineral also frequently contain delicate scales of brilliant metallic copper enclosed within them. Prehnite, which also abounds in large veins in the trap rocks of the same region, contains metallic copper in the midst of the crystals.

This metal is also found in calcareous spar, and in nearly all the veins which traverse the amygdaloidal trap, and the contiguous conglomerate rocks.

A few specimens of native copper and silver, from a vein in the amygdaloid of Eagle river, were exhibited, and it was remarked that the copper, besides containing a certain proportion of silver combined with it in the state of an alloy, had a number of patches of pure silver intermixed with it, appearing as if it had been segregated from the alloy during its cooling from a melted state. It not unfrequently happens, that pieces of copper and silver are united only at their edges by interfusion, without being alloyed beyond those limits. Sometimes small veins of the silver traverse masses of solid metallic copper. In one piece it was observed, that at one end of a piece of copper the silver was in separate patches and veins, and at the other the metals were combined as an alloy. It is difficult to explain these singular phenomena, and chemical art has not succeeded in imitating them; for when silver and copper are melted together, they intimately unite, and the silver disappears from view. There can be no doubt, however, that the metals found in the Lake Superior amygdaloidal trap, have been fused at as high a temperature as was required to liquify the rocks in which they are found, for they bear evident marks of entire fusion, and are as vesicular as the common lavas of Vesuvius, Etna, and Peak of Teneriffe.

At some future meetings, a more full account of the mines of Lake Superior may be laid before the Society.

Dr. Storer announced that he had received the following Fishes, from Mobile Bay, from Geo. W. Abbot, Esq., viz.:

Sargus rhomboides, *Micropogon costatus*, *Grystes salmoides*, and two species of *Pomotis*.

Dr. Jackson stated that Prof. Emmons had expressed a desire to address the Society, on the subject of the views of Prof. H. D. Rogers on earthquake agency in geological formations.

It was voted that Dr. J. be requested to notify Prof. E. that the Society would gladly hear an exposition of his views.

The following persons were elected as Corresponding Members :

Benjamin A. Stannard, of Cleaveland, Ohio.

C. C. Douglass, of Detroit, Mich.

Geo. A. Perkins, M. D., Missionary at Cape Palmas, Africa.

James G. Richards and Thomas Daniel were nominated for membership.

Nov. 20, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

Dr. Gould presented a paper from Mr. Henry C. Lea, of Philadelphia, entitled "A Description of some new species of Marine Shells inhabiting the Coast of the United States." It was accompanied with figures of the Shells, which are characterized as follows :

PHOLAS SEMICOSTATA. Testa subtriangulari, posticè producta, et acuta, anticè obliquè truncatâ, tenui, albidâ, diaphanâ, anticè inflata et costatâ ; costis transversalibus, muricatis, magnis, crebris, posticè obsoletis ; sulco uno longitudinali, e natibus decurrente ; margine basali curvato ; margine dorsali vix recto ; natibus valdè inflatis ; laminâ dorsali parvâ ; cochlea ligulatâ, acutissimâ, incurvâ. Long. ,17 ; lat. ,32 ; diam. ,16 poll. Hab. South Carolina.

BULLA BIPLICATA. Testâ cylindricâ, subquadratâ, crassâ, albidâ, politâ, eburneâ ; spirâ occultâ ; anfractu ultimo supernè calloso, infernè striis transversis parvis ; aperturâ supernè arctatâ, ovatâ ; columellâ plicâ magnâ et parvâ. Long. ,15 ; lat. ,07 poll. Hab. Cape May.

LITTORINA LUNATA. Testâ quadrangulari, imperforatâ, crassâ, costatâ, lutescente vel brunneâ ; spirâ elevatâ, conicâ, acutâ ; suturis inconspicuis ; anfractibus quatuor, planis, costis transversis magnis crebris ; anfractu ultimo angulato, usque ad basin costato ; aperturâ obliquè ellipticâ ; labro acuto, undulato ; columellâ infernè latissimâ, planâ. Long. ,07 ; lat. ,05 poll. Hab. Cape May.

CINGULA ROBUSTA. Testâ ovato-acuminatâ, perforatâ, lævi, crassâ, albâ ; spirâ brevi, sub-acutâ ; suturis impressis ; anfractibus quinque, ad suturam superiorem subangulatis ; anfractu ultimo rotundo ; basi lævi ; perforatione arctatâ, profundâ ; aperturâ ovatâ, magnâ. Long. ,10 ; lat. ,07 poll. Hab. Cape May.

CINGULA MODESTA. Testâ ovatâ, imperforatâ, lævi, tenui, diaphanâ, viridicorneâ ; spirâ brevi, ovatâ, haud acutâ ; suturis parvis ; anfractibus quatuor, planulatis ; anfractu ultimo rotundato ; basi lævi ; aperturâ ovatâ, supernè acutâ, infernè rotundatâ. Long. ,10 ; lat. ,06 poll. Hab. Brooklyn, Long Island.

CINGULA TURRICULUS. Testâ elevata-conicâ, perforatâ, lævi, crassâ, fulvâ ; spirâ valdè exsertâ, conicâ, obtusâ ; suturis parvis ; anfract. 6, convexis ; anfr. ultimo. sub-bullato ; perforatione parvâ, arctatâ, lunatâ ; aperturâ ovatâ ; columellâ crassâ, anfractu ultimo pene disjunctâ. Long. ,12 ; lat. ,05 poll. Hab. South Carolina.

Dr. Storer presented a paper from William O. Ayres, of East Hartford, Ct., entitled "An Attempt to prove that *Cottus cognatus*, Richardson, *C. viscosus*, Haldemann, and *Uranidea quiescens*, De Kay, are one species, and identical with *Cottus gobio* of Linnæus."

A very minute comparison is instituted of the external characters and internal anatomy of the American and European fishes, and also of the several descriptions given of them by authors. The paper was referred to the Publishing Committee.

Mr. Edward Tuckerman presented a paper entitled "A further enumeration of some alpine and other Lichenes of New-England."

The author's observations have been made chiefly in the limited district of the White Mountains. He compares the Lichenes of this district with those of the Scandinavian Peninsula and Scotland, though he considers that it might have been more properly compared with a particular district in one of those countries, as Dovre,

in Norway—for which, however, he had not the necessary authorities. Excluding the Leprariæ, Spilomata, and Variolariæ, and reducing, according to the Friesian method, a large number of species to varieties, he had been able to determine about 165 species; which, probably, includes the largest part of the Lichenes of this small district. The following table shows the comparative condition of the species of each genus in the two districts above named, so far as known :

Tribes.	Genera.	No. of species in the European Dist's.	No. of species in N. England.	Of which peculiar to N. Engl'd.
Parmeliaceæ,	1 Usnea,	1	1	.
	2 Evernia,	3	4	.
	3 Ramalina,	5	2	.
	4 Cetraria,	10	10	3
	5 Nephroma,	4	4	.
	6 Peltigera,	7	6	.
	7 Solorina,	2	2	.
	8 Sticta,	3	5	.
	9 Parmelia,	37	51	.
	10 Gyalecta,	2	0	.
Lecidineæ,	11 Stereocaulon,	7	4	.
	12 Cladonia,	25	18	.
	13 Bæomyces,	1	1	.
	14 Biatora,	24	8	.
	15 Lecidea,	39	13	.
Graphidieæ,	16 Umbilicaria,	3	9	2
	17 Opegrapha,	5	4	.
	18 Lecanactis,	1	0	.
Calicieæ,	19 Coniocybe,	3	1	.
	20 Calicium,	22	5	.
Sphærophoreæ,	21 Sphærophoron,	3	2	.
	22 Siphula,	1	0	.
Endocarpeæ,	23 Endocarpon,	4	3	.
	24 Pertusaria,	5	2	.
	25 Thelotrema,	1	2	1
Verrucarieæ,	26 Segestria,	2	0	.
	27 Verrucaria,	15	6	1
		290	163	7

The species noticed in the paper are, *Usnea longissima. Evernia ochroleuca. Cetraria nivalis. Peltigera malacea. Sticta glomerulifera. Parmelia incurva, ambigua, aleurites, detonsa, hypoleuca, rubiginosa, lanuginosa, straminea, murorum, oculata, verrucosa. Stereocaulon corallinum, paschale, denudatum, condensatum.*

Cladonia cæspiticia, delicata, fimbriata. Biatora placophylla, rivulosa. Lecidia sorediata. Umbilicaria pustulata. Opegrapha atra. Calicium subtile, trachelinum. Ephebe pubescens.

Mr. Tuckerman also communicated memoranda of a glacier, or field of ice, observed by Mr. C. W. Goddard and himself, on the 4th November, 1844, just below the summit of the Peak of Mt. Washington, on the western declivity. It was 80 feet long, 20 feet wide, and, at its upper edge, a foot thick. Its inclination was about 45°. The whole of the mountain was, at the time, covered with snow, which, throughout the alpine district, lay pretty thick. The upper part of the peak of the mountain was covered with ice, thinly sprinkled with snow.

Dr. C. T. Jackson communicated a paper from Mr. A. A. Hayes, containing analyses of specimens of meteoric iron, furnished him for the purpose by Dr. Jackson.

The object particularly in view, in making the analysis, was to ascertain the presence of chlorine, as observed by him, and published in the American Journal of Science, Vol. 34, 1838. The result was, a confirmation of Dr. Jackson's discovery, and the establishment of the fact of the existence of chlorine as a constituent part of meteoric stones.

Dr. Jackson also communicated a paper, entitled "Remarks on the Alabama Meteoric Iron, with a chemical analysis of the drops of green liquid which exude from it."

Dr. Jackson stated, that he made an analysis of the Alabama meteoric iron, in August, 1834, and published the results of that analysis, in 1838. The discovery of the combination of chlorine with nickel and iron, was then first announced, and was a new and interesting fact in the science of meteorites. Professor C. U. Shepherd had since confirmed the discovery, by experiments on meteoric iron from Buncombe, N. C., but seemed to doubt the origin of the chlorine. Dr. Jackson stated that no one who had seen his specimen *could* doubt, for chlorohydrates of nickel and iron are copiously effused from the interior of the mass, and from every point of the cut and polished surface. Drops of a grass green liquid, from the size of a pin's head to that of a pea, are continually forming upon it, and run down upon the shelf of the

cabinet, leaving a thin shell of the peroxide of iron in the place of the drops. With the utmost care, and with the use of layers of varnish, he had not been able to keep the surface bright longer than a few days. The natural surface of the stone does not give out drops of the chlorohydrates, for the chlorine has long been exhausted therefrom. The results of two analyses, by Dr. Jackson, were as follows:

	1.	2.
Chlorohydric acid, . .	0.8216 . . .	1.6468
Protoxide of iron, . . .	1.7000 . . .	3.2318
Oxide of nickel, . . .	0.6000 . . .	2.0000
	3.1216	6.8786

Mr. Stodder reported on a pamphlet committed to him, entitled "An Essay on Solid Meteors, by Peter A. Browne, LL. D."

The author advances an hypothesis of the composition of these bodies, which Mr. S. considered the most plausible which has been offered, viz: that solid meteors are composed of the native metals, and the metallic bases of the earths, and alkalies. That these elementary substances, on entering our atmosphere, combine with the oxygen of the air, for which they have a strong affinity, and thus present the phenomena of ignition, combustion, and explosion, which usually attend their appearance. Mr. S., after examining the various theories on the subject, expressed his opinion, "that meteors are bodies moving in space, their origin independent of any other known member of the solar system, and identical with shooting stars. He did not, however, agree with the author in believing that mere contact with the atmosphere is capable of producing their ignition, nor does he consider it proved that the condensation of air in their passage through it is sufficient to account for this effect. He remarked, in closing, "there is one substance found in meteoric stones, in combination with others, which, if it existed in them uncombined, would be adequate to account for all the phenomena, wherever air should be present. This substance is protoxide of iron. It is never found on the earth, except in combination, for it takes fire instantaneously by contact with the air, and becomes per-oxide. The great objection to admitting this sub-

stance to be the agent of the heat of meteors, is the difficulty of accounting for the products of combustion. We find no per-oxide of iron in meteorites."

Mr. B. A. Gould, Jr., in connection with the subject of meteorites, and with the supposed periodical display of falling stars, on the night of the 13th November, annually, remarked,

"That he had, for several successive years, kept watch on that night, from twilight until day-break, and especially on the night of the 13th of the current month. He had not perceived any unusual frequency of falling stars, having been able to notice only six in an hour on the last occasion, a number smaller than the average observable on most clear nights of the year."

James B. Richards and Thomas Daniel were elected members of the Society.

ADDITIONS TO THE LIBRARY.

Mantell, G. A. Medals of Creation, or First Lessons in Geology. 2 vols. 12mo. London, 1844. *Audubon Fund.*

Gray, G. R. Genera of Birds. Part 7. London, 1844, *Audubon Fund.*

Annals and Magazine of Natural History, for November, 1844. *Courtis Fund.*

Morton, S. G., M. D. On a supposed new species of Hippopotamus. *Author.*

Report of Committee to visit Missions in the Levant. By Rufus Anderson. 8vo. pam. 1844.

Thirty-first Annual Report of the American Board of Commissioners for Foreign Missions. 8vo. pam. 1844. *The Board.*

December 4, 1844.

Dr. C. T. Jackson, Vice President, in the Chair.

Mr. Emerson read the introduction of a paper communicated by John Lewis Russell, Corresponding Member of the Society, entitled "Musci of Eastern Massachusetts."

The paper contains descriptions of 120 species and varieties, determined from specimens collected in the vicinity of Boston, by the author and his friends. It was referred to the Publishing Committee.

Dr. Cabot exhibited specimens, and made some remarks upon the habits of the male and female of *Pyrrhula raptor* —the native name *Trapin*, from Yucatan. He also noticed the birds from near Lake Superior, presented at a former meeting, by Mr. Douglass, viz:

Corvus corax, . . Raven.
Garrulus Canadensis, Canada Jay.
Picus arcticus, . . American three-toed Woodpecker.

Dr. Asa Gray read a paper, entitled "Characters of some new genera and species of plants of the natural order Compositæ, from the Rocky Mountains and Upper California." In this paper the following genera and species were characterized:

Genus Monoptilon. *Torrey & Gray.*

Compositæ-Asteroideæ: Subtr. Asterineæ: Div. Astereæ.

Capitulum multiflorum, heterogamum; floribus radii 1-serialibus ligulatis fæmineis, disci tubulosis hemaphroditis, omnibus fertilibus. Involucrum fere uniseriale Erigerontis. Recaptaculum convexum, nudum. Corollæ tubus radii et disci sparse hirtus: ligulæ obovato-oblongæ. Stili Asteroidearum; rami fl. hermaph. Appendicolo triangulari obtuso terminati. Achenia oblongi-obovata, leviter obcompressa, sparsim hirtella, binervia (ad margines) vel in radio trinervia. Pappus coniformis, duplex; exterior e coronula brevissima crenulata persistente; interior seta capillaris unica, caduca, discum adæquans, basi scabrida, apicem versus sensim clavatimque plumosa! Herba annua, exiguua, depressa, villoso-pubescens; foliis sparsis oblongo-vel lineari-spathulatis, integris; capitulis subsessilibus vel bracteatis. Flores disci flavi, ligulæ ut videtur albæ, cæruleo vel lilacino tinctæ.

Species M. Bellidiformis. *Torrey & Gray.*

Genus Amphipappus. *Torrey & Gray.*

Compositæ-Asteroideæ: Subtr. Asterineæ: Div. Chrysocomeæ. Capitulum plerumque 7-florum heterogamum; nempe, flore radii

unico, ligulato, fœmineo, fertili, et floribus disci 4-6 tubulosis, hermaphroditis, sed sterilibus? Involucrum obovoideum; squamis 6-7 subœqualibus, chartaceis, ovalibus, concavis, subcarinatis, appresso-imbricatis. Receptaculum angustum, subalveolatum. Ligula brevis, obovata, discum vix excedens: corolla fl. disci e tubo gracili infundibuliformis, limbo profunde 5-fido; laciniis lineari-oblongis revolutis. Styli rami breves Linosyridis; appendiculo ovato-deltoideo superati. Achenium radii oblongo-obconicum vel obcompressum, villosum, pappo uniseriali paleaceo (e squamellis pluribus setaceis nunc basi, nunc fere ad apicem sæpius in phalanges variomodo concretis,) achenio dimidio breviore superatum. Achenia disci, ut videtur infertilia, turbinata, glabra, pappo piloso uniseriali elongato instructa; setis rigidulis, denticulatis, valde inœqualibus; majoribus imo sæpe subcomplanatis et ramosis, seu potius cum minoribus nonnullis pl. m. concretis.—Frutex ramosissimus 1 2-pedalis, glabriusculus. Folia alterna, brevia, spathulata, mucronata, vix puncticulata, integerrima, sessilia, vel in petiolum brevem attenuata. Capitula numerosissima, in corymbis fasciculisve aggregata more Solidaginis § Euthamiæ, vel Gutierreziæ, sed squamæ involucri nec ad apicem herbaceæ, nec forsan glutinosæ. Flores aurei.

Species A. Fremontii. *Torrey & Gray.*

Genus Calliachyris. *Torrey & Gray.*

Compositæ-Senecionideæ: Subtr. Helenieæ: Div. Madieæ.

Omnia Callichroæ subgen, Calliglossæ, *Torr. & Gray;* sed pappus palaceus; paleis 10-12, subæqualibus, lanceolato-ovatis, subulato-aristatis, corolla paulo brevioribus, basi pilis 2-3 elongatis utrinque instructis. Corollæ tubus pilosus. Herba annua vel biennis; facie omnino Callichroæ (Calliglossæ) Douglasii.

Species C. Fremontii. *Torrey & Gray.*

Genus Anisocoma. *Torrey & Gray.*

Compositæ-Cichoraceæ: Subtribe Scorzonereæ.

Capitulum pluriflorum. Involucrum cylindraceum; squamis subcariosis, adpressis, obtusis; interioribus 5-7 lineari-oblongis, subæqualibus; exterioribus 4-6 multo brevioribus, subrotundis, imbricatis et quasi calyculatis. Receptaculum planum squamellis nonnullis piliformibus inter flores exteriores onustum. Achenia turbinato-fusiformia, sericeo-pilosa, erostria. Pappus duplex; exterior coroniformis, crenulatus, persistens; interior e setis denis rigidulis

uniserialibus, basi nudis, supra medium plumosis constans, decidua, inæqualis; nempe setis 5 corollam subæquantibus, et 5 alternantibus iisdem dimidio brevioribus. Herba annua, (biennisve?) glabra, acaulis, foliis radicalibus linearibus pinnatifidis, lobis brevibus, hinc inde mucronato-denticulatis. Scapi simplices, nudi, spithamæi, monocephali, foliis multo longiores. Capitulum unciale. Flores lutei: pappus niveus.

Species A. Acaulis. *Torrey & Gray.*

Pyrrocoma foliosa. *Torr. & Gr.* Humilis, e radice crassa perpendiculari multicaulis, glabrata; caulibus confertim foliosis; foliis oblongo-lanceolatis (1-2-uncialibus,) integerrimis, mucronato-cuspidatis; summis in squamas involucri lanceolatas, acuminatas, mucronato-setigeras, sensim transeuntibus; ligulis numerosis exsertis; corolla fl. discipappo æquilonga. Oregon.

Aplopappus tortifolius. *Torr. & Gr.* Fructiculosus, lana decidua tectus et pube brevissima scabridus; ramis inferne foliosis, apice in pedunculum longum nudum monocephalum productis; foliis coriaceis semi-amplexicaulibus, elongato-lanceolotis, spinuloso-dentatis lobatisve, undulatis, vario modo tortis; squamis involucri hemisphærici subulato-lanceolatis, imbricatis, granuloso-scabridis, extimis tomentoso-canescentibus; ligulis (ut videtur flavis) 30-40 linearibus, prælongis; pappo rufescente; acheniis sericeo-villosis. Upper California.

Actinella grandiflora. *Torr. & Gr.* Depressa, villoso-tomentosa; caulibus numerosis e caudice crassa, simplicibus (4-5 uncialibus,) sparsim foliatis, monocephalis; foliis radicalibus pinnato-partitis demum glabratis, segmentis linearibus integerrimis vel 2-3 fidis, caulinis supremis linearibus fere integris; squamis involucri valde lanati biseriatis, linearibus, æqualibus, pappi paleis circ. 6, augusto-lanceolatis, acuminatis, corollam disci subæquantibus. Capitulum ratione pl. magnum, eaque Gaillardiæ aristatæ æmulans. Rocky Mountains.

Dr. Gould called the attention of the Society to a specimen of lime-stone, from Lake Erie, containing numerous conical masses, whose nature and origin have not been made out satisfactorily. He pointed out their resemblance to recent *Balani*, of the genus *Conia*. The resemblance in form and striæ, and mode of aggregation, was striking,

and seemed to show clearly, that the cones in question were none other than fossil *Balani*.

Mr. Milton D. Whipple of Lowell was elected a member of the Society.

ADDITIONS TO THE CABINET.

Stalactites from Gen. H. A. S. Dearborn.

December 18, 1844.

J. E. Teschemacher, Esq., in the Chair.

Mr. B. A. Gould, Jr., read an extended notice of the contents of recent numbers of the Memoires de la Société de Physique et d'Histoire Naturelle de Généve with a synopsis of the biographies of Messrs. Huber and Decandolle.

ADDITIONS TO THE LIBRARY.

Forbes, J. D. Travels through the Alps of Savoy, &c. 8vo. Edinburgh, 1843.

Gray, G. R. Genera of Birds. Part 8. *Audubon Fund.*

Annals and Magazine of Natural History, for December, 1844. *Courtis Fund.*

ERRATUM.—Page 151, 11th line from the bottom, for "Under the tail-coverts," read "Under tail-coverts." Page 155, 20th line, for "Tail 1½ inches," read "Tail 7½ inches." 9th line from bottom, for "lighter than the male," read "lighter than in the male." Page 156, 10th line, for "3-8 inches," read "3-8 of an inch." 22d line, for "1st primary longest; 4th shortest," read "4th primary longest; 1st shortest".

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REMARKS

MADE AT THE ANNUAL MEETING

OF THE

BOSTON SOCIETY OF NATURAL HISTORY,

JUNE 2, 1845;

SHOWING THE ORIGIN AND HISTORY OF THE SOCIETY, ITS INFLUENCE ON THE CULTIVATION OF THE NATURAL SCIENCES IN NEW ENGLAND, ITS PRESENT CONDITION AND WANTS, AND ITS CLAIMS UPON THE LIBERALITY OF THE PUBLIC.

BY THE PRESIDENT.

BOSTON:
FREEMAN AND BOLLES.
1845.

The following remarks were made at the recent Annual Meeting of the Boston Society of Natural History in the performance of a customary duty, and without any expectation of their appearing in print. Their principal object was to induce the Society to make an effort to ensure its own permanency by an appeal to the liberality of the public. The recommendation to this effect having been adopted by the Society, it has become necessary to lay before those persons who would be likely to aid it, a short exposition of the history, condition, prospects, and necessities of the institution, together with a summary of what it has already accomplished, what it desires to effect, and of its particular claims to public patronage and aid. The Committee, thinking that these remarks are sufficiently full for these purposes, have requested permission to publish them with a view to their general circulation among the friends of learning in this city. This request has been granted in the hope that they might contribute in some small degree to the success of the effort now being made by the Society.

Boston, June 20, 1845.

REMARKS.

GENTLEMEN,

The occurrence of another annual meeting brings with it the associated duty of reviewing the history of our institution for the past year, and of making a general and brief survey of its condition and prospects. I perform this duty with unusual pleasure at this time, because I am able to state, that during the year, the Society has suffered no interruption of harmony among its members, and has not to regret any diminution of its accustomed activity in the cultivation of scientific knowledge. I may indeed say more than this, and may with propriety congratulate you that this anniversary finds the Society in a position more than ever indicative of future prosperity; and that events have occurred tending to show the honorable place which it holds in the estimation of the public. I may encourage the hope, and even the expectation, that it is destined to maintain an elevated rank among the scientific institutions of the country, and that its capacity for usefulness in our own community, one of the principal objects of its establishment, will ere long be much increased by the possession of enlarged means and appliances.

For details regarding the condition of the Library and Museum, I refer to the reports of the gentlemen respectively charged with the care of them, which I shall presently read. From these you will learn the extent and value, and also the

deficiencies and wants of the respective collections. You will perceive, that although there are great deficiencies in some departments, and none are complete, yet that a respectable commencement has been made in all. From the success which we have thus far had, it cannot be doubted, that with occasional aid from our own means, and with the numerous donations we continue to receive from our friends, the society will gradually come into possession of a very valuable Library and Museum. These already bear a favorable comparison with those of similar institutions in the United States, and we know that the Museum could at once be largely increased had we the means of properly preparing and exhibiting its contents.

From the report of the Treasurer it appears, that the ordinary expenses of the year have exceeded the ordinary income by the sum of $142,88, which amount has been paid out of the income of the permanent fund, and has been thus diverted from the increase of the Library, to which it should have been devoted. The whole amount so diverted from its legitimate uses, consisting of the aggregate annual deficits for five years is $470,10. This sum has thus far been lost to the Library, but I trust that the improved condition of the Society's funds will soon enable it to restore what has been temporarily used, both principal and interest. The members will not infer from these remarks that the Society has incurred a real debt, as commonly understood. It is entirely free from debt; but, money intended for one use has been applied to another; and the income of the sum of $2000, lately received under the will of one of our benefactors will go far to relieve the library fund of any other than the proper claims upon it, even should no increase of means from other sources be realized.

The amount of the permanent fund, is, at this time, $12,000; securely invested, and in the care of able and faithful trustees. The income, alone, of this fund, is disposa-

ble, and is, by a standing arrangement, appropriated to the support of the Society's Journal, to the increase of the Library, and to the maintenance and improvement of the Museum. This wise disposition of it, has been strictly adhered to, except when necessity has compelled a diversion of a part of it, as before noticed. It is essential to our prosperity and good name, that this necessity should never again exist. The only property of the Society, other than the above, is its Library and Museum.

In this connection, it is proper that I should announce to you, that our Treasurer, Mr. John J. Dixwell, declines a reëlection. The Society is much indebted to him for the systematic and business-like manner, in which he has conducted its financial affairs, and for the lucid statements of them, which he has from time to time made. I only express the sentiment of all the members, in bearing witness, to the ability and fidelity with which he has served us, and, in saying that, we have received the intimation of his wish to retire, with much regret.

The meetings, during the year, have been held regularly, and, in general, have been well attended. The amount of original investigation, among us, has been as great as in any former year, and the pages of the Journal, and the printed record of the proceedings, give evidence of unabated interest, both among members and correspondents. The Society appears to enjoy the favorable consideration of learned foreign societies and naturalists, as is shown by the increase of their communications with us. The history of the year, is, of course, in these respects, very much like the history of every past year; but there are two events of sufficient importance to deserve particular notice.

By a provision of the last will and testament of the late John Parker, the Society has become the recipient of his bounty, to the amount of $2000, which sum, in gratitude to the donor, has been constituted a permanent fund, under the

name of the PARKER FUND. In addition to the benefit which we derive, immediately, from this opportune and judicious bequest, which was not suggested by any one connected with the Society, but, on the contrary, was the spontaneous result of a wish to do good, I consider that we have a higher advantage presented to us, in prospect, by the evidence which this event affords of the estimation in which the Society is held, by gentlemen of liberal and enlightened views, and that we may look upon it, as an earnest of the aid we shall occasionally receive from persons of a similar character. Mr. Parker was never a member of this Society. He had only a general acquaintance with its scope and objects, and these he considered to be entitled to his approbation. It is gratifying to us, that this bequest was one of a class eminently characterized by good judgment in the selection of the objects, and by usefulness to the parties benefited. The Society will ever remember the name of Mr. Parker, among the first of its friends and benefactors. The other event, alluded to, is, an important donation of valuable books, relating to botany and other branches of natural history, from Dr. Francis Boott, F. R. S. of London. The Society appreciates, sensibly, this mark of confidence and interest from a gentleman, particularly qualified, by the nature of his own studies, to understand its scientific claims and deserts, and to give that direction to his bounty, most productive of usefulness.

But, in particularly mentioning these most prominent instances of liberality, I would not be understood to depreciate the value of smaller donations, or the liberal intentions of their donors. The Society has been constantly cheered by such indications of a general wish to promote its views. Numerous additions to the cabinet and library have been received, and as the little rills which give refreshment and comfort, in their course, unite to form large rivers, so the aggregate of these minor contributions is, gradually, forming collections of great scientific value and interest. I may remark, here, that

if our friends do not see, in the cases, all the objects which they have given, it is because there is no room for their exhibition. They are deposited out of sight, but nothing that is useful or valuable, is lost or neglected. The Society looks, confidently, for a day of restoration, when the numerous objects, hid in boxes, drawers, and barrels, may be brought into view, and exhibited in a manner worthy of their donors and of science.

At the last annual meeting, I took occasion to call the attention of the Society to the inadequacy of our accommodations in this hall. I alluded to the crowded state of the cases and drawers, to the great number of interesting objects kept out of sight, to the inconvenience of access to them, and the impossibility of bestowing upon them the attention requisite for their preservation. I spoke of our inability to exhibit objects in the manner most useful to students, and of the loss occasioned to the Society by the retention of valuable objects by persons who would willingly present them to us, if we could dispose of them in a suitable style. I lamented the necessity of removing the Library to another building, and of holding our meetings elsewhere. I suggested that all experience had shown that such collections cannot be kept in good order without the constant services of a competent and faithful taxidermist, and I asserted the opinion that, if the Society would sustain itself, it must, at some propitious moment, make a serious and united effort to obtain funds sufficient to procure a building large enough for all its wants, both immediate and prospective, and such an increase of income as would insure its future support. The mode of acquiring these which I had in view was, of course, by an appeal to the liberality of a community ever proverbially ready to sustain useful public institutions, and it seemed to me that there were only two conditions necessary to insure success in such an effort; the one, such a prosperous state of the productive industry of the country as would justify liberal men in being liberal, and the

other, the ability, on our part, to maintain a claim to the exercise of their liberality in our behalf.

During the last year the Society has felt more sensibly than ever the inconveniences and evils which I have named; its wants have become more apparent, and the necessity of a change is now seen by all. I have reflected a good deal upon the subject, and I am persuaded that the present is a favorable time for an effort, and that, by the united exertion of its friends, and a discreet application in the proper quarters, every reasonable wish of the Society may be gratified. The general prosperity of the community cannot now be a matter of doubt. The large sums which have been raised during the last year to endow several most deserving literary and charitable institutions, show that the munificent spirit which so eminently characterizes our city is not dormant. It remains only to inquire whether we have confidence in the utility of our Society, as constituting one of the means of intellectual progress, or as forming one of the elements of public good, or even for the lower merit of affording an unobjectionable kind of public amusement, to enable *us* to ask for public approbation and aid. To this inquiry I would urge an immediate reply, and early action if the reply be in the affirmative.

For myself, I entertain no doubt of the validity of our claims. I might, in aid of them, suggest some general considerations, showing the importance of the study of Natural History. I might speak of the object of these studies, which is the discovery of the plan of the creation, of "those ultimate truths, by which alone unaided reason can know the Creator." I might show that the most weighty arguments of natural religion are drawn from it, that it tends to form habits of system and order, of careful observation, and accurate discrimination; and that it fortifies our love of truth. I might ask what more certain protection our children can have from the contamination of bad influences, than an interest in some department of Natural History; or how the leisure hours of the

people, and the public holidays can be better spent than in visiting collections of objects, such as the great museums of natural history contain? But this I consider to be unnecessary. That the importance of the investigations in the natural sciences, which are occupying the time and the thoughts of many of the most gifted men of the age, should not be appreciated in our intelligent community, is not possible. That the results of these investigations, which are influencing our opinions of our own being and of life; that are modifying our religious belief; that in conjunction with the discoveries of astronomical science, though operating in an opposite direction, are opening to us the most enlarged and glorious views of the power and goodness of the Creator of all, should be overlooked here, I cannot believe. Thanks to the studies which our Society encourages, every intelligent person of the present time regards as familiar facts, wonders such as the ancient philosophers did not, in the utmost stretch of their imaginations, conceive, and is capable of understanding the importance of the developments now making from time to time.

If it be asked in what way *we* have contributed to the progress of these sciences, how *we* have aided in the advance, we can ask the inquirer to look back and see what has been the history and influence of this Society.

The Boston Society of Natural History was founded by a few gentlemen, who were drawn together by a similarity of tastes and pursuits, for the purpose of increasing their own knowledge by frequent intercourse with each other. They did indeed hope that they might awaken among our citizens an interest in the natural sciences, and thus extend the usefulness of the institution beyond its own limits; but this hope was, in consequence of former failures, only a faint one. Its founders were mostly young men, and they cannot be said to have had the countenance and aid of their seniors to any considerable extent; for the new experiment was supposed

to be destined to the same result as those that had preceded it. At the time of its establishment there was not, I believe, in New England, an institution devoted to the study of Natural History. There was not a college in New England, excepting Yale College, where philosophical geology of the modern school was taught. There was not a work extant, by a New England author, which presumed to grasp at the geological structure of any portion of our territory of greater extent than a county. There was not in existence a bare catalogue, to say nothing of a general history, of the animals of Massachusetts, of any class. There was not within our borders a single Museum of Natural History, founded according to the requirements, and based upon the systems of modern science, nor a single journal advocating exclusively its interests. We were dependent chiefly upon books and authors foreign to New England, for our knowledge of our own Zoology. There was no one among us who had anything like a general knowledge of the birds which fly about us, of the fishes which fill our waters, of the shells of our beaches, or of the lower tribes of animals that swarm both in air and in sea. Some few individuals there were, who were distinguished by high attainments in particular branches, and who formed honorable exceptions to the general indifference which prevailed; but there was no concentration of opinions or of knowledge, and no means of knowing how much or how little was known. The laborer in Natural History worked solitary and alone, without aid or encouragement from others engaged in the same pursuits, and without the approbation of the public mind, which, unenlightened as it was, yielded no honor to persons occupied with such studies, but on the contrary, regarded them as busy triflers.

What is the condition of things now, and to what is the change owing? There is now a considerable number of institutions devoted to Natural History, and nearly all of them are the direct offspring of this Society, having been founded by

its members. The geological structure of New England is now as well understood as that of any equally large part of Europe. Geological surveys of each of the six New England States have been authorized by their governments, and in five of them the work has been performed by members of this society.[1] The project of the geological and zoological surveys of this commonwealth, was from its inception to its accomplishment, the work of members of this Society; they proposed it, advocated it, urged it, and finally carried it into execution. It was the first of the kind fully completed, and we are happy in believing that, as models for those which were to follow, the volumes which resulted were not unworthy of imitation. Its accomplishment formed an era in the progress of natural history in the United States, the effect of which is not likely to cease in our day. There is, at this time, in the community, scarcely a gentleman of general intelligence and reading who is not acquainted with the leading doctrines of geology; and the public itself no longer views its developments with incredulous doubt, but receives them as a part of the accredited facts of science.

We have now not merely catalogues, but elaborate works, upon the Zoology of Massachusetts. The mammalian animals of our state, its birds, its reptiles, its fishes, its testaceans, its insects, and others of its invertebrate animals, have been scientifically described and amply illustrated by members of this Society, in volumes which are a part of the standard stock of knowledge, and which are now as essential to the student of American zoology as the works of Linnæus and Lamarck. A general work on the Ichthyology of the United States, has recently been prepared by one of our members, which does great credit to him and to the science of the country, and elaborate works in other departments are known to be in preparation.

[1] A work of acknowledged merit on the Geology of Nova Scotia, by two of our members, had already been published.

In botany, which had been successfully cultivated here before the Society was instituted, less remained to be done, but the difficult departments of the lichens and mosses have been satisfactorily elucidated by two of our members, and we are in daily expectation of a work on the forest trees of our State by another, whose ability is a sure guaranty of its merit. We have also among us chemists of general reputation, thoroughly imbued with the spirit of the chemical philosophy of the day, whose labors anticipating in important particulars, some of the recent discoveries of distinguished European chemists, have already exerted a wide-spread influence on our agricultural interests, and who are still engaged in original investigations.

The Journal of the Society, which has now reached its fifth volume, is full of contributions to the natural history of the United States; their merit is acknowledged, and they will afford invaluable materials, not elsewhere procurable, to the future natural historian of the country. We are no longer obliged to look to foreigners for information upon our natural history, but on the other hand, learned foreign naturalists are coming among us to learn the results of our labors, and we are doing our part to pay back the long accumulating debt of knowledge which we owe to the science of Europe. By concentration we have learned to respect each other, and to know the value of our own acquirements. We have created an *esprit du corps* among our naturalists, and have given the weight of combination, and of concert to the interests of science. Our influence is thus widened, and our usefulness increased, and by acting together we are able to command for the science of the country acknowledgment and respect.

The Society has been conducted in the most liberal spirit, and has been always open to the admission of every respectable person. Young men have been welcomed equally with those of mature age and of acknowledged standing, and we

have thus, in some instances created, and in others encouraged and directed, a taste for the study of the natural sciences in individuals who otherwise would have given their attention to very different pursuits. The result of this judicious policy has been the training of an active corps of young naturalists, some of whom have already given ample evidence of their ability to achieve for themselves a high reputation. Its effect on the Society has been a constant infusion of new strength, so that instead of becoming inactive and dormant, like many similar institutions when the original members have relaxed their zeal, it has, on the contrary, found numerous recruits ready to take the place of old members, and has itself become more and more active.

Such, I conceive, to be some of the results of the establishment of this Society ; and they are the legitimate and honorable results of industry and zeal well directed. They constitute as good a case, I believe, as can be made by any institution among us. With such facts we may go before the public, confidently relying that those who are willing to aid such undertakings as tend to elevate the moral and intellectual character of the city, and those who are ever ready to bestow, in benefits to the community, some part of the ample means with which Providence has blessed them, will extend to us, as they have to others, a helping hand in this our time of need.

I will, in conclusion, state what, in my judgment, is the extent of our wants, and how much we should aim to accomplish. Gentlemen who have visited Europe will remember the extensive Museums of Natural History which exist in all the capital cities, and in many of the larger provincial towns. They will recollect with how much interest these are visited by intelligent strangers, how much they contribute to the public amusement, what rich sources of knowledge they afford to men of science, and how carefully they are fostered by government, as a means of promoting the public knowledge

and enjoyment. Our object is to establish, in our own city, a Museum of this kind, second to none in Europe, except those in the larger capitals, and which shall be essentially and for all useful purposes, *public;* that is to say, one that shall always be open to the public, subject only to such restrictions as may be necessary for its care and safety. We would have this Museum a place of deposit for specimens of the natural products, first of our own State, and then of the United States, so that its shelves and cases should illustrate every department of North American Natural History. We would direct our principal efforts to those collections which are not perishable by exposure, and would desire to gather a general and complete collection illustrative of North American geology, the utility of which will be apparent on reflecting that such a collection is not in existence. We would form also a collection of North American minerals, of which a complete series can as yet be found only in Vienna, giving particular prominence to the ores used in producing the metals, and to such other minerals as are valuable in the arts. We would greatly increase our already valuable collection of shells, which will commend itself to all as one of the aids of the geologist, and as comprising some of the most beautiful objects in nature. We would collect together many of the scattered fossil remains of the gigantic animals which inhabited our continent before the existing races dwelt upon it, and would also preserve the skeletons of the native animals now living. These comprise the objects which are least perishable and which when once procured could be preserved without much expense. We would at the same time, as fast as our means would allow, assemble together the representatives of North American zoology, and would adorn our halls and render them attractive by collections of our birds, reptiles, fishes, insects, and other animals of the lower orders. We would, in short, establish such a Museum as the present condition of science calls for, such an one as the high character of our

community would lead strangers to expect to find here, and such an one as we, "citizens of no mean city," should be proud of.

We ask of our fellow-citizens only the means of lodging such collections, and of keeping them in a state fit for exhibition, for we can procure the collections themselves, and in a few years render them very complete. Indeed the objects *already* in our possession would occupy thrice the space we now have. We have the skins of many curious quadrupeds, which should be mounted or displayed. We have some hundred species of birds; barrels of fishes and reptiles; a beautiful collection of crustaceans, thirty or forty thousand insects, and numerous shells, minerals and fossils, none of which can be shown. We know of many more which we might have, could we accept them without doing injustice to those who have already remembered us, and without discouraging those disposed to aid us. We are ourselves discouraged by the extent of donations of this kind pressed upon us, which we are unable to receive and make useful.

For the purposes we have in view, we do not wish for a building of architectural pretensions; the plainest structure of brick, in the most retired situation, would serve us as well as the most costly edifice. What we need is *room* and *light*, and as much as is possible of both. Abundance of well-lighted wall-surface is essential to our purposes. To compare what we have, with what we ought to have, I would say, that we need as much room as we now have for a geological collection alone, as much more for a mineralogical collection, as much more for a museum of comparative anatomy, as much more for a collection of birds, and as much more for the other departments. Besides which, we need a hall for our meetings, which might at the same time be used as a library. The sum required cannot be safely estimated at less than $20,000 for the land and building, and $10,000 for a fund, the interest of which should support a taxidermist, who should

have the care of all the collections. This sum is large, but we live in a time of enlarged liberality, and may hope to collect it. With the increased accommodations and means of usefulness which this sum would give us, with our present fund unembarrassed and devoted to our Library and Journal, and with an active body of naturalists industriously occupied in illustrating the natural history of the country, we might hope soon to return to the community, in value though not in kind, some equivalent for the aid received from it.

As a token of the past and a pledge of the future zeal of our members, as well as of their ability to sustain the institution when once placed upon an independent footing, it may be stated that, according to an estimate recently made by the treasurer, the amount contributed to it, in money, books, and other articles of value, since its foundation, is not less than $30,000. This has been given almost entirely by its own members, and mostly in small sums by men of small means, excepting, however, the noble bequest of Mr. Ambrose Courtis, one of our early members, on whose memory the Society must always look with gratitude as our munificent helper at a period of our existence when even small sums were treasures.

I close my remarks, already perhaps too much extended, with the recommendation that such an effort as I have suggested, should be now made. We may fail in it, but if we do, we nevertheless shall have done our duty both to the Society and as citizens, and shall have made a worthy exertion to give to our city a new claim to respect, by elevating the natural sciences to the same estimation here which they enjoy in enlightened communities of the old world.