

ANNUAL REPORT

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CAMBRIDGE, MASS.

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OF THE

MUSEUM OF COMPARATIVE ZOÖLOGY,

TOGETHER WITH

THE REPORT OF THE DIRECTOR.

1862.

CAMBRIDGE:

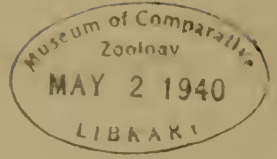
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Commonwealth of Massachusetts.

BOSTON, February 21, 1862.

To the Honorable the Senate and the House of Representatives:—

AT the Annual Meeting of the Trustees of the Museum of Comparative Zoölogy, January 29, 1862, it was

Voted, That the Secretary communicate to the Legislature the Annual Report of Professor Agassiz, with a statement of transactions of the past year.

On the ninth day of April last, a Resolve of the Legislature was passed, by which the sum of twenty thousand dollars was granted to the Museum, to be applied to the support of the Museum, and to the care and preservation of the collections. The amount has been received, and nearly all expended upon the orders of the Trustees.

In the month of August last, the Treasurer of this Corporation received of the Treasurer of the Commonwealth the first instalment from proceeds of sales of Back Bay lands, amounting to twenty thousand six hundred and fifty-seven dollars.

In pursuance of the Resolve, unanimously adopted by the Trustees, October 31, 1860, that the whole amount of the principal of the grant made by the Commonwealth (from the Back Bay lands) shall be invested from time to time when received, and that the income only of such fund shall be expended, this instalment has been invested in the six per cent bonds of the State of Massachusetts.

In the month of October last, the Committee on the Museum reported: "That during the past year, a great amount of important work has been done at the Museum. It has consisted chiefly in overhauling thoroughly the whole collection, every specimen of which is reported by the Director of the Museum to be in a safe condition, in which it may remain uninjured for an indefinite time. The main purpose, therefore, for which the last liberal grant of the Legislature was made is fulfilled.

"Besides this, however, the specimens have all been distributed according to their classes and families, and made accessible for investigation and for teaching; and the separation of the duplicates has been begun, and is well advanced, so that exchanges are making, and will continue to be made, to the great increase and advantage of the institution, and of the interests of science in this Commonwealth and out of it.

"Your Committee therefore report that the Museum is in excellent order, and in condition — so far as the building affords room to display and open its specimens — to fulfil the great purposes for which it has been founded and endowed by public and private munificence."

The third Annual Report of the Director, which is annexed, marked [A], gives a detailed statement of the operations at the Museum for the year.

The statement annexed, marked [B], contains a list of the names of trustees, officers, and members of the standing committees for the year 1862.

On behalf and in the name of the Trustees,

WILLIAM GRAY, *Secretary.*

[A.]

THIRD ANNUAL REPORT

Of the Museum of Comparative Zoölogy, by LOUIS AGASSIZ, presented to the Board of Trustees at their meeting in October, 1861.

Thanks to the liberality of the Legislature, the year which opened under such threatening auspices has been thus far one of the most successful and prosperous through which our young institution has passed. The \$20,000 appropriated in the last regular session of the General Court, added to the income from the Gray Fund and from the Back Bay land, has made it possible to carry on all the operations of the Museum with unabated activity. During this year, two hundred and seventy-five boxes, barrels, cans, etc., containing specimens of all kinds from different parts of the world, have been received, — twenty-five more than have been sent to us in any previous year. For these fresh supplies we are indebted to the efforts of eighty-one different individuals, showing how strong an interest is felt in the progress of our institution.

The Gray Fund was applied chiefly to the expenses incident to the arrival of these specimens and to the purchase of new collections. Among the latter, the most interesting are collections of fossils from Dr. Campiche and Messrs. Ebray and Sæman, collections of insects from Dr. Imhoff, and collections of shells from Messrs. Bartlett and Parreyss. A private subscription from some friends of the Museum has been devoted to the formation of a special natural-history library, now arranged in the gallery of one of the laboratories. To this collection the Hon. Charles Sumner has added a series of the scientific works published by order of the Federal government. The books relating to palaeontology were for the most part obtained from Dr. de Koninck. The library numbers already more than 6,000 volumes.

It has been one of my aims to obtain from original investigators well-authenticated specimens of species already described, in order to incorporate in our Museum the traditions of our science, and make it as far as possible a standard for the identification of species. The

absence of such standards has been a serious obstacle and inconvenience to American naturalists. The largest number of such specimens has been obtained from the collection of Dr. de Koninck, which has been secured for the Museum. The Smithsonian Institution has also made most valuable donations to the Museum from its rich stores. Indeed, our institution is constantly benefited by the generosity and kindness of the Secretary of the Smithsonian Institution, whose liberal direction of the establishment under his charge greatly enlarges the sphere of its usefulness. Whenever any special investigations have been going on at the Museum, the specimens of the Smithsonian collections belonging to the groups under examination have been placed at our disposal, and have afforded us the most valuable assistance. Dr. Poey has most generously forwarded to us the originals of his description of the fishes of Cuba, among which are unique specimens, and from Dr. Imhoff we have received many thousand European insects.

As soon as the system of exchanges inaugurated with many of the great museums of the Old World shall have been carried out, it is expected that the number of well-authenticated original specimens will be greatly increased. We have already received highly valuable returns from the Museum of Copenhagen, and arrangements have been made with the Jardin des Plantes, from which valuable specimens have already been received, through Professor Valenciennes; and with the Zoölogical Museums of Stuttgart, Freiburg, and Montpellier, as well as with the Anatomical Museum in Vienna, for similar exchanges. Professor Milne-Edwards has kindly offered to superintend himself the selection of the crustacea from the Jardin des Plantes intended for us. Exchanges have also been made with Amherst College and with several private individuals; and an active system of exchanges is constantly going on with the Essex Institute of Salem, from which the Museum has received most valuable specimens. From the Earl of Enniskillen we have received many fossil fishes, and also a magnificent fossil Irish elk, which forms one of the principal ornaments of the Museum.

From the explorations carried on in foreign countries under the auspices of the Museum, very large collections have been received, through Mr. Garret, from the Kings Mills and Society Islands.

Valuable collections have also been received through Captain Putnam, from the coast of China ; through T. G. Cary, Esq., from California ; through Dr. Wheatland, from Buenos Ayres ; through Captain Webb, and also through Mr. Webb, United States Consul at Zanzibar, from that locality ; through Captain Cheever, from Singapore and the Cape of Good Hope ; through Captain Millet, from the Gulf of Arabia ; through Mr. and Miss Dabney, from Fayal ; through Dr. Ranlett, of Charlestown, from Cape Horn ; through Captain Harrington, from the Rio Grande in South America ; through Captain Dillingham, from the Cape of Good Hope ; through Captain Couthouy, from the Andes ; through Professor J. Wyman, from South America ; through J. M. Barnard, Esq., from Singapore ; through Professor H. A. Ward, from Egypt ; through Lieutenant Preble, of the United States Navy, from the Galapagos Islands ; through M. G. Dexter, Esq., from Japan ; through J. M. Aviles, Esq., from Cienfuegos, in Cuba ; through F. G. Shaw, Esq., from Nassau, and through Dr. Holder, from Fort Jefferson, Florida. We are indebted also to Captain J. Anderson for valuable fossils from Malta and also from England.

A number of students from Williams College have also presented to us a large and valuable collection of Echinoderms, made by them during a vacation trip on the coast of Labrador. From Mr. Allen, at Key West, Florida, we have also received valuable and numerous specimens ; and Dr. Worthen has sent us a fine collection of shells from the Upper Mississippi ; and Mr. Slack, a collection of birds from Minnesota. Mr. Cutting of the Aquarial Garden, in Boston, has presented to the Museum all the valuable specimens that have died in his establishment.

An invoice is daily expected from Zanzibar from M. J. Cook, Esq., who has now been residing there for a year past, for the express purpose of collecting ; and Mr. Müller in Australia, and Mr. Lucerda from Porto Rico, have announced invoices from both these localities. Mr. Theodore Lyman, now travelling in Europe, has sent several invoices of specimens to the Museum, and he is extending the system of exchanges between our Museum and those of the Old World.

The assistants of the Museum and the students of the Lawrence Scientific School, who now work in the Museum, are constantly adding to our collections during their vacations, and I owe special thanks

in this respect to F. W. Putnam, S. Scudder, A. Agassiz, as well as to Messrs. Rice, Bowditch, Bickmore, and Morse.

An important excursion to the island of Anticosti, the results of which were very valuable to the Museum, was undertaken last summer by three of our students, Messrs. Verrill, Shaler, and Hyatt, with the special purpose of determining the position and relations of the geological beds there. The valuable collection made by them, including some fifty barrels of fossil specimens, is exceedingly interesting as affording materials for the determination of certain geological questions now in dispute. They brought back also a large collection from the present fauna of this little-known island, and also large numbers of the incubated eggs of the several species of sea-birds breeding in that region, which formed a considerable addition to the embryological collection of the Museum. Sir Edmund Head, Governor-General of Canada, had the kindness to provide these young gentlemen with introductions to the local officials, which were of great service to them, and they were indebted to Captain M. Small, and to Mr. U. S. Treat, of Eastport, for much assistance in the labor of collecting.

Professor Marcou has also explored the lowest fossiliferous beds of Vermont and Canada, and has secured very interesting fossils for the Museum, which are the more valuable since they establish beyond question the existence of an independent fauna below the Potsdam sandstone.

The cataloguing of the Museum is proceeding as rapidly as the difficulty of the task will allow, and beside the mere inventories, special monographs have been prepared of the Ophiurans, by Mr. Theodore Lyman, of the Etheostomoids, by Mr. F. W. Putnam, and of the Sciaenoids, by Mr. S. H. Scudder, all of which are ready for publication. A revision of the species of Holconoti has already been published by Mr. A. Agassiz.

The ethnographical collection is slowly improving. A fine series of Indian antiquities has been presented by Mr. J. T. Bateman, from the Cherokee graves on the Rio Grande, and Mr. Theodore Lyman has sent us from Europe a great number of photographs of the human races. Mr. Hansen has also presented to the Museum some implements of the South Sea Islanders.

Since the last of September, 1860, to the beginning of this month,

one hundred and fifteen can-boxes, containing about one hundred and fifty cans, have been sent out for collections. These cans have been distributed among thirty-two persons. During the same period seventy-five can-boxes have been returned to the Museum, sent in by twenty different collectors. There remain now unreturned, three cans sent during 1859, ninety-one cans sent out during 1860 (distributed among fifteen persons, most of whom are at such a distance that it is hardly time to expect their collections), and fifty-nine cans sent out during 1861 and distributed among sixteen different collectors; making in all, one hundred and fifty-three cans distributed among thirty-four different persons, which have not yet been returned.

The principal additions to the collections of Mammalia and Birds, consist of seventeen barrels and two hundred bottles, not yet divided off, chiefly from the Aquarial Garden, from the Cape of Good Hope, and from China.

To the collection of Reptiles, eighty-eight species, forty-five of which are new to the collection, have been added, represented by two hundred and seventy-one specimens. The most important among these are those presented by Mr. Ward, from Egypt.

The total number of specimens of Fishes received amounts to five thousand, comprising one thousand different species, the most important of which are those from the Kings Mills and the Society Islands, collected by Mr. Garret, and from San Francisco, collected by Mr. Cary, and those sent from Cuba, the Bahamas, and Florida, by Professor Poey, Dr. Holder, Mr. F. G. Shaw, and Mr. Aviles. The collection made in the Arabian Gulf, by Captain Millet, though small, is very rich in singular forms.

To the collection of Insects, four thousand two hundred and sixty-one specimens, representing one thousand one hundred and sixty-one species, have been added, most of them sent by Dr. Imhoff.

To the collection of Crustacea, two thousand five hundred specimens have been added, representing five hundred and eighty-four species; the most important are the type specimens from the Smithsonian Institution, and the collections sent from the Kings Mills and Society Islands, and from China by Mr. Garret and Captain Putnam.

To the collection of Worms, three hundred and ten specimens of annelids, representing fifty-five species, have been added, chiefly presented by A. Agassiz.

To the collection of Mollusks, ten thousand specimens have been added, about one half of which are preserved in alcohol, comprising about one thousand species.

To the collection of Echinoderms, nine hundred and fifty specimens, representing one hundred and fifteen species, have been added, most of which are preserved in alcohol. The most interesting of these are from Zanzibar, sent by Mr. Webb, Captain Webb, and Captain Millet; from the Society Islands, sent by Mr. Garret; from California, sent by T. G. Cary, Esq.; from Fayal, sent by Mr. and Miss Dabney; and a large number of original specimens, sent by Professor Valenciennes of the Jardin des Plantes.

To the collection of Acalephs, seventy-two species have been added, and a large number of original specimens of Corals, described by Professor Dana, and presented by the Smithsonian Institution.

More detailed lists of these additions are annexed to this Report, in which the number of specimens obtained from all the donors who have liberally contributed to the increase of our Museum is enumerated. [These lists are omitted here.]

During the past year, much has also been done respecting the arrangement of the collections, and as I have already given an account of the general plan of the Museum in a former Report, I propose now to lay before you the plan of the arrangement of that part of the collection which is nearly completed. I deem it the more important to explain it fully, as my experience with other museums has satisfied me that collections of Natural History are less useful for study, in proportion as they are more extensive.

This may seem paradoxical, yet it is undoubtedly true; for while the most extensive collections answer admirably the purposes of professional naturalists for special researches and original investigations they are generally beyond the grasp of less advanced students, and cease to be instructive at all for the largest number of visitors of such establishments. In arranging our collections, which are intended at the same time to be instructive for the million and to afford the amplest material for any kind of scientific investigations, it has been my aim to combine these two objects; and as nothing of the kind has yet been attempted in any large museum, as far as I know, a detailed account of the plan, as adopted in our Museum, may be welcome to

others. But as each class of animals requires a special treatment in a well-appointed museum, I propose this year to speak only of the arrangement of the Radiata, as these are the most advanced in our exhibition rooms.

With the view of fostering the systematic study of these animals, and laying before the student in the smallest possible space the best ascertained results respecting their affinities, in the present state of our science, I have arranged special systematic collections, intended solely to exhibit the natural affinities of the members of the several classes. These systematic collections embrace carefully chosen representatives of all the genera; but with the view of making such collections as compact as possible, only one species of each genus has been introduced from each well-characterized zoölogical province, frequently to the exclusion of a large number of species which would only bewilder the student in his first attempt to master the natural affinities of the representatives of any given class. With this systematic collection are combined all the preparations intended to illustrate the structural characters of the genera, the peculiarities of form which distinguish the different families, the complication of structure characteristic of the orders, as well as the mode of execution of the structure of the class as a whole.

Next to the systematic collections, I have begun to make special faunal collections, chiefly intended to facilitate the study of the species and their geographical distribution. Thus removing from the systematic collection everything which relates to the study of species, I hope to impress upon our students more forcibly than is generally the case, the real importance of a proper investigation of the various degrees and different kinds of affinities which bind all animals into a great systematic whole. These faunal collections have another advantage; they bring distinctly before the eye the character of the inhabitants of different parts of the world in their natural combinations, and that in a far more impressive manner than can possibly be attained by a mere nominative enumeration of species. To add to the interest of these faunal collections, I have placed here everything that may illustrate the peculiarities of the species, and have therefore taken care that they should embrace large numbers of specimens, in every possible state of growth. The attempt at arranging these collections

has already convinced me of their great importance. Our knowledge of the range of the natural faunæ is very imperfect, and I have found it impossible to adopt, without modifications, any of the proposed divisions of the earth's surface into zoölogical provinces. The divisions thus far proposed show plainly that they were circumscribed by physical considerations, and not by the special study of the range and distribution of the animals themselves. However, by the very attempt to place side by side, in a methodical order, all the representatives of adjoining faunæ, I have gradually been led to define more accurately the natural limits of the faunæ themselves. It is surprising to me that the principle by which faunæ may be defined has not yet been stated, although it is very simple. It may thus be expressed: the geographical range of representative species occupying adjoining regions marks the natural boundaries of their respective fauna.

Since in our days it is no longer possible to study the animal kingdom without including in the investigation the remains of past geological ages, the question has naturally arisen, what disposition to make of the fossils. After mature consideration, I have come to the conclusion, that for their most suitable arrangement it was indispensable to make also two kinds of collections of the fossil remains. In one of them, which corresponds to the systematic collection of the living animals, they are arranged systematically, according to the natural affinities of the different representatives of each geological period, in such a manner that the zoölogical character of these epochs is shown as distinctly to the eye of the student as the character of the present creation, by the study of the systematic collection of the living animals. With the aid of these collections, special zoölogical treatises of each period may be compiled without difficulty; and I have already satisfied myself that a comparison of those collections furnishes much information respecting the true affinities of animals.

The second kind of collections of fossils is arranged in a way which corresponds to the faunal collections of living animals; that is to say, according to their geographical distribution during each successive geological epoch. This arrangement has enabled me to display by themselves the more extensive collections of fossils, obtained from particular localities, in their characteristic mode of association, without crowding them upon the attention of the beginner, or giving them,

by their larger number, an undue preponderance in the collection of the epoch to which they belong. But there is another advantage in making special faunal collections of fossils; they suggest comparisons with the faunæ of the present time which could not otherwise be made so effectively. Thus far geologists, in identifying the horizons of the successive deposits forming the stratified crust of our globe, have started from the universally accepted assumption that animals, of the same geological age are either identical or closely allied over the most extensive areas. Nothing can be further from the truth than such a view, and we need only to compare the faunæ of the present period in remote continents to see how widely these differ. If the remains of past ages, belonging to the same geological periods, have generally appeared to be identical or closely allied, it is chiefly owing to the fact that they have been collected in the same geographical zones; and at present we find a similar agreement between the living animals of the temperate zone of Europe, Asia, and North America. But when we pass to other zones, the scene is entirely changed; and so it was in former ages, as we already know from the tertiary mammalia of South America and of Australia, and this, I have no doubt, will be found to be also the case for the older formations, within certain limits, not yet ascertained. The specific differences between the remains of the same age, found in deposits remote from each other, are daily brought out more distinctly; and since I have begun to compare the fossils of America with those of Europe, I am gradually led to infer that no specific identity is likely to be established, finally, between animals which have lived at great distances from one another, even though they were contemporaries. The doctrine of the identity of fossils of the same age will therefore require great modifications. I am already certain that species of the same family, belonging to different epochs, but found in corresponding zones of latitude, are frequently much more closely allied than species of the same age belonging to different zones. The time is therefore fast approaching when zoölogical affinity alone will no longer be a trustworthy criterion of contemporaneity, nor zoölogical difference, however striking, be taken as evidence of a difference in geological age. This unexpected and probably to many most unwelcome result, I have obtained by a careful comparison of many faunæ of past ages, arranged in the manner

above indicated. If this should render the identification of rocks, by the aid of the fossils they contain, more difficult for those not very familiar with zoölogy, it will on the other hand afford most instructive evidences of the successive changes the animal creation has undergone upon different parts of the earth's surface at different periods, and show how, in earlier ages, combinations of living beings existed in certain parts of the globe quite distinct from those now occupying the same localities, and yet quite similar to those existing in the present time in other regions. I need only allude to the similarity of some of the extinct fauna of the jurassic period to the living fauna of Australia, to make this statement clear ; and similar resemblances may be traced between the extinct faunæ of other periods and the living faunæ of other parts of the world. As one instance, already pointed out on another occasion, I may allude to the resemblance of the extinct fauna and flora of Oettingen with that of the temperate zone of the Atlantic States of North America.

A third kind of collections embraces everything that may illustrate the mode of reproduction, and the embryonic growth of each class. Here are placed together eggs and embryos in various stages of development, and young animals which have not yet completed their growth and assumed their specific characteristics. But these collections do not include the preparations intended to illustrate the organs of reproduction themselves, as characteristic of the different families in the adult state ; these are referred to the general, systematic collection.

An objection may perhaps be made to such an arrangement of a museum, as requiring a larger number of specimens than are generally exhibited in a systematic collection, embracing in one series the whole animal kingdom. It would certainly be a great mistake to neglect these multiplied modes of instruction, even were it true that they entail the necessity of preserving a larger number of specimens, and may lead to some waste of room. I am satisfied, however, that with a proper attention in the selection of the specimens intended as representatives of the genera in the systematic collection, no unnecessary repetitions need be made. I have been careful everywhere to avoid the introduction of large specimens in the systematic collection, in order to render them more comprehensive, and to bring, at a

glance, a whole class under the eye; while the bulk of specimens, illustrating the species, is referred to the faunal collections. And I need not repeat here what I have stated again and again, on other occasions, that the great deficiency of other museums, and especially of the large public collections, consists in the scanty representation of the species, and the monotony with which a single male and female, or sometimes even a single specimen, are allowed to be the only provision made for the study of an animal which, to be well known, ought to be examined in an ample series of specimens of all ages, of both sexes, and in every possible state of preservation. What are frequently called characteristic specimens, and paraded singly as types, are but too often thus set aside by unscientific keepers of museums, in order that they may have an opportunity of disposing of other specimens for exchanges, and thus increasing the nominal number of the species in their collections.

The arrangement alluded to above has thus far only been partially carried out in our Museum, from want of room to display the collections, and from want of time and assistants needed to accomplish the immense amount of work and research rendered necessary by such an arrangement. But I may already point out the classes of Polypi and Echinoderms, as showing what the Museum may be, when its organization is further advanced; and it is but justice to those concerned to state, that Mr. A. E. Verrill has been intrusted with the details of the arrangement of the Corals, and Mr. A. Agassiz with that of the Echinoderms. The classes most advanced, next to these, are that of the Fishes, of which Mr. F. W. Putnam has charge, and the Mollusks, upon which Messrs. Morse, Hyatt, and Shaler are engaged. The arrangement of the Crustacea was also well advanced, when the war deprived me of the efficient assistance of Mr. Ordway. The preliminary arrangement of the Insects, begun by my son and now intrusted to Mr. Scudder, is advancing slowly, and yet as satisfactorily as could be expected, where such large numbers of specimens are concerned. In the arrangement of the fossil Cephalopods, which is nearly complete, Mr. Hyatt has shown much perseverance and devotion to the Museum. Among the Worms, my son has arranged the Annelids, but the Helminths await still a trustworthy curator. Messrs. Bickmore and Bowditch have made a considerable number of preparations

of Echinoderms. It is with deep regret I have to mention the interrupted arrangement of the class of Reptiles, and its backward condition. Dr. Wheatland, who had begun its arrangement with much zeal and success, has been obliged to relinquish his work on account of ill health. The classes of Mammalia and Birds have, up to the present time, received least attention, with the exception of what could be done in collecting materials for future use. But among these accumulated materials are immense stores of birds'-eggs, so that we have embryos, preserved in alcohol, of probably a larger number of species than exist in that state of preservation in any other museum.

I have alluded above to the preparations intended to illustrate the structure of the different classes of animals. Among these I have to mention the skeletons prepared by Mr. Guggenheim, of which a very large number have been added to the class of Fishes during the past year. But the most interesting and most instructive part of the collection at present consists of the many preparations for microscopic examination, made with rare skill and untiring assiduity by Mr. William Glen. They relate chiefly to the structure of the hard parts of Polypi, Echinoderms, and Mollusks. The sections of shells and sea-urchins are unsurpassed. Professor Clark has begun the arrangement of the Hydroids, of which we have a magnificent collection.

As there are vast numbers of objects which are rather unsightly in the condition in which they may be preserved in a collection, or which are naturally too small to be studied to advantage in a museum, without special facilities, I have caused the best representations of these objects, scattered through all our works on natural history, to be reproduced, and systematically arranged in diagrams, which will be placed by the side of the specimens in the rooms of the Museum, as soon as the necessary furniture for this kind of exhibition shall be completed. I owe these diagrams to the co-operation of my friend, Mr. Burkhardt.

At the close of this enumeration of the collections, it is proper that I should mention, also, the fact that all the stores of specimens which are not yet arranged for exhibition, and which exceed by far the number of specimens already placed on the shelves, have been carefully examined, and the condition of each specimen ascertained, and that the whole is perfectly safe and well stored. This has been a most

unpleasant and laborious task, the extent of which may be appreciated, when I say that Mr. Putnam alone has revised about 60,000 specimens of fishes preserved in alcohol, and that Messrs. A. Agassiz and Putnam have recently unpacked and distributed, according to their families, the contents of more than two hundred barrels of alcoholic specimens.

During the past year, another important apparatus for the illustration of specimens of natural history has been added to our establishment, — I allude to the photograph-room organized by Mr. Glen, — but, from want of time, only a few experiments have thus far been made to reproduce microscopic preparations. But, if we have not yet been able to do much ourselves in that direction, a collection of photographs is nevertheless begun, thanks to the kindness of Professor Valenciennes, who has sent me a number of those illustrations, made at the Jardin des Plantes, and of Mr. Theodore Lyman, who has forwarded a large number of photographs, representing the different races of men, made chiefly from casts, collected during the several scientific expeditions round the world, directed by the government of France for the last half-century.

[B.]

TRUSTEES OF THE MUSEUM OF COMPARATIVE ZOÖLOGY.
1862.

THE GOVERNOR OF THE COMMONWEALTH,
JOHN A. ANDREW.

THE LIEUTENANT-GOVERNOR,
JOHN NESMITH.

THE PRESIDENT OF THE SENATE,
JOHN H. CLIFFORD.

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES,
A. H. BULLOCK.

THE SECRETARY OF THE BOARD OF EDUCATION,
JOSEPH WHITE.

THE CHIEF OF THE SUPREME JUDICIAL COURT,
GEORGE T. BIGELOW.

LOUIS AGASSIZ.

WILLIAM GRAY.

JACOB BIGELOW,	NATHANIEL THAYER,
JAMES WALKER,	SAMUEL HOOPER,
GEORGE TICKNOR,	SAMUEL G. WARD,
JAMES LAWRENCE.	

OFFICERS OF THE MUSEUM OF COMPARATIVE ZOÖLOGY FOR
1862.

His Excellency JOHN A. ANDREW, Governor of the Commonwealth,
President.

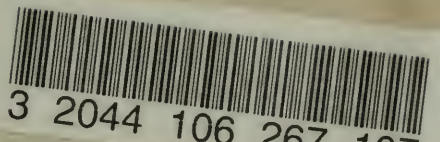
WILLIAM GRAY, *Secretary.*

SAMUEL G. WARD, *Treasurer.*

LOUIS AGASSIZ, *Director of the Museum.*

SAMUEL HOOPER, JOSEPH WHITE, NATHANIEL THAYER, JAMES
LAWRENCE, *Committee on Finance.*

GEORGE TICKNOR, LOUIS AGASSIZ, JACOB BIGELOW, GEORGE T.
BIGELOW, *Committee on the Museum.*



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