
PART I.

REPORT UPON THE CONDITION AND PROGRESS OF THE
U. S. NATIONAL MUSEUM DURING THE YEAR
ENDING JUNE 30, 1904.

BY

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IN CHARGE OF THE U. S. NATIONAL MUSEUM.

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GENERAL CONSIDERATIONS.

The United States National Museum had its origin in the act of Congress of 1846 founding the Smithsonian Institution, which made the formation of a museum one of the principal functions of the latter, and provided that—

Whenever suitable arrangements can be made from time to time for their reception, all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States, which may be in the city of Washington, in whosesoever custody they may be, shall be delivered to such persons as may be authorized by the Board of Regents to receive them, and shall be so arranged and classified in the building erected for the Institution as best to facilitate the examination and study of them; and whenever new specimens in natural history, geology, or mineralogy are obtained for the museum of the Institution, by exchanges of duplicate specimens, which the Regents may in their discretion make, or by donation, which they may receive, or otherwise, the Regents shall cause such new specimens to be appropriately classed and arranged.

The principal and accrued interest of the Smithsonian fund amounted at that time to about \$750,000, a sum considered ample to meet the needs of the various operations in which it was proposed that the Smithsonian Institution should engage. In 1846 probably not more than one or two universities or learned establishments in America had so large an endowment, and it was apparently the idea of Congress that the fund was sufficient both for the erection of a building and for the care of the collections which would be turned over to it or acquired by the national surveys, and in other ways. The Museum thus began as an integral part of the Institution, coordinate with its library, and was required by law to provide for the Government collections which had previously accumulated, a duty which the

Institution did not see its way clear to fulfill until 1858, when Congress began to make small yearly appropriations to aid in this purpose. So inadequate, however, were the sums voted that for many years the slender income of the Institution continued to be drawn upon to insure the maintenance of what was then justly called the Smithsonian Museum, since the building was paid for out of the Smithson fund, a considerable portion of the collections was and still is the property of the Institution, through exploration and gift, and a number of the officials connected with the Museum were employed at its expense.

The first scientific collection to come into the possession of the Institution—and, in fact, it accompanied the bequest—was the small but valuable mineralogical cabinet of James Smithson, the founder, who was himself a chemist and mineralogist of repute and a Fellow of the Royal Society of London.

The nucleus of the National Museum was, however, virtually acquired by the National Institute, a society organized in Washington about 1840, having for its avowed purpose the direction of the Smithson bequest and the pursuit of objects in consonance with the terms of that foundation. One of these objects was the gathering of historical and natural history specimens from both official and private sources, most prominent among the former having been the United States Exploring Expedition around the world from 1838 to 1842. Rooms in the Patent Office building were secured for the museum of the society, which was practically recognized as the appropriate place of deposit for all Government collections retained in Washington. Another important service rendered by the society was, as the late Dr. G. Brown Goode has said, in the direction of educating public opinion "to consider the establishment of such an institution worthy of the Government of the United States." Failing, however, to secure the public recognition at which it aimed, it became inactive upon the establishment of the Smithsonian Institution in 1846, and its charter, which expired in 1861, was not renewed. The Government collections in its possession, which came practically under the care of the Commissioner of Patents, were turned over to the Smithsonian Institution in 1858. Other material directly under the control of the National Institute remained at the Patent Office until 1862, and a part of the historical objects were held there until 1883.

Previous to 1858, however, important materials for a museum were being accumulated at the Smithsonian Institution, at its own cost and through the activities of its assistant secretary, Prof. Spencer F. Baird, beginning even before his appointment to that office in 1850. The personal bent of Professor Baird was toward the collection of natural history specimens for purposes of study. With the approval of Secretary Henry he put into operation plans for the accomplishment of this object, which, fostered and encouraged, were soon yield-

ing regular and abundant returns. Professor Baird's own vacations were spent in field work. Officers of the Army and Navy and of other branches of the Government service, fishermen, fur traders, private explorers, and such powerful organizations as the Hudson's Bay Company and the Western Union Telegraph Company, were enlisted in the work and rendered valuable assistance. The influence exerted by these beginnings has been lasting and widespread, as shown in the extensive natural history operations of subsequent National and State surveys, the organization of the Fish Commission and Bureau of Ethnology, and the support given to scientific collecting by many other bureaus of the Government.

The discussion of plans for the organization of the Smithsonian Institution, which devolved upon the first Board of Regents, led, in January, 1847, to the unanimous adoption of the following resolution expressing approval of the museum feature as one of its important functions:

Resolved, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided, which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.^a

The policy thus announced has prevailed to the present day.

In 1879, when most of the existing Government surveys, whose work included the collecting of specimens in the field, had been established, Congress deemed it important to practically reenforce the provisions of the act founding the Institution, in order that there might be no doubt as to the proper disposition of the material certain to be derived from these various sources, by the following enactment in the sundry civil appropriation act for 1880:

All collections of rocks, minerals, soils, fossils, and objects of natural history, archeology, and ethnology, made by the Coast and Interior Survey, the Geological Survey, or by any other parties for the Government of the United States, when no longer needed for investigations in progress shall be deposited in the National Museum.

Although the name "National Museum" was sometimes used in the earlier reports of the Smithsonian Institution, it did not appear in any of the laws of Congress until 1875. Its general employment may be said to date from the time of the Philadelphia Centennial Exhibition of 1876, the first exposition in this country in which the Government participated, and the first to make known to vast numbers of the people of the United States the existence of national collections at

^a Report of Committee on Organization, p. 20.

Washington, as well as new methods of installing and exhibiting museum materials, differing radically from the older cabinets of college or local museums, which had prevailed up to that period. After its close the Government exhibits brought back to Washington, together with the extensive gifts made to the United States by private persons and foreign governments, rendered necessary the early erection of a new and separate building, devoted entirely to museum purposes. Since that time Congress has mainly provided for the maintenance of the Museum, but its management remains, by the fundamental act, under the authority of the Regents of the Smithsonian Institution, administered through their Secretary, who is *ex officio* the keeper—a form of government insuring a consistent and uniform policy and a nonpartisan administration of its affairs. The greater part of the Smithsonian building is still used for museum purposes, and the Institution, as well as most of the scientific bureaus at Washington, cooperate, both through men and material, in enlarging and caring for the national collections.

The scope of the National Museum as defined by law comprises practically all branches of science and of the arts which admit of museum treatment. With exceedingly limited means for making purchases, and therefore almost entirely dependent as to the character of its collections upon Government explorations, personal donations, and exchanges, its different departments have had a very unequal growth. The subjects best represented are American ethnology and archeology, geology, zoology, and botany. A fair beginning has been made in the exceedingly important branches of the industrial arts and American history, and scarcely more is required to place these two departments on a proper basis than sufficient room to display the necessary collections, which are certain to be received, in greater part through gratuitous contributions, when it is known that the Museum is prepared to care for them. In the department of the fine arts the collection is still very small, but the subject is one which must sooner or later receive earnest consideration by the Government.

The specimens in all branches are classified in two series; one, comprising the bulk of the material, being arranged for the purposes of scientific research and reference in laboratories and storerooms, to which students are freely admitted; the other, selected with regard to their general educational value and public interest, and accompanied by descriptive labels, being displayed in glass-covered cases in the public halls. The duplicate specimens not required for exchanges are made up into sets for distribution to schools and colleges, as opportunity offers. Papers descriptive of the collections, both technical and popular, are published for gratuitous circulation to the extent of three or more volumes yearly, and, finally, the Museum has come to be regarded as a bureau of information in respect to all

subjects with which it is even in the remotest degree concerned, the correspondence which this involves now constituting one of its heaviest tasks.

The history of the Museum, as pointed out by the late Doctor Goode, may be divided into three epochs, which he characterized as follows:

First, the period from the foundation of the Smithsonian Institution to 1857, during which time specimens were collected solely to serve as materials for research. No special effort was made to exhibit them to the public or to utilize them, except as a foundation for scientific description and theory.

Second, the period from 1857, when the Institution assumed the custody of the "National Cabinet of Curiosities," to 1876. During this period the Museum became a place of deposit for scientific collections which had already been studied, these collections, so far as convenient, being exhibited to the public and, so far as practicable, made to serve an educational purpose.

Third, the present period (beginning in the year 1876), in which the Museum has undertaken more fully the additional task of gathering collections and exhibiting them on account of their value from an educational standpoint.

During the first period the main object of the Museum was scientific research; in the second, the establishment became a museum of record as well as of research, while in the third period has been added the idea of public education. The three ideas—record, research, and education—cooperative and mutually helpful as they are, are essential to the development of every great museum. The National Museum endeavors to promote them all.

In the same connection, Doctor Goode also defined the scope and objects of the Museum in the following concise manner:

It is a museum of record, in which are preserved the material foundations of an enormous amount of scientific knowledge—the types of numerous past investigations. This is especially the case with those materials that have served as a foundation for the reports upon the resources of the United States.

It is a museum of research, which aims to make its contents serve in the highest degree as a stimulus to inquiry and a foundation for scientific investigation. Research is necessary in order to identify and group the objects in the most philosophical and instructive relations, and its officers are therefore selected for their ability as investigators, as well as for their trustworthiness as custodians.

It is an educational museum, through its policy of illustrating by specimens every kind of natural object and every manifestation of human thought and activity, of displaying descriptive labels adapted to the popular mind, and of distributing its publications and its named series of duplicates.

AS A MUSEUM OF RECORD.

In its function as a museum of record the growth of the National Museum has been unprecedented, due mainly to the rapid exploration and development of a rich and extensive country under the liberal and progressive policy of the Government. From scientific institutions throughout the world, from foreign governments, and from individuals abundant stores of great value have been received, either as gifts or through the medium of exchange of specimens, and a small appropriation in recent years has permitted of some purchases to supply desiderata.

The principal sources of the collections may be briefly summarized as follows:

1. The explorations carried on more or less directly under the auspices of the Smithsonian Institution, or by the Institution in connection with educational institutions or commercial establishments, and the efforts, since 1850, of its officers and correspondents toward the accumulation of natural history and anthropological material.

2. The United States Exploring Expedition around the world from 1838 to 1842, the North Pacific, or Perry, Exploring Expedition from 1853 to 1856, and many subsequent naval expeditions down to and including the recent operations in the West Indian and Philippine waters.

3. The activities of members of the United States diplomatic and consular service abroad.

4. The Government surveys at home, such as the Pacific Railroad surveys, the Mexican and Canadian boundary surveys, and the surveys carried on by the Engineer Corps of the U. S. Army; and the activities of officers of the Signal Corps, and other branches of the Army stationed in remote regions.

5. The explorations of the U. S. Geological Survey, the U. S. Fish Commission, the Department of Agriculture, the Bureau of American Ethnology of the Smithsonian Institution, and other scientific branches of the Government.

6. Donations and purchases in connection with the several exhibitions at home and abroad in which the Museum and Fish Commission have participated, among these having been the Centennial Exhibition at Philadelphia in 1876, the International Fisheries Exhibitions at Berlin in 1880 and at London in 1883, the New Orleans Cotton Centennial Exposition in 1884 and 1885, the Cincinnati Exposition of 1888, the World's Columbian Exposition at Chicago in 1893, the expositions at Atlanta in 1895, at Nashville in 1897, at Omaha in 1898, the Pan-American Exposition of 1901, and the Charleston Exposition of 1901-02. The returns from the World's Fair in Philadelphia were of greatest extent, comprising, besides the collections displayed by the United States in illustration of the animal and mineral resources, the fisheries, and the ethnology of the native races of the country, valuable gifts from thirty of the foreign governments which participated, as well as the industrial collections of numerous manufacturing and commercial houses of Europe and America.

7. Exchanges with foreign and domestic museums and with individuals.

Immediately preceding the Centennial Exhibition of 1876, when the collections were entirely provided for in the Smithsonian building, the number of entries of specimens in the Museum record books was

about 235,000. In 1884, when the additional room afforded by the new building gave opportunity for taking a provisional census of the large accessions received from Philadelphia and from other sources, the number had grown to 1,471,000. At the close of the year covered by this report the total number of recorded specimens was 5,898,493.

While these figures convey no impression of the bulk of the collections, when it is considered that by 1885 all of the space in both buildings was completely filled, and in fact so overcrowded that a third building was already being asked of Congress, some conception may be had of the conditions now existing. The storerooms are packed to their utmost capacity, making it difficult to gain access to the specimens or to provide adequately for their safety. For many years most of the objects received have had to be stored in outside and unsafe structures, where they are mainly piled up in the original packing boxes, and where has already accumulated enough material of great intrinsic and scientific value to fill an additional building as large as that now occupied by the main collections.

AS A MUSEUM OF RESEARCH.

In order to permit of their examination and study, as provided in the act of establishment, the collections of the Museum are, to the extent of its accommodations, arranged systematically and in a manner convenient for reference. Access to the reserve or study series, so called, consisting of the main body of the collections and as complete in all the groups as the accessions have made possible, is given to all properly qualified persons engaged in original research. The opportunities thus afforded are widely availed of, the Museum being visited every year by many investigators, some of world-wide distinction, coming from the scientific centers of European and other foreign countries, as well as from all parts of the United States. Material is also occasionally sent out to representatives of other institutions having the means of providing for its safe-keeping, when required in the working up of special subjects, or for comparison in connection with their own collections.

The custodianship of the collections being the first and most imperative duty devolving upon the scientific staff of the National Museum, its members find comparatively little time during office hours for advancing knowledge, though they are mostly well qualified for such work, being selected with special reference to their ability to identify and classify the specimens under their charge in accordance with the latest researches. As a matter of fact, however, the staff does produce every year a large number of papers descriptive of the collections, which together constitute an important contribution to scientific literature.

Among the honorary officers having their laboratories at the Museum are a number of assistants employed by other scientific bureaus to conduct investigations on material kept here in their charge, and in whose results the Museum shares.

Many collections have, from time to time, been transferred by the Geological Survey, the Fish Commission, the Department of Agriculture, and other branches of the Government to the custody of the Museum in advance of their final working up, in order to provide for their safe storage and to secure the better facilities for study here afforded. Under this arrangement the amount of research work carried on in the Museum building has been greatly increased.

Though having little means to expend for field work, members of the Museum staff are occasionally given opportunities to participate in the explorations of other Government bureaus or of private expeditions, in connection with which special researches may be carried on, though the chief advantage results from the acquisition of new and valuable material and a knowledge of the conditions under which it occurred in nature.

AS AN EDUCATIONAL MUSEUM.

The educational side of the Museum is intended to consist mainly of an exhibition of all the classes of objects which it represents, so mounted, installed, and labeled as to directly interest and instruct the general public. The principal difficulty incident to the proper installation of such a collection, conceding all the space required, lies in the selection of its parts, so that while enough is displayed to convey the amount of information which it is intended to impart, the visitor shall not be overburdened or confused with details. While this policy is being followed in the National Museum, so far as its means permit, the lack of room has always prevented a complete or satisfactory development of the plan, and every succeeding year the conditions in this respect grow worse instead of better, through the increased crowding of the halls. The advances in recent years have been chiefly in the methods of display, in the character of individual and group mountings, and in the labeling, in all of which directions exceptional progress has been made.

Three years ago it was announced that all of the halls designed for public use were then for the first time permanently open, though none were above addition or improvement, while in some the arrangement was entirely provisional. This was accomplished only by the transfer of large quantities of material to outside storage, but it has unfortunately been again necessary to shut off one or more of the halls from time to time, in order to furnish increased space for workrooms.

In this connection it seems appropriate to refer to the work of Doctor Goode, than whom no museum administrator ever had a better

understanding of the public needs. He labored earnestly and conscientiously to make this a museum for as well as of the people, and the plans now being carried out are, in all their essential features, of his making. While the assistants might be relied upon to arrange and maintain the study series in a manner acceptable to the specialist, the interests of the public always remained in his immediate charge. He was ever occupied in devising ways for so presenting the features of nature and the activities of mankind that by the very force of his surroundings the visitor was bound to receive and carry with him some definite impression, some new bit of knowledge. Doctor Goode's labors in this field ranged from the planning of the general scheme to the most minute details of case architecture and fittings. His official connection with nearly all the important expositions of the past quarter of a century and his exhaustive studies of all the principal museums of Europe and the United States gave him exceptional opportunities for observation and experiment. Though a young man when he died, none other had acquired so ripe an experience and none is more worthy of being followed.

An incidental, though very popular, educational feature of the Museum, having for its purpose the promotion of scientific teaching throughout the country, has been the distribution to schools and colleges of its duplicate specimens, properly identified and labeled, and put up in carefully selected sets. Inadequate means have prevented this measure from being carried out on the scale which the resources of the Museum would admit of, but many hundreds of such sets have already been given away.

Scarcely a year passes that some exposition, either at home or abroad, is not occupying the attention of the Museum, and through this means its existence and aims are brought constantly and prominently before the public. These expositions have of late followed one another so closely, and have required such extensive preparations, as to interfere greatly with the ordinary work of the Museum, but the practice of introducing new and varied features, of showing a fresh series of objects or improved groupings in connection with each one, insures a substantial gain, when the collections are returned to Washington, besides fulfilling the important function of making museum methods known to the people of the United States and stimulating the growth of museums in many quarters.

Though mainly technical and most useful to the investigator, the publications of the Museum can be classed, in a general way, as belonging to its educational side, being the medium through which the nature and extent of its collections are made known. The Annual Report, first printed as a separate volume of the Smithsonian Report in 1884, and now in its twentieth volume, consists, besides the administrative part, mainly of semipopular papers on interesting portions of

the collections. The Proceedings and Bulletins are almost exclusively technical, the shorter papers being assigned to the former and the larger and more exhaustive works to the latter. Of the Proceedings twenty-four complete volumes have been issued, and of the Bulletins fifty-two numbers.

THE NEW MUSEUM BUILDING.

As stated in the last report, Congress, in its session of 1903, had authorized the erection of an additional building for the National Museum at a cost not to exceed \$3,500,000, and the Board of Regents had appointed a committee to have charge of this important work. The superintendent of construction, Mr. Bernard R. Green, had been designated in the act of Congress, and the architects, Messrs. Hornblower & Marshall, who prepared the tentative sketches, had been selected by the Regents.

By the close of that year the architects had begun upon the elaboration of their plans, a work of slow progress, since the building is not for an object with which that profession, in any part of the world, has had much to do. There is no fixed pattern to follow, but it is hoped to correct some of the faults shown in buildings heretofore put up for the same purpose; to correct them all is beyond expectation. It has been the task of the Museum expert to explain his needs; it is now for the architect to express them in a definite and practical form. It is expected that this work will be satisfactorily accomplished, and a building produced meeting the requirements of science and the arts, as well as those proposed for architectural improvement at the national capital.

It is still too early to discuss the details of the plans. It may be said, however, that the building will be effective in appearance, substantial, and fireproof. It will have an abundance of light and be well ventilated and well heated. The reserve collections and the laboratories of each division will be in relatively close proximity to the corresponding exhibition collections, insuring convenience of study and oversight. Several elevators will connect the different stories, and the comfort of visitors will be fully provided for. Congress has called for plans for a central power and heating plant for the buildings on the Mall. The benefits of such a feature can not fail to be appreciated, but as some delay must occur in carrying out this measure, it is expected that the new Museum building will need to have its own separate plant installed in the basement to meet at least its preliminary wants.

By the beginning of the calendar year 1904 the plans had been sufficiently advanced to fix definitely the main lines, the general dimensions, and the architectural design, though requiring still further study to

harmonize the parts and perfect the many details. At this stage they were, on January 27, approved by the Secretary of the Smithsonian Institution, with the advice and consent of the Chancellor of the Institution and the chairman of the executive committee, as provided by the resolution of the Board of Regents. About this time also the expert personal services of Prof. S. Homer Woodbridge, of the Massachusetts Institute of Technology, were engaged to plan the mechanical equipment of the building, including the apparatus for its heating, ventilation, and electric lighting.

The excavation for the building, the contract for which had been awarded to the Cranford Paving Company, of Washington, was begun on June 15, 1904. The lateness of the season precluded the holding of a formal ceremony on that occasion, but the first spadeful of earth was turned by Secretary Langley in the presence of the superintendent of construction, the architects, and the employees of the Museum and Institution. Addressing the superintendent, Mr. Green, the Secretary, remarked:

On behalf of the Regents of the Smithsonian Institution, with the consent of the chancellor and of the chairman of the executive committee, I now authorize you, in accordance with the act of Congress, to proceed with the construction of the new building for the United States National Museum, designed to increase and diffuse the knowledge of the arts and sciences among the people.

The site of the building was also inclosed with a high board fence and a small frame structure was erected as the headquarters of superintendence. Immediately following the excavation, sometime during the summer, the work of building the foundations will be begun.

GROWTH AND NEEDS OF THE MUSEUM.

On preceding pages a brief history and a summary of the objects of the National Museum have been given. Becoming a prominent feature in the early programme of the Institution, the course of the Museum ran smoothly as long as there was room for its development. Its scope, defined by the organizing act of Congress, was as comprehensive as the sphere of human knowledge in so far as could be compassed by Museum methods. In the beginning its collections were practically all of natural history. Then appeared ethnology and archeology, and finally the arts and industries as exemplified in the work of modern man. In fact, the Museum building proper was intended mainly for the last-named subjects. So rapid, however, has been the growth of the collections that some confusion has resulted in their arrangement, and their appearance at present is no criterion of the wealth of the Museum or of its scope and anticipations. The Museum has back of it all the Government surveys, whether at home or abroad—a guaranty of the value of at least a large proportion of its

acquisitions. It has many friends, some the owners of large and important collections, who have come to recognize that in an institution founded by the Government for all time their specimens will be not only perpetually and securely cared for, but also at the service of every specialist who needs to consult them. Officials of the Government detailed for duty in the new possessions, rich in novelties of nature and of culture, are giving thought to the wants of their National Museum. By means of the duplicates, set aside as collections are worked over, exchanges are made with other museums, whereby important additions are obtained. The exhibition collections in some branches, notably the historical, owe many of their most attractive features to loans. These are not the property of the Museum and may only remain in its possession for short periods; but the spirit of liberality in this direction, long manifested, is growing steadily, until of late it has sometimes been necessary to decline important deposits on account of lack of room. This difficulty will be overcome upon the completion of the new building, whose greater accommodations and improved facilities will, it is hoped, prove an additional incentive to the possessors of collections, large or small, which may be instructive to the people.

In appropriating for the large expositions, of which many have been held in recent years, there has been a general understanding on the part of Congress that from the allotment to the National Museum the Museum shall gain something of permanent value. By judicious management, though the amounts have been small, the Museum has secured many unique specimens which it could not have obtained in any other way at its command. With several of the larger museums, which are well supplied with funds, it is customary to send out exploring expeditions even to distant regions, and some of these investigations are conducted on a very extensive scale. They are an important source of collections as well as of information, but the National Museum has neither the funds nor a sufficiently large staff to engage in such work except on a very small scale, generally in connection with one or other of the Government surveying expeditions, and with the object of obtaining material which these surveys do not collect.

There is one method of obtaining collections in which the National Museum has been weak, while by such means all of the larger museums of the world, whether national, municipal, or private, have acquired a large proportion of their treasures. This is in the direct expenditure of money for purchases. The importance of this method is not realized by Congress, though it might be, were the matter given thorough consideration and were the proper relations of the Museum to those bureaus of the Government which are charged by Congress with the investigation of agricultural, mining, fishery, and

other like problems, better understood. The specimens resulting from all Government surveys and investigations are transferred to the National Museum as soon as the studies upon them are completed. The Museum is, therefore, the depository for all Government collections. Those who wish to consult them, whether in the Government employ or strangers to it, must come to the Museum. It is, therefore, to be concluded that the National Museum is not a passive body, but one most actively concerned in the development of the welfare of the country. Yet, in a general way, the investigators of practical problems for the Government find here only what they themselves have collected. They need more complete series of objects in order that their studies may be more complete, and at least for the benefit of the industries of the country the gaps in the series should be filled up as opportunity offers. An expert set to work upon a problem of far-reaching economic importance requires to have before him all the material possible, that nothing bearing upon his subject shall escape his observation. It is the province of a large central museum to possess these extended collections, classified and arranged so that they may at all times be accessible.

The curio shop of old has given way to the modern museum, with its definite purpose based upon experience and the advance of knowledge during many years. While the purpose may vary in accordance with the character and advantages of a museum, none can doubt that it should be the primary object of a great national museum like the one at Washington to subserve the needs of the Government, to do a large part toward promoting the material interests of the people.

It is in this spirit and with these objects in view that appropriations are asked for the purchase of such specimens as can not be acquired in other ways. To approach perfection in the rounding out of collections is in itself naturally very gratifying, but to do this for the purpose of benefiting the practical investigations of the Government is the chief aim of the National Museum. Private collectors and students have spent their lives in bringing together special collections which are often far more perfect than can be obtained through the means supplied by the Government, and rare and unique objects of exceeding value fall into the hands of individuals. The National Museum should have the means of acquiring such of these as are required for the purposes of the Government, and all this with the understanding that the Museum is only a part of the system organized by the Government for improving the condition of its people.

The collections are separated into practically two series, the so-called reserve or working series being arranged for the convenience of investigators, while for the instruction and entertainment of the public ample provision is made here as elsewhere, much more room, in fact, having been allotted to this than to other purposes. There is, of

course, a limit beyond which any display becomes bewildering and tiresome, but that point has not yet been reached in this Museum. The exhibition collections comprise selections from all the branches represented, and only enough from each to serve the desired purpose. In some branches, however, like history, nearly all the material objects are appropriate for exhibition, and find their most appreciative critics among the general public. In other branches, moreover, there are many large objects which can best be cared for in the exhibition halls, and are, therefore, nearly always seen there.

A third division of the collections, one prepared for general teachers and young students, as suggested by Dr. F. A. Bather, of the British Museum, might readily be arranged when additional room becomes available, but there is less need for such in this country than seems to be the case abroad, since nearly all the schools and colleges throughout the United States have their own collections, especially of natural history, supplied in part from the duplicates in the national collections.

It will thus be seen that the collections which come to the National Museum are being utilized to the fullest extent and in a most liberal manner. The reserve series, comprising the specimens which have already been worked up and are held as records of past investigations, together with those which still remain to be studied, constitute the technically important part of the Museum, and alone justify its existence. The public collections, however, take the greatest amount of space, require the largest expenditure of money, and demand the most ingenuity in their selection and arrangement. There remain the duplicates, only known to be such as the work of classification proceeds, which serve the double purpose of securing valuable returns through exchange and of promoting education by their gratuitous distribution to schools and colleges. The amount of material used for the latter purpose since this practice was established over half a century ago, has been very great.

The greatest discrepancy to-day in the administration of the Museum results, however, from an insufficient staff, not as regards efficiency but numbers. Only one who has had to do with the management of such a large trust can fully appreciate the significance of this statement, and those clothed with power to correct this condition have not yet come to thoroughly understand the importance of the matter. The responsibilities in administering upon a national museum of this great and free country are probably much heavier than those in any other land. The policy recognized in every branch of the Government of the United States, and sanctioned by Congress, is to do for the people whatever is possible. This Government is doing for its people what no other government has ventured to attempt, and the result is a condition of extreme prosperity and contentment. And

is no share of credit for this condition to be given to the National Museum? It plays an important part in this great programme of which it is supremely proud, and while Congress may not yet fully realize what it accomplishes in this respect, the public does, and demands more than it can perform.

For the conduct of its technical work the Museum is able to employ less than 35 persons of all grades. Nearly as many more employees of the Government give as much of their time as can be spared in the interest of the classification of the collections and their supervision. For the proper installation and maintenance of the exhibition collections, in which Congress places much store, further skilled help is required, and a supervision which has long been inadequate. The force of watchmen employed for the safety of the collections, both by day and night, would be scarcely equal to the task of protecting, under the same circumstances, even the contents of a large jewelry store. The Museum contains objects whose intrinsic value mounts into the hundreds of thousands of dollars, many of which are so small that several could be carried away in a man's pocket. In a jewelry establishment the valuables are packed away each evening in large safes. Such a course is impossible in the Museum, owing to the number of its treasures. They must be left in the cases, and yet the appropriations permit of so small a force of watchmen that they are kept under great and constant strain to prevent the abstraction of what could never be replaced.

Beginning years ago Congress, in the interest of their constituents, looked to the Museum for the analysis of mining products and for the identification of objects of every kind. These demands have increased rapidly, and their satisfaction has always been regarded as within the legitimate province of the Museum. The fact, however, is not appreciated that work of this character requires the attention of trained experts, and the time of the scientific staff is largely occupied in complying with such requests. In preparing the letters of reply, in registering the specimens received, in cataloguing, in taking down the notes of investigators, in arranging and keeping track of the collections, a comparatively large intelligent clerical force is required. In the preparation of duplicate collections, in the shipping and receiving room, in the library, in the making of cases and the installation of specimens, in the keeping clean of all the large halls, there must be help, and at the minimum this is no small item.

The U. S. National Museum is like no other museum in this country, and it has no parallel in the world. Elsewhere, with few exceptions, museums exist solely for what may be termed museum purposes. They promote science and they promote the arts. Many are powerful factors in education and in the improvement of industries. The U. S. National

Museum attempts to do the same within the limits of its scope, but it has an added function in that it shares a part of the executive work of the Government. The correspondence with members of Congress and with the Executive Departments is very large, but not nearly as extensive as that with the public, and all is supposed to relate to business on which the Museum only is in a position to furnish information. The frequent expositions also greatly increase the burden of work, for, though special appropriations are made for them, it is necessary to call upon the skilled employees of the Museum to a large extent. This means that a proportionately larger force is required than in museums generally, and the increase is as necessary outside as within the scientific staff.

It is not to be expected that a complete staff will ever be within the means of the Museum—that is to say, a staff sufficient to do especially all the classificatory work required. Such a staff has nowhere been assembled. In a proper organization, however, there should be an adequate number of experts, some at least of the highest rank, to control and supervise the several subjects represented. In this respect the National Museum is now far below the standard. The members of its staff, while acting as custodians of the collections, should be competent to assist extensively in their classification, should appreciate their value and significance, and should have the faculty of keeping order, so that any specimen in their care can readily be found.

The classification of collections must always be largely done by outsiders, the result of the specialization of study, and this is the course now almost universally pursued as a matter of necessity when large collections are being worked up. In accordance with this plan, the National Museum has now many experts at work on special parts of its collections, most of them connected with institutions in the United States, but some abroad. In this way the collections are being classified in the most accurate manner possible. When they are returned to Washington they need the same oversight as before, but their value has been enhanced by the fact that the specimens are no longer an uncertain quantity.

Other parts of the business of the Museum can not be carried on in the same way—the administration, the correspondence, the care of the collections and their installation for reference or exhibition, the watch service, the skilled help in the mechanical departments and in the preparation of specimens, and the labor required to keep the buildings clean, to do the moving and lifting and to assist in every branch of work—the workers in these directions can not be omitted from the staff, nor can their labor be performed by volunteer assistance.

Among other important needs of the Museum are means for maintaining its library on a better basis. The library is purely technical, having no other use than to provide for the working up of the collec-

tions, but the small annual appropriation given for this purpose is inadequate even to provide the current literature on the necessary subjects, though the freest use be made of the Library of Congress.

There is still another subject to which it is desirable that reference should be made—the extension of the hours of opening the buildings to the public so as to include Sundays and evenings. A change in this direction would be of inestimable value to the working people as well as to visitors to the capital, and the extra expense would be small.

The writer desires to call attention in this connection to the part now being taken by the Museum, in conjunction with the parent institution and its other bureaus, at the Louisiana Purchase Exposition. The Museum has had a long experience in matters of this kind, beginning with Philadelphia in 1876, and it is therefore to be expected that some improvement would be shown at each succeeding exposition. The display at the St. Louis Fair now in progress is more noteworthy than anything that has preceded it, both in the novelty of the objects exhibited and in the perfection and attractiveness of the installation, which have already elicited much praise.

SUMMARY OF THE OPERATIONS OF THE YEAR.

APPROPRIATIONS AND EXPENDITURES.

The total amount appropriated by Congress for the maintenance of the National Museum during the year ending June 30, 1904, was \$269,400, as against \$281,400 for the previous year. The decrease was due to the omission of the appropriation of \$7,000 for publishing the "Contributions from the U. S. National Herbarium," and to the fact that there was no necessity for renewing the item of \$5,000 appropriated the previous year for the preparation of preliminary plans for an additional Museum building. A special appropriation of \$250,000 was made as the first installment of the cost of this building.

The expenditures up to the close of the year from the appropriations for 1903-4 amounted to \$254,286.59, leaving a balance of \$15,113.41 to meet outstanding liabilities. During the same year \$22,479.50 were disbursed from the balance of \$23,408.14 of the appropriation for 1902-3, on hand July 1, 1903.

The following tables show the expenditures during the year 1903-04, under each item of appropriation:

Appropriations and expenditures for the fiscal year ending June 30, 1904.

Object.	Appropriations.	Expenditures.	Balance June 30, 1904.
Preservation of collections	\$180,000.00	\$173,860.01	\$6,139.99
Furniture and fixtures	22,500.00	19,068.02	3,431.98
Heating and lighting	18,000.00	17,184.42	815.58
Building repairs.....	15,000.00	12,531.68	2,468.32
Books, pamphlets, and periodicals.....	2,000.00	1,227.60	772.40
Purchase of specimens	10,000.00	8,517.73	1,482.27
Rent of workshops	4,400.00	4,399.92	.08
Postage.....	500.00	500.00
Printing and binding	17,000.00	16,997.21	2.79
Total	269,400.00	254,286.59	15,113.41

Disbursements from unexpended balances of appropriations for the fiscal year ending June 30, 1903.

Object.	Balance June 30, 1903.	Expendi- tures.	Balance June 30, 1904.
Preservation of collections.....	\$9,597.20	\$9,196.97	\$400.23
Furniture and fixtures.....	1,696.24	1,683.66	12.58
Heating and lighting.....	1,962.63	1,950.77	11.86
Building repairs.....	1,528.97	1,470.95	58.04
Books, pamphlets, etc.....	606.62	556.86	49.76
Purchase of specimens.....	4,000.69	3,650.51	350.18
Rent of workshops.....	.08		.08
Publishing contributions from National Herbarium.....	3,972.51	3,969.80	2.71
Plans for additional building.....	43.20		43.20
Total.....	23,408.14	22,479.50	928.64

Disbursements from the appropriation for 1901-02 were made as follows: Preservation of collections, \$100.52; books, pamphlets, and periodicals, \$165.89; purchase of specimens, \$20, leaving balances of \$58.64, \$32.38, and \$35.26, respectively. These balances, together with unexpended balances of the appropriation for furniture and fixtures, heating and lighting, building repairs, construction of galleries and rent of workshops, amounting to \$161.43, have reverted to the surplus fund of the Treasury.

The regular appropriations for the fiscal year ending June 30, 1905, are as follows:

Furniture and fixtures.....	\$22,500
Heating and lighting.....	18,000
Preservation of collections.....	180,000
Books, pamphlets, and periodicals.....	2,000
Building repairs.....	15,000
Rent of workshops.....	4,580
Postage.....	500
Printing and binding.....	25,000
Total.....	267,580

It will be observed that the item for printing and binding has been increased from \$17,000 to \$25,000, and that for rent of workshops from \$4,400 to \$4,580; while the appropriation of \$10,000 for the purchase of specimens has been omitted. With these exceptions the appropriations are the same as for the fiscal year 1904.

BUILDINGS.

The progress made toward the construction of an additional building for the National Museum has been described in a previous part of this report. The architects' plans had advanced so far that actual work upon the site was possible by June 15, 1904, on which date the excava-

tion of the ground was started. The building of the foundations will follow next, and should be completed before winter.

The very unsatisfactory condition of the roof of the present Museum building has been repeatedly referred to, and attention has also been called to the fact that any repairs which can now be made will be essentially temporary, since the supporting iron framework over the main halls lacks sufficient strength, and the slate covering can not be made entirely tight, whereby leaks occur where least expected, damaging the walls and at times even defacing the cases. The difficulty with the slate results largely from the contraction and expansion of the framework, due to changes in temperature, and heavy falls of snow have also caused parts of the iron structure to buckle.

The faulty character of the roof is undoubtedly due to the cheap manner in which it was originally constructed. The only remedy seems to be the substitution of a new roof, at least over the large halls, courts, and rotunda. Such an extensive repair is impracticable at this time, or until the new building is finished, as there is no place in which the collections could be stored. In the meantime, however, with the aid of experts, strong efforts are being made to render the roofs effective for a few years longer without the necessity for constant and unavailing attention. The work was started during last year and will be continued during the present one.

The area of tin roofing around the rotunda and over the eight ranges, which had greatly deteriorated, was thoroughly repaired, all imperfect tin being replaced and many seams resoldered. The rotunda roof was extended down over the old top gutters and new overhanging gutters, and down spouts were added. The slate roof over the east hall was, as an experiment, covered with a coating of Bermuda asphalt, burlap, and slag, intended to fill the interspaces between the slates and to present an unbroken surface for carrying off the water. Up to the time of writing, this expedient seems to have answered its purpose well, and should it continue to do so, the other slate roofs will be treated in the same way. The work about the roof has also included repairs to the skylights and to clear-story and rotunda windows, the insertion of ventilator frames in many of these, and the addition of skylights over two of the ranges, made necessary by the construction of galleries.

The dilapidated platform in front of the main entrance has been replaced with one of mosaic, consisting of large irregular marble fragments, and the steps and side coping have been reset.

The repairs in the interior of the Museum building have been chiefly of a minor character, though in the aggregate extensive. They have related mainly to the floors and to the walls and ceilings. The stenciling of the rotunda walls, which had been deferred until the roof of

this part of the building had been made more secure, was also in progress at the close of the year.

Many persistent leaks about the roof of the Smithsonian building, which previous repairs had not corrected, were found to be mainly due to the imperfect condition of the old tin gutters and down spouts, which were repaired during the year, copper being generally substituted where a renewal of material was necessary.

Reference has been made in earlier reports to the unsafe condition of the plastering in Archeological Hall, which began to show innumerable large cracks several years ago. At times small pieces of the plaster would fall, but in September, 1902, several such large masses gave way from the ceiling as to damage the cases underneath and emphasize the fact that the hall should be closed to the public. It was only during the past year that the damage could be repaired, and this necessitated a very considerable undertaking. The entire area of plaster was carefully tested and all loose parts were removed. The bare places were carefully pointed up, but the plaster cornices of the large central panels were replaced by others of galvanized iron, as being the cheaper method. Subsequently the room was painted in water color, the walls green, the ceiling in light tints of green to ivory. This extensive repair greatly disturbed the arrangement of the archeological collections, and a considerable period will be required for the renovation of the cases and the reinstallation of their contents.

The number of cases made during the year was 212, the number of specimen drawers 3,378, these having been chiefly required for the storage and arrangement of collections received from Government surveys. A large part of the work done under the head of "Furniture and fixtures," however, has consisted in the repair and renovation of cases; the making and inserting of fittings in the exhibition cases, including the shelving and their supports, and the tablets and other devices on which the specimens are mounted; the more extensive supports for the mounting of large exhibits, such as recent and fossil vertebrates and ethnological and archeological objects; the making of label-holders and the painting of large labels and signs for the cases and halls, and the construction of laboratory and office furniture.

Rearrangements in certain parts of the building have necessitated a few readjustments of the electric-light wiring, and there have been some minor extensions of this system into storerooms and laboratories not previously so provided. A small electric motor has also been installed in the geological workshops in the Emery building.

The high-pressure steam boilers placed in the Museum building in the summer of 1901 have continued to give satisfaction. From this source both of the large buildings, as well as the several smaller ones adjacent, are now heated. There has been the usual amount of repairs in connection with the heating apparatus, and it has been found neces-

sary to increase the number of radiators in some of the halls. Steam was first raised in the boilers on October 10, 1903, and, with some interruptions, continued to be maintained until May 3, 1904.

The fire apparatus was thoroughly overhauled during the year and its condition greatly improved. Some of the extinguishers of old pattern were replaced by others of more recent make and more effective character.

The amount of labor involved in maintaining the cleanliness of the buildings can scarcely be appreciated except by those who have the matter in charge. Twenty-two exhibition halls, mostly of large size and many containing galleries, and 89 laboratories, office rooms, toilet rooms, etc., require to be swept and dusted every morning, and, for the most part, before 9 o'clock. In this enumeration is not included the outside buildings. The number of regular laborers and cleaners amounts to only 22, and these same men are also fully occupied throughout the day on other matters. The number of exhibition cases of which the glass has to be kept clean and the woodwork free from dust is over 1,300.

ADDITIONS TO THE COLLECTIONS.

The National Museum, as the legally constituted depository for the science and art collections of the Government, has as its most constant and important sources of supply the national surveys and explorations, such as are conducted by the Geological Survey, the Bureau of Fisheries, the Biological Survey and Bureaus of Entomology and Plant Industry of the Department of Agriculture, and the Bureau of American Ethnology of the Smithsonian Institution. But these are not the only Government branches which conduct explorations. The Departments of War and of the Navy sent out many important expeditions during the early and middle part of the last century, and in connection with the recent acquisition of new territory they have again furnished the opportunity for securing valuable collections. Interesting objects are also sent home from time to time by members of the consular service of the State Department. A large part of the additions to the Museum are, however, received from individuals and private establishments, through donation and exchange, and the exhibition series derives many of its attractive features from loans or deposits. Field collecting by members of the Museum staff is almost prohibited by the scarcity of funds, and the acquisition of specimens by purchase is seriously restricted because of the small appropriation for that purpose.

Appendix H of this report contains a complete list of the accessions for the year, and the more noteworthy are described in the reports of the head curators.

The number of separate lots of material received during the year was 1,703, as against 1,643 in 1903, aggregating about 241,527 speci-

mens and thereby increasing the total number of specimens recorded in all of the departments to approximately 5,898,493. Of these, nearly 4,200,000 belong to the Department of Biology, about 975,000 to Anthropology, and about 730,000 to Geology.

The additions in anthropology during 1904 numbered 19,121 specimens, of which the more important were many carefully selected objects obtained by Dr. W. L. Abbott among the natives of the Malay Peninsula, northern Sumatra, and the Mentawai Archipelago. These, in conjunction with the previous generous contributions of Doctor Abbott from the same and other parts of southern Asia, constitute an exceedingly valuable and unique feature of the ethnological collections, and are now being used as the basis for a monographic report by Professor Mason and Doctor Hough. The same explorer also sent material bearing upon the physical characteristics of the Moros, and of apes and monkeys.

Dr. E. A. Mearns, U. S. Army, who has continued his scientific work while on duty in the Philippine Islands, presented an especially interesting collection made by him personally during a campaign against the Moros of Mindanao. It is rich in weapons, basketry, and fine brass work. Another Moro collection, received as a loan from Dr. R. B. Grubbs, also of the United States Army, consists of edged weapons, spears, armor, costumes, and other specimens of the handiwork of those people. Several native Philippine Island firearms were presented by the President of the United States.

Two totem poles and four house posts of large size and excellent workmanship, taken from a Tlinkit village, were obtained through Dr. George A. Dorsey, of the Field Columbian Museum, and a valuable lot of art objects from southwestern Alaska, consisting of carved clubs, embroidered blankets, figures, knives, etc., through Lieut. G. T. Emmons, U. S. Navy. Some important additions were made to the already large collections of Indian basketry, musical instruments, and folklore.

The large archeological collection which had belonged to the late Dr. Thomas Wilson, curator of prehistoric archeology, and which remained on deposit in the Museum during his lifetime, was purchased during the year. It consists of over 19,000 pieces, of which somewhat under two-thirds are of European origin, the remainder being from North America. The European material covers a wide range, beginning with the roughly shaped flint implements of the river gravels of England and France, and ending with the more highly elaborated objects of the polished stone and bronze ages. The American specimens are mainly from Virginia, Tennessee, and Arkansas.

The very valuable collection of archeological objects obtained in Porto Rico, Trinidad, Grenada, Barbados, Dominica, Cuba, and other

West Indian islands, during the winter of 1903, by Dr. J. Walter Fewkes, of the Bureau of American Ethnology, has been transferred to the keeping of the Museum. It contains a great variety of objects, some of the most noteworthy being especially fine examples of stone collars, tripointed stone zemes, earthenware bowls, carved stone faces, amulets, etc., all of which were secured in the course of a thoroughly systematic investigation of the island region between North and South America. The same Bureau also deposited a large series of stone and bone implements, pieces of pottery and woven work, and fragments of animal and human bones, collected by Mr. E. H. Jacobs in caverns, rock shelters, and village sites in the Ozark region of Missouri and Arkansas.

By bequest of the late Mr. I. H. Harris, of Waynesville, Ohio, there was obtained a large and varied collection of stone implements, with some shell beads and carvings and a few copper implements and ornaments, mainly from the Miami Valley of Ohio, and of typical earthenware vessels from mounds near Charlestown, Missouri. Mr. H. W. Seton-Karr, of England, presented an unusually interesting series of Egyptian stone implements, mainly of a type peculiar to the desert of the Fayum district, about 10 miles from the present limits of cultivation. From Mr. Felix F. Outes were secured several earthenware vessels taken from aboriginal graves in the province of Catamarca, Argentina.

A number of casts of Assyro-Babylonian, Egyptian, and Græco-Roman sculptures were obtained by purchase, and several others by donation from the Boston Museum of Fine Arts. In this collection is a stela engraved with the code of laws of the Babylonian King, Hammurabi. A series of heliogravures of Hellenistic portraits was presented by Mr. Theodor Graf, of Vienna, Austria; and knives and flint implements from the Temple of Osiris, Abydos, were received from the Egyptian Exploration Fund.

To the recently established Division of Physical Anthropology there were added more than 2,000 crania and skeletons by transfer from the Army Medical Museum, 14 crania of Wasco Indians from the Fred. Harvey collection, and other desirable specimens.

The additions to the historical collections included a valuable series of relics presented to the Smithsonian Institution by Gen. John Watts de Peyster, who has also made several large contributions of important historical works; the gilt dress sword presented to Gen. Jacob Brown by the State of New York, for services during the war of 1812, donated by his grandson, Mr. Nathan Brown Chase; the sword and epaulets worn by Gen. Alex. McComb, U. S. Army, deposited by Mrs. F. C. d'Hautville; a fine oil painting of George Catlin by W. H. Fisk, R. A., lent by his daughter, Mrs. Louise Catlin Kinney, and now hung in

the midst of the famous Catlin collection of Indian portraits, and numerous relics deposited by the National Society of the Daughters of the American Revolution.

The technological exhibits have been materially increased, among the accessions of special and to a great extent also of historical interest being a collection of rifles, muskets, and other firearms, 615 in number, showing the improvements of many years and containing several noteworthy pieces, deposited by the Bureau of Ordnance of the War Department; a collection of sporting rifles of the kinds used in this country prior to about 1850, accompanied by powderhorns, etc., lent by Mr. Herman Hollerith; a finely finished .44-caliber rifle made by Henry Deringer, of Philadelphia, and often used by David Crockett in target practice, lent by Col. Wright Rives; a rare form of flintlock pistol with folding bayonet, presented by Mr. Paul Beckwith; a collection of Morse telegraph keys, insulators, and other electrical apparatus in use about 1850, presented by the Pennsylvania Railroad Company; a telegraph switch invented in 1855 by E. W. Culgan, of Pittsburg, and generally employed down to 1865, donated by Mr. C. S. Greer, of Zanesville, Ohio, and a collection illustrating the development of the hand camera, contributed by the Eastman Kodak Company.

The accessions to the Department of Biology embraced 151,273 specimens, or nearly 41,000 more than the previous year. The collection of insects was increased by 58,953 specimens and the herbarium by 43,800, the remaining 48,520 specimens being divided among the other divisions.

The most extensive of the zoological additions in point of number of specimens consisted of about 40,000 insects collected in British Columbia by Dr. Harrison G. Dyar, assisted by Mr. R. P. Currie and Mr. A. N. Caudell. The Bureau of Fisheries transmitted large collections of land and fresh-water shells, reptiles, and crustaceans from Indiana and other States; a valuable series of marine mollusks, chiefly from Alaska; the types of recently described fishes from Japan, the Hawaiian Islands, etc.; fishes, crustaceans, and corals secured in connection with the Alaskan Salmon Fisheries Investigation of 1903, and 461 plants from Alaska and Oregon.

Especially worthy of mention are important zoological contributions from the Mentawai Archipelago, eastern Sumatra, and the various islands off that coast, obtained and presented by Dr. William L. Abbott. Thirty-one new forms of mammals, including one new genus and two new species of gibbon and several new species of birds, are represented in the collection from the archipelago, while that from eastern Sumatra also contains very valuable material, among which are numerous forms of birds and reptiles not previously represented in the Museum. Several valuable lots of mammals, birds, and mol-

lusks from Minnesota and the Philippine Islands were donated by Dr. E. A. Mearns, U. S. Army. A large number of mammals, birds, reptiles, and fishes from the Bahama Islands were secured as the result of the expedition sent out by the Baltimore Geographical Society, and of which Mr. B. A. Bean and Mr. J. H. Riley, of the Museum staff, were members. A valuable collection of birds' eggs and reptiles from Texas was transmitted by the Biological Survey of the Department of Agriculture. Other miscellaneous lots consisted of birds, land shells, and insects from the mountains of Venezuela, and of bats and birds from Barbuda and Antigua islands.

Noteworthy among the mammals received were a specimen of a remarkable species of bat, *Euderma maculatum*, presented by Mr. E. O. Wooton, of Mesilla Park, New Mexico; the first authentic specimen of a jaguar from the United States; a rare mouse-deer, *Tragulid stanleyanus*, obtained from M. Emile Deschamps; a collection of Old World mammals, from Mr. W. Schlüter; a collection of Japanese mammals, from Mr. T. Tsuchida; some rare forms of bats from the British Museum; a collection of Colombian mammals from the American Museum of Natural History, and a number of bats from Cuba, the gift of Capt. Wirt Robinson, U. S. Army.

An interesting series of birds of the Philippine Islands was secured by exchange with the museum in Manila. Mr. Homer Davenport, of East Orange, New Jersey, donated a number of young pheasants, and Mr. N. C. Brown, of Portland, Maine, a well-prepared series of birds from South Carolina. Four species of birds-of-paradise, new to the collection, were purchased. Dr. W. L. Ralph, of the Museum staff, and Gen. J. W. Barlow made generous contributions to the collection of birds' eggs, and series of rare Mexican eggs and of the eggs of the hoatzin were purchased.

A collection of Japanese reptiles was presented by Dr. Hugh M. Smith, Deputy Commissioner of Fisheries, and some rare reptiles of southern Florida by Mr. E. J. Brown, of Lemon City, Florida. The Division of Fishes has received a large number of Japanese species from the Leland Stanford Junior University, and a well-prepared series of specimens from Puget Sound, donated by Dr. J. C. Thompson, U. S. Navy. A specimen of the Japanese shark, *Mitsukurina owstoni*, 11 feet long, was purchased.

Hawaiian land shells and other invertebrates were received from Mr. H. W. Henshaw, of Hilo, Hawaii; Dr. R. E. C. Stearns, associate in zoology, now residing in Los Angeles, California, presented an extensive series of west American shells, and Mr. H. N. Lowe and Mrs. Blanche Trask several lots of Californian shells. Mr. E. J. Court, of Washington City, donated a representative series of the land shells of Maryland, Virginia, and the District of Columbia; Mr. Dwight Blaney, about 300 shells dredged near Mount Desert, Maine,

and Mr. C. A. Davis, many Bermuda shells, including several cotypes. Among the specimens obtained by purchase was a large collection of Japanese land and marine mollusks, and land shells from the Pacific coast and the islands off California. Rev. L. T. Chamberlain presented a small collection of rare river mussels.

The division of marine invertebrates received a collection of Mexican fresh-water crabs from the Biological Survey of the Department of Agriculture; crustaceans from Catalina and San Clemente islands, presented by Mr. H. N. Lowe; cotypes of a species of shrimp and of a stomatopod crustacean from the National Museum of Brazil; several beautiful specimens of four species of Japanese precious coral, from Dr. K. Kishinouye, and a collection of sea urchins, chiefly from the Gulf of Siam, from the Zoological Museum in Copenhagen.

The additions to the division of insects were numerous and valuable. Among those of greatest importance, next to the one already mentioned, may be noted two lots of over 6,000 specimens from the Department of Agriculture; an extensive collection of Coleoptera, Lepidoptera, etc., made by Mr. E. A. Schwarz in Cuba; several lots of Philippine insects from Rev. W. A. Stanton, of Manila, and one from Mr. R. C. McGregor, of the Philippine Museum; a miscellaneous collection from the grounds of the Washington Biologists' Field Club at Plummers Island; a valuable collection of Lepidoptera, from Mr. E. M. Anderson, of the Provincial Museum at Victoria, British Columbia, and a large collection from Colorado and New Mexico from Prof. T. D. A. Cockerell. From foreign sources the following collections were received as gifts: Indian Hymenoptera from Maj. C. G. Nurse; Indian spiders from Prof. N. Jambunathan; Venezuelan beetles from Mr. Edward A. Klages; Peruvian insects from Mr. M. J. Pusey; Norwegian Lepidoptera from Sir George Hampson, of the British Museum, and Japanese Hymenoptera from Prof. S. Matsumura, of Sapporo.

Of 555 accessions to the division of plants, the most valuable was the deposit made by Dr. E. L. Greene of his very valuable collection of about 60,000 sheets of plants and his entire botanical library, consisting of about 3,000 volumes and pamphlets. Next in importance was the gift by Mrs. T. A. Williams, of Memphis, Nebraska, of about 15,000 specimens from various parts of the United States. Mr. C. V. Piper, of Pullman, Washington, presented 658 plants from that State, and Mr. E. W. D. Holway, of Minneapolis, Minnesota, an interesting collection of Mexican plants. Important exchanges were made with the Philippine Bureau of Agriculture, the New York Botanical Garden, and the Royal Gardens at Kew, England. Sixty-eight botanical accessions were received from the Department of Agriculture, the most important comprising specimens obtained in Texas by Mr. Arthur Howell, in New Mexico and Oklahoma by Mr. Fred G. Plummer, and

in New Mexico by Mr. Vernon Bailey. Plants from Australia, Mexico, Nicaragua, Costa Rica, and from several of the States were acquired by purchase.

There were 690 accessions to the Department of Geology, the most extensive coming, as usual, from the U. S. Geological Survey. Prominent among them were about 40,000 invertebrate fossils, mostly named, and including a large amount of material on which Dr. William H. Dall and his assistants have been working for several years. The Survey also transmitted a series of 1,932 tertiary insects, assembled by Dr. Samuel H. Scudder, but in large part still unworked, together with many hundred original drawings, a great part of which are unpublished. The acquisition of these specimens is believed to make the Museum collection of fossil insects the largest in the United States, if not in the world.

To the division of physical and chemical geology there were added a collection of platiniferous rocks from the Demidoff mines of Russia, presented by Mr. Juarez Sponville; a series of rocks illustrating the occurrence and association of diamonds at the De Beers Consolidated Mines, Kimberly, South Africa, donated by Mr. Gardner F. Williams, manager of the mines; a beautiful nugget of native silver, from Mr. A. L. Pellegrin, of Nogales, Arizona; a specimen of diamond-bearing gravel from Minas Geraes, Brazil, to which a small diamond was attached, from Dr. O. A. Derby, of São Paulo, and a fine mass of amethystine quartz, weighing about 400 pounds, taken from the extraordinary geode discovered a few years ago in Rio Grande do Sul, Brazil.

The division of minerals was enriched by a large collection illustrating the occurrence and association of zeolites and siliceous minerals in the trap rocks of New Jersey, obtained through the assistance of Dr. W. S. Disbrow, of Newark, New Jersey, who also transmitted one of the first known crystals of American spodumene obtained in the early part of the nineteenth century. Other important gifts were a specimen of pink spodumene used as gem material, from Mr. F. M. Sickler; a series of artificial stones used in the gem trade, from Mr. Oscar T. Jonassohn; a cut turquoise from North Carolina, from Mr. Eugene A. Smith, and some fine specimens of smoky quartz from Montana, from Messrs. A. P. Pohndorf and J. R. Wharton.

For the meteorite collection specimens illustrating the Trenzano fall, the Franceville, Missouri, iron, the Mukerop, South Africa, iron, and the Finmarken pallasite were acquired.

Of invertebrate fossils, the accession next in importance to those transferred by the U. S. Geological Survey was the last portion of the E. O. Ulrich collection, containing about 15,000 specimens, including 500 lots of original types or of specimens that have been used for illustration. A series of Lower Silurian fossils, selected by Mr. Charles

Schuchert while in Russia, was presented by the Imperial Academy of Sciences of St. Petersburg, through the cooperation of Dr. Frederick von Schmidt, and a valuable donation consisting of nearly 600 specimens of Hamilton brachiopods was received from the Yale University Museum. By exchange with the Zoological Museum of the University of Copenhagen more than a hundred specimens of identified European mesozoic and tertiary bryozoans were obtained.

To the collection of fossil vertebrates were added fine specimens of pterodactyl, ichthyosaurus, and teleosaurus; some fishes from the lithographic limestone, and a fossil skull of *Bison alleni* from a placer deposit of frozen gravel, 25 feet below the surface. The object last mentioned is especially noteworthy as being the first specimen of the species discovered in Alaska. It was secured through the efforts of Gen. Timothy E. Wilcox, U. S. A. (retired), and was presented to the Museum by Mr. Donald McLean, of Rampart City, Alaska.

One hundred and thirty-two fossil plants, collected from the higher beds of the anthracite series, were donated by Mr. C. W. Unger, of Pottsville, Pennsylvania, and 190 specimens of fossil plants from Illinois, Ohio, and other localities, forming part of the Carl Rominger collection, were also obtained.

The approximate number of specimens received by the Museum during the year and the total number in the possession of the Museum at the close of the year are recorded in the following table:

Department.	Number of specimens received in 1903-04	Total.
Anthropology:		
Ethnology	2,392	480,456
Historic archeology.....	115	2,338
Historic religions		2,769
Prehistoric archeology.....	12,474	387,455
Technology	826	32,019
Graphic arts.....		8,896
Medicine.....	1	6,890
History.....	892	43,910
Physical anthropology.....	2,374	5,141
Ceramics.....	2	4,612
Photography.....	28	1,828
Music	17	1,642
Biology:		
Mammals	2,210	84,645
Birds.....	2,591	136,226
Birds' eggs.....	1,085	65,130
Reptiles and batrachians	2,308	46,733
Fishes.....	4,000	161,501
Mollusks	33,618	962,655
Insects.....	58,953	1,582,637
Marine invertebrates.....	2,465	521,191
Helminthology.....	157	5,894

Department.	Number of specimens received in 1903-4.	Total
Biology—Continued.		
Comparative anatomy	86	16,031
Plants.....	43,800	608,205
Forestry.....		749
Geology:		
Physical and chemical.....	1,717	80,276
Mineralogy	1,020	36,898
Invertebrate paleontology	68,000	
Vertebrate paleontology	35	611,733
Paleobotany	361	
Total.....	241,527	5,898,493

The number of entries made in the catalogue books of the various departments was 51,904.

The number of accessions received annually since 1881 is as follows:

Year.	Accession Nos. (inclusive).	Number of accessions during the year.
1881	9890-11000	1,111
1882	11001-12500	1,500
1883	12501-13900	1,400
1884	13901-15550	1,650
1885, January to June.....	15551-16208	658
1886	16209-17704	1,496
1887	17705-19350	1,646
1888	19351-20831	1,481
1889	20832-22178	1,347
1890	22179-23340	1,162
1891	23341-24527	1,187
1892	24528-25884	1,357
1893	25885-27150	1,266
1894	27151-28311	1,161
1895	28312-29534	1,228
1896	29535-30833	1,299
1897	30834-32300	1,467
1898	32301-33741	1,441
1899	33742-35238	1,497
1900	35239-36705	1,467
1901	36706-38175	1,470
1902	38176-39584	1,408
1903	39585-41227	1,643
1904	41228-42930	1,703

GENERAL WORK UPON THE COLLECTIONS.

The primary work of the Museum staff is the care and preservation of the collections. With the large accessions constantly received, this is also the most important and the most onerous of all the duties

devolving upon the employees. So diverse and so full of detail is this branch of administration that it would be quite impossible to discuss the subject adequately in this connection, but some idea of its extent and complexities may be obtained from the reports of the head curators.

The packages as received have to be unpacked and their contents assorted in accordance with the departments or divisions to which the specimens belong. A complete record of each accession is made and retained in the office of registration. In the various divisions to which they are then transferred the specimens are labeled, numbered, and catalogued serially, after which they are arranged in cases or in storage, their safety and convenience of reference being presumably secured by these several acts. Unless they come identified they may be named at once, but the work of classification goes on slowly for the most part, and years sometimes elapse before a collection can be thoroughly identified and described, as noted under the head of "Researches."

As a part of general museum work may be included the duties of the preparators in preparing, poisoning, and mounting specimens; in extracting fossils from their matrix, in cutting rock specimens to a convenient size, and making thin sections to show their structure; in modeling and arranging lay-figure groups, and in many other directions.

In the Department of Anthropology, where the objects average larger than in other departments, there has long been greater need for the use of outside storage, but during the year considerable inside storage has been gained by the building of racks and shelves back of exhibition cases. This has afforded some relief, and permitted the overhauling and improvement of the reserve collection. Through cooperation with the Bureau of American Ethnology, the work of photographing, singly or in groups, the members of Indian delegations, which have lately been numerous, has been so increased as to greatly enlarge the fine portrait series of American natives started several years ago.

The Department of Anthropology has two preparators' laboratories, one for the making of models of objects of various classes, mostly ethnologic, for filling out the Museum series of exhibits and for exchange purposes, the other concerned with the making of replicas of Museum specimens in plaster. During the year 45 models were completed in the former, while in the latter an exceptionally large amount of work was accomplished, the regular preparators being assisted by two other skilled workmen especially employed in connection with the Louisiana Purchase Exposition. Molds of 120 of the most important archeological objects in the National Museum were made, and from these several sets of casts were obtained, one, properly colored, being installed with the Museum's exhibit at

St. Louis, the others held for exchange. These replicas are executed with the utmost care, and one set has been photographed along with the originals for distribution to the museums with which exchanges are arranged. The same force of preparators also built models of a number of the ruined buildings of Mexico and Yucatan, five of these being completed and exhibited at St. Louis. In the same laboratory there were also made during the year twenty masks, besides other castings of Indians belonging to delegations which visited Washington during the season, and from these castings a number of busts have been prepared, both for the Museum and for exchange.

In the several divisions of the Department of Biology not only has the material obtained during the year received the attention required to insure its safety, but much has also been done toward improving the condition of older parts of the collections. The staff is, however, altogether too small to handle these large collections satisfactorily, and the limited storage and laboratory quarters prevent that arrangement of specimens which would make them readily accessible for reference or study. The latter difficulty is soon to be overcome, and it is hoped that the former also may. In the division of mammals 6,760 skulls were cleaned, a necessary preliminary to the study of the specimens of this group. A large number of skins were made over, and some additional cases for the arrangement of the reserve series were provided. The entire collection of mammals is now in as good condition as the means will allow, but very much remains to be done. No special improvement is to be noted in the condition of the bird collection, as the space allotted to it has long been overcrowded. The identification, labeling, and cataloguing of specimens has continued. In a general way the same may be said of the other biological divisions, but it should be recognized that in all the preservation of specimens has been as carefully looked after as the circumstances permit, and practically everywhere their condition is good. The mollusks, to which much attention has been given, are mostly labeled and accessible. The collection of insects, one of the largest and most valuable in the world, was never so well preserved and arranged as it is at present, rapid progress having been made in the transfer of specimens to the new hermetically-closing drawers. Much of the work with this group is being performed by volunteers, members of the entomological section of the Department of Agriculture, whose assistance is to the advantage of both bureaus. The condition of the varied collections in the division of marine invertebrates was greatly improved, a large amount of cataloguing having been done, and many sets of duplicates put up for distribution. The helminthological collections, considered to be the finest in the country for study purposes, has been maintained in good condition.

In the division of plants much activity has prevailed. Eighty-six insect-proof cases were installed, increasing the entire number of this kind to 341, all of which have been found to answer their purpose perfectly. These additions and changes in furniture, which afford secure storage for a very large proportion of the collection, have necessitated an extended rearrangement of specimens, which is still in progress. The number of specimens mounted during the year was 29,700; of sheets stamped and recorded, 21,000.

The collections generally in the Department of Geology are reported to be in a fairly satisfactory condition, and not less than 100,000 specimens have been put away in final Museum shape, but large accessions have rendered it impossible to keep the numbering, complete labeling, and cataloguing of material up to date. The working out of fossil vertebrates from the rocks in which they are embedded has received continued attention, but the progress in this direction has been necessarily slow, and it is evident that the staff of preparators must be increased if prompt results are desired. The entire lithological study series has been overhauled and catalogued in card form, and upward of 300 thin rock sections have been made. Card catalogues of the entire mineralogical and of other geological collections are in course of preparation, and an annotated list of the types belonging to the Department of Geology, several thousand in number, is also under way.

The preparation of 500 duplicate sets of fossil invertebrates, in which not less than 60,000 specimens will be used for distribution to educational establishments in the United States, was nearing completion at the close of the year.

THE EXHIBITION COLLECTIONS.

In the Department of Anthropology a few cases have been added in the northwest court gallery for an exhibit of Indian baskets, this subject having gained special prominence through the publication of Prof. O. T. Mason's recent paper on "Aboriginal American Basketry." The series of lamps, illustrating the development of means of illumination, has also been extended. A beginning has been made toward illustrating the ethnology of the Philippines, in which has been utilized the collection recently obtained by Dr. E. A. Mearns, U. S. Army, on the island of Mindanao, and the ethnology of Malaysia through the important contributions of Dr. W. L. Abbott. The collection of musical instruments, now one of the most important in the world, has been partly reinstalled. A typical series of muskets, rifles, and carbines, mostly deposited by the War Department, and three table cases of revolvers and pistols of various makes and dates, have been arranged in the east hall.

A new mahogany case has been provided for the original Francis life-saving car, an object of deep interest to all visitors, and in another suitable case has been installed the cylinder of the Hornblower engine,

the first steam engine set up on the Western Continent, having been imported from England in 1753 for pumping water from the copper mines of Col. John Schuyler, Belleville, New Jersey. A very useful addition to the time-keeping series consists of two clocks from the Chelsea Clock Company, of Boston, which have been connected with the service of the U. S. Naval Observatory. Interesting historical relics deposited by the Society of the Daughters of the American Revolution have been added to the cases assigned to that society.

Several groups of ethnological lay figures returned from recent expositions have been installed wherever a place could be found for them, some having been arranged in the lecture hall.

With a view to unifying the work of installation in the Department of Biology, this entire subject was placed in charge of Mr. F. A. Lucas, the curator of comparative anatomy. But little was done toward preparing new exhibits in this department, however, owing to the arrangements in progress for the St. Louis Exposition. Some of the more valuable birds were remounted, and four groups of game birds were installed in two new special cases at the entrance to the Smithsonian building. Additional casts of fishes for the series in the south-east range of the Museum building are being prepared, and a beginning has been made toward the installation of a series of specimens illustrating the mollusk fauna of the District of Columbia, one such case having already been completed. The installation of the systematic series of insects has been nearly finished.

A series of illustrations of corals and coral reefs from Saville Kent's work on the Great Barrier Coral Reef of Australia has been framed and placed with the exhibition of corals in the west hall of the Smithsonian building. Many specimens in the different exhibition collections have been renewed, and there is a generally improved appearance in nearly all the exhibits of this Department.

To the display collection in the Department of Geology have been added skulls of *Diplodocus*, *Trachodon*, and of two genera of *Ceratopsia*, one being the type of *Triceratops calicornis* and the other representing a new genus of the dinosaurs. The mounted skeleton of a specimen of *Syornis casuarinus* from New Zealand has also been installed.

A noteworthy addition to the exhibits in geology is a geological section on a scale of 2 miles to the inch across the United States from the coast of North Carolina to a point near San Francisco. This model has been the work of two years. The specimens in all other divisions of this department have been more or less overhauled during the year, especially in the lithological and mineralogical series, and improvements have been made in the exhibit of invertebrate fossils, but lack of room prevents any noteworthy additions to or expansion of these collections.

RESEARCHES.

Of the material which reaches the Museum a part has previously been studied and a part not. The act founding the establishment provides that the collections shall be arranged and classified, and therefore in selecting the care-takers, persons skilled in the various branches represented are chosen. It is recognized that their first obligation is to look out for the safety of the specimens, and as the technical staff under pay is relatively small, attention to this duty consumes the greater part of their time. About one-half of this staff consists of volunteers employed in other bureaus of the Government on whom the same demands can not be made, though some of these are equally attentive to the routine work. The scientific results accomplished each year by the paid employees of the Museum is, nevertheless, relatively extensive, comprising mainly the identification, labeling, and descriptions of specimens, and their classified arrangement in cases and drawers so as to make them convenient for reference.

For a large part of the scientific work, however, assistance must be obtained from experts connected with other establishments throughout the United States and in Europe. Entire groups of specimens may be assigned to individuals for study, or advantage taken of researches in progress elsewhere to have material of greater or less extent identified, and visiting scientific men are often willing to spend some time upon such parts of the collections as come within their knowledge.

It is impossible within the limits of this report to account for all the work of this character carried on during the past year, but the number of persons concerned, not including those on the Museum staff, was in the neighborhood of 200, and over 20,000 specimens were sent away for study. This cooperation is far greatest in connection with the Department of Biology, whose varied collections have long attracted a widespread interest and have led to many extensive and important investigations.

In the Department of Anthropology considerable progress was made by the Head Curator and his assistants in studying the ethnological collections sent to the Museum during the past ten years by Dr. William L. Abbott from the southern part of Asia and its adjacent islands. Mr. William H. Holmes has continued his work of monographing the mines and quarries of the American aborigines. Dr. A. F. Hrdlicka conducted extensive researches in different branches of physical anthropology. Further investigations in the subjects of primitive heating, illumination, cooking devices, etc., have been carried on by Dr. Walter Hough. Mr. Paul Beckwith has begun the preparation of a descriptive catalogue of the Grant relics in the National Museum and a catalogue of ancient coins. The collection of swords has also been catalogued.

Mr. George C. Maynard has given much time toward unraveling the history of the old locomotive Stourbridge Lion, and has also been engaged on a history of firearms.

The collections of the Department of Anthropology have been examined by many persons, some of whom have made important studies for official and other purposes. Among these investigators may be mentioned the Statistician of the United States Bureau of Immigration; Prof. C. S. Sherrington, of University College, Liverpool, England; Miss Voorhees, of Indiana, who examined the prehistoric European collections; Miss Marie Ruef Hofer, of Teachers' College, Columbia University, New York; Mr. John P. S. Neligh, Columbus, Georgia, who is interested in the study of Indian textile art; Mrs. J. Wells Champney, who is gathering information regarding the Abenaki tribe; Judge James Wickersham, of Eagle City, Alaska, who is investigating the industries and social customs of the Indians of that region; Mr. Ole Solberg, of Christiania, Norway, who is making studies in preparation for an investigation of the social customs of the Hopi Indians; Lieut. W. E. W. McKinlay, U. S. Army, detailed by the Division of Military Information to obtain data to assist in compiling grammars and dictionaries of some of the Philippine languages; Mr. Stewart Culin, Curator of Ethnology in the Brooklyn Institute, to whom specimens were also lent for the purpose of reporting upon Indian games for the Bureau of American Ethnology; Dr. H. M. Whelpley, of St. Louis, Missouri, who studied material for a paper on catlinite pipes, and Mr. E. A. Forward, of the Victoria and Albert Museum, London, who is interested in the history of the Stourbridge Lion already referred to.

In connection with the Department of Biology research work was extensively carried on both by members of the Museum staff and by others. Dr. F. W. True, the Head Curator, completed his important monograph on the whalebone whales of the western North Atlantic, which will appear in Volume xxxiii of the Smithsonian Contributions to Knowledge, and he also published four shorter papers on cetaceans. Mr. Gerrit S. Miller, jr., assistant curator of mammals, has continued his studies on Dr. William L. Abbott's large collection of mammals from the Malay Archipelago, having finished one paper on the subject during the year, descriptive of 70 new species, including 1 new genus and 6 new species of monkeys, 2 new species of mouse deer, and 6 new species of flying lemurs. He also prepared several smaller papers and continued work on a new classification of the bats. Dr. Marens W. Lyon, jr., aid in mammals, completed a revision of the hares and their allies, based upon a detailed study of their anatomical and other characters.

Among those who had access to the mammal collections or to whom specimens were sent for examination were Dr. J. A. Allen, of the

American Museum of Natural History; Mr. J. A. G. Rehn, of the Philadelphia Academy of Sciences; Dr. D. G. Elliot, of the Field Columbian Museum; Mr. Outram Bangs, of the Museum of Comparative Zoology; Prof. Burt G. Wilder, of Cornell University, and the members of the Biological Survey of the U. S. Department of Agriculture.

Mr. Robert Ridgway, curator of birds, continued with little interruption the preparation of his comprehensive monograph on the Birds of North and Middle America, completing the manuscript for Volume III, and a large part of that for Volume IV, beside two small papers on new genera and species of birds. In making the measurements of specimens for his monograph he was assisted by Mr. J. H. Riley, aid, who also published three notes on birds from the Bahama Islands. Dr. Charles W. Richmond, assistant curator of birds, finished the identification of the majority of the birds collected by Dr. W. L. Abbott on the islands off the western coast of Sumatra, prepared a list of the species obtained by Doctor Abbott and Mr. C. B. Kloss on Anambas and Tambelans islands, China Sea, and at Tringana, Malay Archipelago, and was the author of several notes on zoological nomenclature.

The collection of birds was consulted by Dr. R. M. Strong and Prof. C. O. Whitman, of the University of Chicago; Mr. Elliot Blackwelder, of Chicago; Mr. Jonathan Dwight, jr., of New York; Mr. Outram Bangs; Mr. Frank Chapman, of the American Museum of Natural History; the Biological Survey, and the Committee on Nomenclature of the American Ornithologists' Union.

Studies on the reptile fauna of eastern Asia were carried on by Dr. Leonhard Stejneger, curator of reptiles, who also worked up the collection of reptiles brought from Japan by Dr. Hugh M. Smith, Deputy Commissioner of Fisheries, and from the Bahamas by Mr. J. H. Riley, as a member of the expedition of the Baltimore Geographical Society. Doctor Stejneger likewise prepared a general account of the herpetology of the Bahama Islands and several small papers, and, in conjunction with Mr. Vernon Bailey, identified the Museum collection of reptiles from Texas. His report on the proceedings of the Fifth International Zoological Congress at Berlin, during August, 1901, at which he represented the National Museum, was received during the year. Facilities were afforded Prof. W. P. Hay, of Howard University, for studying the diamond back-terrapin for the Bureau of Fisheries.

Mr. Barton A. Bean, assistant curator of fishes, reported on the fishes collected on the expedition of the Baltimore Geographical Society to the Bahama Islands, comprising 165 species, identified the specimens obtained by the Senff Expedition to the Nile in 1899, and prepared notes on material from North Carolina and the Barbados. The collections in this division were also consulted by Dr. Theodore Gill,

an associate of the Museum; Dr. David S. Jordan and Dr. C. H. Gilbert, of Leland Stanford Junior University; Dr. C. H. Eigenmann, of Indiana University, and the scientific staff of the U. S. Bureau of Fisheries.

Among the results accomplished by Dr. William H. Dall, honorary curator of mollusks, may be noted reviews of the nomenclature of the Pupacea, and of the history and classification of the Tritons and Trog-shells, a summary of the recent and fossil land shells of the Bahama Islands, and a number of other papers, some prepared in conjunction with Mr. Paul Bartsch, aid in mollusks. He also began upon a general review of the land and fresh-water mollusks of Alaska and adjacent regions. Mr. Bartsch continued work on the family Pyramidellidae, and published descriptions of new species of Scissurella and Sonorella, a note on *Limax*, and an account of the herons living in the District of Columbia. The Pacific coast Pectinidae were studied by Mr. Ralph Arnold, of the United States Geological Survey, and the recent and fossil Pleurotomidae by Col. Thomas L. Casey, U. S. Army. The collection of Achatinellas was sent to Prof. Alpheus Hyatt, of the Boston Society of Natural History, and after his death was turned over to Dr. A. G. Mayer, of the Brooklyn Institute, who is to complete his investigation of this group.

The staff of the division of insects, including its honorary members, has to its credit a total of 114 papers published during the year, but not nearly all of these related to Museum material or were issued by the Museum. The authors were Dr. L. O. Howard, honorary curator; Dr. W. H. Ashmead, assistant curator; Dr. H. G. Dyar, Mr. D. W. Coquillett, and Mr. Nathan Banks, custodians, Mr. R. P. Currie, aid, and Mr. A. N. Caudell. Doctor Ashmead continued his work on the classification of the Hymenoptera and has published his generic revision of the entire order except the ants, or superfamily Formicoidea, which will probably soon be completed. He has also worked up all the Japanese and Philippine Hymenoptera now in the Museum, and papers on this subject will shortly appear in the Proceedings of the Museum. His most important paper of the year was a classification of the Chalcid flies. Among the thirty-one papers prepared by Doctor Dyar, the most noteworthy was one of 160 pages on the Lepidoptera of the Kootenai district of British Columbia. Mr. Coquillett's researches related mainly to the diptera, and those of Mr. Banks to the spiders.

Studies were made as follows by visitors to the Museum: On the Lepidoptera, by Prof. J. B. Smith, of Rutgers College, Dr. J. W. Holland, of the Carnegie Museum, Mr. W. D. Kearfott, of New York, and Mr. William Schaus, of London; on the Arachnidae by Mr. J. H. Emerton, of Boston, and Prof. R. V. Chamberlain, of Cornell University; on the Coleoptera by Mr. C. Schaeffer, of Brooklyn, Dr. Henry Skinner, of Philadelphia, and others. Several physicians have

examined the collection of mosquito larvæ, and the Carnegie Institution has had the use of the specimens of *Polistes*, a genus of social or paper-making wasps. The number of loans of specimens was large, the principal being of Coleoptera to Dr. F. E. Blaisdell, San Francisco, California; of Orthoptera to Mr. J. A. G. Rehn, of the Philadelphia Academy of Sciences; of Rhynehota to Prof. P. R. Uhler, of Baltimore; and of Diptera to Prof. James S. Hine, of the Ohio State University.

Dr. James E. Benedict, assistant curator of marine invertebrates, continued his studies on the anomouran crustaceans, two papers, a revision of the genus *Lepidopa*, and descriptions of new albuneids, being published during the year. Miss M. J. Rathbun, assistant curator, completed the monograph of the fresh-water crabs (*Potamonidæ*) on which she has been engaged for some time, and which is being printed in the Archives of the Paris Museum of Natural History. She also continued work on the crabs of Hawaii, preparing a paper on this subject for the U. S. Bureau of Fisheries, and one on the decapod crustaceans of the northwest coast of North America for the Harriman Alaska expedition. Dr. Harriet Richardson, collaborator in marine invertebrates, also finished a report, published in the same series, on the isopod crustaceans of the northwest coast, besides an account of the isopods obtained on the Alaskan expedition of the Bureau of Fisheries in 1903. She has since begun upon a manual of the North American Isopoda. Mr. T. Wayland Vaughan, custodian of madreporarian corals, has made notable progress in the study of that group as represented in the Museum, having paid special attention to the collections from the Hawaiian Islands. Dr. C. W. Stiles, custodian of the helminthological collections, completed his investigation of the hook-worm disease in the Southern States, and began upon a study of "spotted fever" in Montana.

A number of specialists connected with other institutions are engaged in working up several groups of marine invertebrates as follows: Prof. Charles L. Edwards, of Trinity College, Hartford, Connecticut, the pedate holothurians; Prof. Hubert Lyman Clark, of Olivet College, Michigan, the apodal holothurians; Prof. C. C. Nutting, of the University of Iowa, the hydroids, of which reports on the Plumularidæ and Sertularidæ have been published; Dr. Charles B. Wilson, of the State Normal School, Westfield, Massachusetts, the parasitic copepods; Dr. K. W. Genthe, of Trinity College, Hartford, Connecticut, the free swimming copepods; Dr. R. W. Sharpe, of Wilmette, Illinois, the Ostracoda; Dr. W. T. Calman, of the British Museum of Natural History, the cumacea; Dr. H. Coutière, École Supérieure de Pharmacie, Paris, the Alpheidæ. Besides material supplied to the above, specimens from the collections made during the investigations of 1903 by the Bureau of Fisheries into the Alaskan salmon fishery and elsewhere have been sent out as follows: The parasitic copepods

to Dr. Charles B. Wilson; the Pycnogonida to Dr. Leon J. Cole, of Cambridge, Massachusetts; the Schizopoda to Dr. A. E. Ortmann, of the Carnegie Museum; the Amphipoda to Dr. J. S. Holmes, of the University of Michigan; and the Cirripedia to Prof. H. A. Pilsbury, of the Philadelphia Academy of Sciences. A large number of Bering Sea and arctic starfishes have been supplied to Prof. A. E. Verrill, of Yale University, for examination in connection with a report on the starfishes of the Harriman Alaska Expedition; several lots of actinians to Dr. J. E. Duerden, of the University of Michigan, who is preparing a report on the Hawaiian species for the Bureau of Fisheries; and specimens of echini and isopods to Dr. T. H. Mortensen and Dr. H. J. Nansen, respectively, of the Zoological Museum of Copenhagen, Denmark.

Mr. F. V. Coville, curator of the division of plants, has published several papers which are cited in Appendix III. Dr. J. N. Rose, assistant curator, has continued his studies on Mexican and Central American plants. He has also, in conjunction with Dr. N. L. Britton, director of the New York Botanical Garden, conducted investigations relative to the North American Crassulaceae and has begun to work up the caeti of North America, a research which is expected to occupy four or five years. A preliminary paper on the Crassulaceae and one by Doctor Rose on a new species of *Begonia* have appeared during the year. Mr. W. R. Maxon, aid, has given special attention to the specimens of ferns received from the Philippine Islands, and Mr. E. S. Steele, to the genus *Laciniaria*. Dr. E. L. Greene, appointed associate in botany near the close of the year, has engaged in various lines of systematic work. The *Carices* have been the subject of study by Mr. Theodor Holm, of Brookland, District of Columbia, and the specimens of the genus *Plantago* by Prof. E. L. Morris, of the Washington High School. The collections have been frequently consulted by several members of the botanical staff of the Department of Agriculture.

There were 43 loans of plants, aggregating 2,873 specimens, the principal ones being as follows: A large collection from the Philippine Islands to Dr. Janet Perkins, Berlin Botanical Gardens; a collection of Mexican plants to Dr. B. L. Robinson, of the Gray Herbarium, Harvard University; specimens of pines to Mr. George R. Shaw, of the Arnold Arboretum, Jamaica Plains, Massachusetts; and specimens of orchids to Mr. Oakes Ames, of the Ames Botanical Laboratory, North Easton, Massachusetts.

The Head Curator of Geology, Doctor Merrill, has supervised the work of an economic survey relating to the building and ornamental stones of North Carolina, and as an expert special agent of the last census has completed a report on stone quarries. A collection of rocks brought from the Nugsuaks Peninsula, Greenland, and the occurrence

of unakite near Milams Gap, Virginia, have been described by Mr. William C. Phalen, while many rare minerals and a meteorite from Persimmon Creek, North Carolina, have been the subject of study by Mr. Wirt Tassin. Researches on the Rochester shale bryozoa have been continued by Mr. R. S. Bassler, and two papers on Paleozoic bryozoa have been completed by Mr. E. O. Ulrich in conjunction with Mr. Bassler. An account of all the Middle Devonian crinoids in the Museum collections has been prepared by Miss Elvira Wood, of the U. S. Geological Survey.

Material from the collection of vertebrate paleontology has been utilized by Prof. H. F. Osborn, of the American Museum of Natural History, in his work on the Titanotherium; by Mr. J. B. Hatcher, of the Carnegie Museum, in his study of Triceratops, and by Mr. F. A. Lucas, of the National Museum, in connection with his researches on Stegosaurus. Besides the investigations carried on by the paleobotanists of the U. S. Geological Survey, some studies have been made on the fossil plants by Dr. Arthur Hollick, of the New York Botanical Garden; the Rev. H. Herzer, of Marietta, Ohio; and Mr. E. W. Berry, of Passaic, New Jersey. Dr. Thomas L. Watkins, of Denison University, Ohio, has made use of the collections in applied geology.

Specimens in various branches of geology and paleontology have been sent to the following persons to assist them in their investigations: Doctor Handlirsch, of the K. K. Naturhistorisches Hofmuseum, Vienna; Mr. John M. Clarke, of the New York State Museum; Prof. W. B. Clark, of Johns Hopkins University; Prof. C. H. Hitchcock, of Dartmouth College; Prof. Edwin G. Kirk, of Columbia University; Dr. George F. Kunz, of New York City; Mr. P. E. Raymond, of New Haven, Connecticut; Mr. Thomas L. Watson, of the Virginia Polytechnic Institute; Mr. S. F. Emmons, of the U. S. Geological Survey, and Mr. Frank Springer and Dr. H. N. Stokes, of the U. S. Bureau of Standards.

EXPLORATIONS.

But few explorations were carried on last year by members of the Museum staff. Dr. Walter Hough spent some time in Arizona and New Mexico, where he made a large collection of ethnological and archeological objects. Botanical field work was carried on in Mexico by Dr. J. N. Rose, and in Jamaica by Mr. W. R. Maxon. The expedition sent to the Bahamas during the summer of 1903 by the Baltimore Geographical Society and Johns Hopkins University, under the direction of Dr. G. B. Shattuck, was accompanied by Mr. Barton A. Bean and Mr. J. H. Riley, who took an active part in the work of collecting and observation. Dr. Harrison G. Dyar and Mr. Rolla P.

Currie were members of a party sent to British Columbia by the Carnegie Museum, of Pittsburg, and returned with large collections of insects. During a trip to Europe Mr. Charles Schuchert secured some valuable fossils, and, while seeking material for the Louisiana Purchase Exposition, Dr. George P. Merrill obtained for the Museum many geological specimens on the Pacific coast and in Canada and western Mexico.

Having been designated by the State Department and the Smithsonian Institution as delegates to the International Congress of Zoology to be held at Berne, Switzerland, during the summer of 1904, Dr. Leonhard Stejneger and Mr. Gerrit S. Miller, jr., left Washington in May, with the object also of making collections of mammals and reptiles in Europe, and of identifying unclassified material by comparison with specimens in certain European museums. A number of short collecting trips were also made by other members of the staff.

There have been many explorations by private individuals and by other Government bureaus through which the Museum has profited. A few of these may be noted. Dr. William L. Abbott has continued his field work in Sumatra, the Mentawai Archipelago, and along the coast and on the islands east of Sumatra, and, as usual, has contributed his specimens to the National Museum. In connection with the investigations of the Bureau of Fisheries, Dr. Hugh M. Smith has visited Japan, and Dr. B. W. Evermann, Prof. Charles H. Gilbert, and Prof. O. P. Jenkins have made extensive explorations in Hawaii. The natural history bureaus of the Department of Agriculture, and especially the Biological Survey, have made important collections in different parts of the United States. Field work under the Bureau of American Ethnology, productive of collections, has been carried on by Dr. J. Walter Fewkes in the West Indies, and by Mr. James Mooney, Mr. Gerard Fowke, Mrs. M. C. Stevenson, and Mr. J. R. Swanton in the West. Reference should also be made to the important work conducted in the Philippine Islands by Dr. E. A. Mearns, U. S. Army, one of the most frequent contributors to the Museum collections.

Collecting outfits were supplied to the following persons outside of the Museum staff: Mr. Vinal N. Edwards, Woods Hole, Massachusetts; Mr. L. H. Aymé, New York City; Dr. J. Walter Fewkes, Bureau of American Ethnology; Dr. Frank Baker, National Zoological Park; Mr. O. M. Meyneke, Belfield, Virginia; Dr. S. P. Bartlett, Quincy, Illinois; Mr. R. S. Johnson, Bellevue, Iowa; Mr. Andrew Allison, Iuka, Mississippi; Mr. E. R. Hodson, Jasper, Texas; Mr. H. D. Burrell, Beaumont, Texas; Mr. Ward Nedwah, Lejolla, California; Dr. J. C. Thompson, U. S. Navy, Bremerton, Washington; Mr. Richard

Willis, Olga, Washington; Mr. Alfred G. Maddren, Seattle, Washington; Dr. E. A. Mearns, Mindanao, Philippine Islands; Dr. J. R. Harris, U. S. Army, Philippine Islands; Mr. Eliot Blackwelder, Tientsin, China; Mr. William Brockway, Piedras Negras, Coahuila, Mexico; Mr. E. A. Goldman, Tehuantepec City, Mexico, and the Rev. Samuel P. Verner, Upper Congo Regions, Africa.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

In the distribution of duplicate material to educational establishments throughout the country a total of 20,010 specimens was used. These contributions, chiefly to schools and colleges, were comprised in 148 separate lots or sets of objects accurately labeled and adapted for teaching purposes. They consisted of 55 sets of marine invertebrates, 35 of fishes, 10 of geological material illustrating rock weathering and soil formation, 4 of casts of prehistoric stone implements, and 44 of a special and miscellaneous character.

In making exchanges, for which an equivalent is obtained for incorporation in the national collections, 216 lots, aggregating 9,005 specimens, were disposed of. The number of specimens lent to specialists for study amounted to 20,535, comprised in 115 separate sendings.

Among the more important exchanges received from establishments abroad were the following: From the British Museum of Natural History, London, England, a number of alcoholic bats; from the Royal Botanic Gardens, Kew, England, a large collection of plants from various localities; from the Museum of Natural History, Paris, France, specimens of wasps of the family Vespidae; from the Royal Botanical Museum, Berlin, Germany, 716 plants; from the Royal Zoological and Anthropological-Ethnographical Museum, Dresden, Germany, 3 skins of Sturnidae; from the Zoological Museum, University of Copenhagen, Denmark, about 100 species of European mesozoic and tertiary bryozoans, and specimens of living echinoderms; from the First Zoological Institute of the Imperial University, Vienna, Austria, fishes and reptiles collected in North Africa, Asia Minor, and other localities; from the K. K. Naturhistorisches Hofmuseum, Vienna, a collection of mesozoic and tertiary bryozoans and ostracods from eighteen European localities; from the Kongelige Frederiks Universitet, Christiania, Norway, specimens of reptiles and batrachians from Madagascar, South Africa, Australia, and Formosa; from the Museum of the Imperial University, Moscow, Russia, 5 casts of *Mastodon borsoni*; from the Royal Botanic Garden, Sibpur, Calcutta, India, 143 plants from India; from Albany Museum, Grahamstown, South Africa, 2 elands; from Hope Gardens, near Kingston, Jamaica, specimens of ferns (*Asplenium*).

The material obtained in exchange from individuals abroad was as follows: From L. Chevallier, Precigné, Sarthe, France, 342 Algerian plants; from Dr. Aristides Brezina, Vienna, Austria, a fragment of the Trenzano meteorite, weighing 164 grams; from Mr. Julius Bohm, Vienna, Austria, a piece of meteoric stony iron from Finnmarken, weighing 595 grams; from Mr. Cecil Seymour Browne, Anacapri, Italy, a collection of Lepidoptera; from Mr. A. Berger, La Mortola, Ventimiglia, Italy, 31 plants; from Rev. R. P. Longin Navas, S. J., Colegio del Salvador, Zaragoza, Spain, a collection of Neuropteroid insects from Spain; from Maj. Charles G. Nurse, Nineteenth Bombay Infantry, Quetta, Baluchistan, India, 130 species of Hymenoptera; from Prof. N. S. Jambunathan, Native College, Madura, India, 52 specimens of spiders from India.

VISITORS.

The Museum building was visited during the year by 220,778 persons, and the Smithsonian building by 143,988 persons, a daily average of 705 for the former and 460 for the latter. The decrease as compared with the previous year is accounted for by the meeting of the Grand Army of the Republic in October, 1902, during which month alone the attendance amounted to 131,448.

The following tables show, respectively, the attendance during each month of the past year, and for each year beginning with 1881, when the Museum building was first opened to the public.

Number of visitors during the fiscal year 1903-04.

Year and month.	Museum building.	Smithsonian building.
1903.		
July.....	19,160	11,359
August.....	25,792	17,181
September.....	24,408	14,635
October.....	17,453	12,709
November.....	13,783	11,252
December.....	14,634	11,675
1901.		
January.....	12,621	9,674
February.....	15,202	8,964
March.....	20,375	10,922
April.....	27,888	16,451
May.....	16,376	10,497
June.....	13,136	8,669
Total.....	220,778	143,988
Approximate daily average.....	705	460

Number of visitors to the Museum and Smithsonian buildings since the opening of the former in 1881.

Year.	Museum building.	Smithsonian building.
1881	150,000	100,000
1882	167,455	152,744
1883	202,188	104,823
1884 (half year)	97,661	45,565
1884-85 ^a	205,026	105,993
1885-86	174,225	88,960
1886-87	216,562	98,552
1887-88	249,665	102,863
1888-89 ^a	374,843	149,618
1889-90	274,324	120,894
1890-91	286,426	111,669
1891-92	269,825	114,817
1892-93 ^a	319,930	174,188
1893-94	195,748	103,910
1894-95	201,741	105,658
1895-96	180,505	103,650
1896-97 ^a	229,606	115,709
1897-98	177,254	99,273
1898-99	192,471	116,912
1899-1900	225,440	133,117
1900-1901 ^a	216,556	151,563
1901-02	173,888	144,107
1902-03	315,307	181,174
1903-04	220,778	143,988
Total	5,317,427	2,869,777

^a Years of Presidential inaugurations.

MEETINGS AND LECTURES.

During the first half of the year the lecture hall was utilized for the preparation and packing of a part of the exhibits for the Louisiana Purchase Exposition. After January 1, 1904, however, it was frequently used for its legitimate purposes.

A series of Saturday afternoon lectures, under the auspices of the Biological Society of Washington, was given as follows:

February 20, Exploration of the Deep Sea, by Mr. Charles H. Townsend; February 27, The Living Forest, by Mr. Gifford Pinchot; March 5, A Naturalist's Winter in Mexico, by Mr. E. W. Nelson; March 12, The Evolution of the Horse, by Prof. Henry F. Osborn; March 19, The Coast Region of Alaska, by Dr. C. Hart Merriam.

The attendance at these lectures varied from 898 to 1,213 persons—far more than the seating capacity of the hall.

The closing exercises of the U. S. Naval Medical School were held here on March 21, and those of the U. S. Army Medical School on April 5.

The American Oriental Society occupied the hall for its annual meeting on April 7 and 8, and the National Academy of Sciences from April 19 to 21, the latter also being given the use of the rooms of the Assistant Secretary for its business sessions.

A lecture entitled "Botanical tramps with a camera," illustrated by stereopticon views, was delivered on June 13, by Dr. C. E. Waters, of Johns Hopkins University, under the auspices of the Wild Flower Preservation Society of America.

CORRESPONDENCE.

The Museum, ever since its establishment, has been looked upon by the general public as the most convenient agency for obtaining information on all subjects within its scope, and scientific men and scientific institutions throughout the country turn to it for aid and advice. All requests of this character, made in evident good faith, have prompt attention, but the work involved, steadily increasing year by year, has become especially heavy and exacting, and consumes much of the time of both the scientific and the clerical staffs. The requests average several daily, are rarely confined to a single subject, and often relate to collections of greater or less size which are sent for identification. They also have reference, in many instances, to the building up and maintenance of collections, the construction of cases, the installation, labeling, and cataloguing of specimens, and other topics connected with museum administration. The replies made to such inquiries during the past year fill about 6,000 pages in the letter-press books, this being entirely apart from the ordinary official correspondence of the Museum, which alone is very extensive.

The correspondence office also has charge of the distribution of publications, the number of which sent out during the year amounted to about 18,000 volumes and 39,000 separate papers.

PUBLICATIONS.

A greater number of publications than usual was issued during the year, owing partly to delays in completing volumes belonging to the previous year. They comprised the annual reports of the Museum for 1901 and 1902; volumes 25, 26, and 27 of the Proceedings; and Part II of Special Bulletin No. 4, entitled "American Hydroids," being a monograph of the family Sertulariidae by Prof. Charles C. Nutting, of the University of Iowa. The last named is a quarto volume of 325 pages and 41 plates, the result of a painstaking and important investigation of collections belonging to this Museum.

The annual report for 1901 was received from the Printing Office on October 6, 1903; that for 1902 on March 12, 1904. The former

contains, besides the administrative report, the following five papers, constituting the general appendix to the volume: "An account of the exhibit of the National Museum at the Pan-American Exposition in Buffalo in 1901," by F. W. True, William H. Holmes, and George P. Merrill; "Flint Implements and Fossil Remains from a Sulphur Spring at Afton, Indian Territory," by Mr. William H. Holmes; "Classification and Arrangement of the Exhibits of an Anthropological Museum," by Mr. William H. Holmes; "Archeological Field Work in Northeastern Arizona," by Dr. Walter Hough; "Narrative of a Visit to Indian Tribes of the Purus River, Brazil," by Prof. J. B. Steere. The appendix to the report for 1902 consists of a paper on "Aboriginal American Basketry," by Prof. O. T. Mason; one on the "Herpetology of Porto Rico," by Dr. Leonhard Stejneger; and one on "Wokas, a Primitive Food of the Klamath Indians," by Mr. F. V. Coville.

Of the volumes of Proceedings, No. 25 was issued on July 24, 1903; No. 26 on August 27, 1903; and No. 27 on June 30, 1904. The total number of papers comprised in the three volumes is 107, numbered consecutively from 1275 to 1381, inclusive. They are descriptive, either wholly or in part, of collections belonging to the Museum. The subjects treated of and the number of papers relating to each are as follows: Mammals, 5; birds, 10; reptiles, 2; fishes, 39; insects, 19; marine invertebrates, including mollusks, 21; plants, 4; fossils, 2; meteorites, 2; miscellaneous, 3. The authors are partly members of the Museum staff and partly collaborators connected with other establishments.

The Proceedings papers are first issued separately, in a limited edition, as soon as each can be printed, in order to insure their early distribution. The papers in the annual reports are also published in separate form, but not until the volume is completed. Except for this practice, which has long been followed, it would be impossible to supply the requests of specialists, the completed volumes being mostly distributed to libraries and educational institutions.

In Appendix III will be found the titles of all publications for the year by members of the staff and collaborators of the Museum. The number of papers cited is 315 and the number of authors 89. The papers are grouped by subjects in the following table:

Subject.	Papers by Museum officers.	Papers by other investi- gators.	Total.
Archeology.....	8	1	9
Administration.....	10		10
Bibliography.....	2		2
Biography.....	5		5
Biology.....		1	1
Birds.....	13	16	29
Botany.....	10		10
Ethnology.....	4	4	8
Exploration.....	2		2
Fishes.....	14	15	29
Fossils.....	10	6	16
Geology.....	4	2	6
Insects.....	100	21	121
Mammals.....	21	1	22
Marine invertebrates.....	7	7	14
Minerals.....	1		1
Mollusks.....	16		16
Parasites.....	1		1
Physical anthropology.....	3		3
Reptiles and batrachians.....	5		5
Technology.....	1		1
Miscellaneous.....	4		4
Total.....	241	71	315

Twelve papers on Museum specimens by assistants of the Museum were, by permission of the Secretary of the Smithsonian Institution, printed in other publications than those of the Institution, as follows:

CASANOWICZ, I. M.

Oriental and Classical Archeology in the U. S. National Museum: Description of the contents, installation, and arrangement of the Division of Historic Archeology and Religions. Records of the Past. Dec. 12, 1903.

MILLER, GERRIT S., Jr.

A New Nataline Bat from the Bahamas. Proc. Biol. Soc. Wash., Sept. 30, 1903.

A New Squirrel from Lower Siam. Proc. Biol. Soc. Wash., Nov. 12, 1903.

A New Hare from Greece. Proc. Biol. Soc. Wash., Nov. 12, 1903.

A Second Specimen of *Euderma maculatum*. Proc. Biol. Soc. Wash., Nov. 30, 1903.

Descriptions of Two New Mole Rats. Proc. Biol. Soc. Wash., Nov. 30, 1903.

RIDGWAY, ROBERT.

Descriptions of New Genera, Species, and Subspecies of American Birds. Proc. Biol. Soc. Wash., Sept. 30, 1903.

Diagnosis of Nine New Forms of American Birds. Proc. Biol. Soc. Wash., Nov. 30, 1903.

RILEY, J. H.

A New Form of Nighthawk from the Bahama Islands. The Auk, October, 1903.

ROSE, J. N.

A New Begonia from Mexico. Rep. Mo. Bot. Garden, Jan. 28, 1904.

STEJNEGER, LEONHARD.

A New Hognose Snake from Florida. Proc. Biol. Soc. Wash. Sept. 12, 1903.

A New Lizard from the Rio Grande Valley, Texas. Proc. Biol. Soc. Wash., Dec. 28, 1903.

The Editorial Office also has charge of other printing than that of the publications, including labels, blanks, stationery, cards, etc., and likewise of the binding of books, which together constitute a very considerable item.

LIBRARY.

The National Museum library has received as a gift from Prof. Otis Tufton Mason, Head Curator of Anthropology, about 2,000 pamphlets, separates and bound volumes, mostly on anthropological subjects, for which a special bookplate has been provided. This is the second generous contribution of the same character from Professor Mason. Dr. Edward L. Greene, recently appointed associate in botany, has deposited his entire botanical library, in connection with his botanical collection, for a period of ten years, the only condition stipulated being that while the books shall be accessible on the same terms as other books in the Museum library they are not to be lent outside the District of Columbia without the consent of Doctor Greene.

The Museum library now contains 20,548 bound volumes and 35,960 unbound papers. The additions during the year consisted of 1,504 books, 3,187 pamphlets, and 700 parts of volumes. There were catalogued 938 books, 2,130 pamphlets, and 11,520 parts of periodicals. The number of cards added to the author's catalogue was 4,090, exclusive of 2,855 cards for books and pamphlets recatalogued. Seventy broken sets of periodicals have been completed or partly so. The number of books, pamphlets, and periodicals borrowed from the general library was 26,456, including 5,679 assigned to the sectional libraries.

There has been no change in the sectional libraries, which are as follows:

Administration.	Fishes.	Oriental archeology.
Administrative assistant.	Geology.	Paleobotany.
Anthropology.	History.	Parasites.
Biology.	Insects.	Photography.
Birds.	Mammals.	Prehistoric anthropology.
Botany.	Marine invertebrates.	Reptiles.
Children's room.	Materia medica.	Stratigraphic paleontology.
Comparative anatomy.	Mesozoic fossils.	Superintendent.
Editor.	Mineralogy.	Taxidermy.
Ethnology.	Mollusks.	Technology.

PHOTOGRAPHY.

The report of the photographer of the Museum, Mr. T. W. Smillie, shows that 1,359 negatives, 3,501 silver prints, 373 platinum prints, 140 velox prints, 79 lantern slides, 2,346 blueprints, and two enlarge-

ments were made during the year. Under the direction of the Secretary, Mr. Smillie also devoted considerable time to recording the flight of birds by means of telephoto cameras stationed at elevated points in the Zoological Park. He likewise rendered assistance to the Civil Service Commission in the examination of applicants for positions in the Government service requiring a practical knowledge of photography.

COOPERATION OF THE EXECUTIVE DEPARTMENTS OF THE GOVERNMENT.

The Museum has received, as usual, important assistance from several of the Departments and bureaus of the Government. Its relations to the U. S. Geological Survey, the Bureau of Fisheries, the Biological Survey and Divisions of Entomology and Botany of the Department of Agriculture, and the Bureau of American Ethnology, especially in regard to the transfer of collections, have been referred to elsewhere. Officers of the Army and Navy stationed in the new possessions have made valuable contributions, and representatives abroad of the Department of State have been instrumental in securing interesting material. The Departments of War and of the Navy have rendered generous help toward building up the collections of history and of the implements of war, having presented and deposited during the year many objects of exceeding interest and value. The Army Medical Museum has also cooperated most liberally in promoting the welfare of the recently established Division of Physical Anthropology. Special acknowledgments are due to the Quartermasters' Department of the Army for many courtesies in connection with the transportation of specimens and outfits to and from distant points, and to the Treasury Department for the prompt admission and shipment to Washington of specimens received from abroad at several of the custom-houses.

EXPOSITIONS.

Louisiana Purchase Exposition.—The exhibits of the National Museum, together with those of the Smithsonian Institution and of the other Government branches under its direction, were practically all in place in the Government building at St. Louis on the opening day, April 30, 1904. Under the direction of Dr. F. W. True, who represents the Institution and the Museum on the Government board, no pains have been spared to make this display both interesting and noteworthy.

The anthropological exhibits of both the Museum and the Bureau of American Ethnology were assembled under the supervision of Mr. W. H. Holmes, whose principal aim in the former connection has been to illustrate the higher culture of the native American peoples as shown in their arts and industries, the specimens selected being as far as possible the most typical of their kind. Among them are examples of

native architecture, sculpture, ceramics, fabrics, metal work, and of the development in water craft, musical instruments, pipes, ceremonial objects, etc. The most striking feature of the exhibit is a series of five models of ancient Aztec ruins in Mexico; namely, the "Temple of the Cross" at Palenque, Chiapas; the "Temple of the Columns" at Mitla, Oaxaca; the temple of Xochicalco at Morales; the "Castle" at Chichen-Itza, Yucatan; and the "House of the Governor" at Uxmal, Yucatan. The collection also contains a number of plaster casts of some of the most famous religious sculptures of the Assyrians, Egyptians, Greeks, and Romans.

In biology the most conspicuous objects are the cast and skeleton of a sulphur-bottom whale, about 80 feet long, taken off the coast of Newfoundland. Many of the larger mammals of the world are represented by especially fine examples of the art of taxidermy, among them being the hippopotamus, rhinoceros, lion, tiger, giraffe, moose, caribou, axis-deer, sambar-stag, antelope, wild sheep, chamois, etc., and many birds of popular interest, such as game birds, birds of paradise, pheasants, the vulture, pelican, etc. A specimen of the curious hoactzin of Guiana, South America, with its nest, eggs, and young, occupies a case by itself, and the great egg of the *Æpyornis*, a now extinct bird of Madagascar, is represented. Deep-sea fishes and some of the large species of reptiles are shown in the form of models, and there is also a fine display of butterflies, including many large and brilliant forms from tropical America and the Old World. An especially interesting feature is a reproduction of the "Children's Room" in the Smithsonian building at Washington.

The most striking specimens in the Department of Geology are restorations of the large extinct Stegosaur and Triceratops, alongside of which have been placed the skeletons of a mastodon and an elephant, by way of contrast. Dr. George P. Merrill, in charge of this Department, has also brought together a very interesting collection of meteorites, including casts of some of the largest ones known, such as that discovered by Lieutenant Peary in Greenland, and the Baeubarito meteorite found in the State of Sinaloa, Mexico. The mineral exhibit embraces some of the most beautiful varieties from all parts of the world, and is supplemented by two other collections, showing the various forms of silica and of carbonate of calcium. Among the fossil invertebrates are many interesting forms, and among the vertebrates are fishes, reptiles, a pterodactyl, and a complete skeleton of a moa, a large extinct flightless bird.

The official report upon the exposition by Doctor True will appear in the next annual report.

Lewis and Clark Exposition.—On April 13, 1904, the President of the United States approved the bill (S. 276) providing for the celebra-

tion of the one-hundredth anniversary of the exploration of the Oregon country by Captains Meriwether Lewis and William Clark. The bill authorizes a Government exhibit in this connection, and appropriates \$200,000 for its preparation, as well as \$250,000 for a building.

INTERNATIONAL CONGRESSES.

At the Ninth International Geological Congress, held at Vienna, Austria, from August 20 to 27, 1903, the Smithsonian Institution and National Museum were represented by Mr. Charles Schuchert, assistant curator of stratigraphic paleontology. The total attendance at this congress from the United States was 22, papers being read by three of the number, namely, Prof. C. R. Van Hise, of the University of Wisconsin; Mr. Bailey Willis, of the U. S. Geological Survey, and Dr. E. O. Hovey, of the American Museum of Natural History.

Delegates appointed before the end of the fiscal year to congresses to be held during the summer of 1904 were as follows: Dr. Leonard Stejneger, curator of reptiles and batrachians, Mr. Gerrit S. Miller, jr., assistant curator of mammals, and Dr. C. W. Stiles, custodian of the helminthological collections, to the Sixth International Congress of Zoology, at Berne, Switzerland, during August; and Mr. William H. Holmes, Chief of the Bureau of American Ethnology, to the Congress of Americanists at Stuttgart, during the same month. These same persons were also designated by the Department of State as official representatives of the United States.

Dr. Paul Haupt, honorary curator of historic archeology, was appointed, on April 30, 1904, to represent the Smithsonian Institution and National Museum at the Fourteenth International Congress of Orientalists, to be held in Algiers in April, 1905.

ORGANIZATION AND STAFF.

The classification of the scientific departments of the Museum remains as indicated in the report for last year, with the following exceptions: The title of the "division of religions" has been changed to "division of historic religions," with Dr. Cyrus Adler as honorary curator, and the former "section of historic religious ceremonies" has been abolished. That of the "division of history and biography" has been changed to "division of history," with Mr. A. Howard Clark as honorary curator and Mr. Paul Beekwith as assistant curator, the "section of American history" being omitted. The "section of electricity" has been abolished, Mr. George C. Maynard, who was in charge of that section, being the assistant curator of the division of technology.

Mr. William H. Holmes, formerly Head Curator of the Department of Anthropology, but now Chief of the Bureau of American Ethnology, has accepted the position of honorary curator of the division of prehistoric archeology, and Mr. J. D. McGuire, also of the Bureau of Ethnology, that of collaborator in the same division. Other appointments have been made as follows: Dr. Edward L. Greene, formerly professor of botany in the Catholic University of America, associate in botany; Mr. Paul Brockett, custodian of the division of graphic arts, and Mr. J. S. Goldsmith as superintendent of construction and labor, being a part of the service performed by the late Dr. J. E. Watkins. The appointment of Mr. Walter L. Hahn, as aid in the division of mammals, in 1902-03, inadvertently failed to receive mention in the last report.

A number of members of the scientific staff have severed their connection with the Museum, all at their own volition, to accept positions elsewhere at higher compensation. Among these were Mr. F. A. Lucas, curator of comparative anatomy, who has become curator-in-chief of the Museum of the Brooklyn Institute of Arts and Sciences; Mr. Louis Pollard, assistant curator in the division of plants; Mr. Rolla P. Currie, aid in the division of insects; and Mr. W. C. Phalen, aid, Messrs. R. S. Bassler and Alvan S. Stewart, preparators, in the Department of Geology.

Dr. Marcus W. Lyon, jr., of the division of mammals, who on November 1, 1902, was temporarily transferred to the service of the Smithsonian Institution and its bureaus in connection with the exhibit at the Louisiana Purchase Exposition as chief special agent, is still employed in that capacity.

NECROLOGY.

It is with deep regret that I have to record the death, on August 11, 1903, of Dr. J. Elfreth Watkins, whose official connection with the National Museum extended almost continuously over a period of nearly twenty years.

Dr. Watkins was born in Ben Lomond, Virginia, on May 17, 1852, his parents being Dr. Francis B. Watkins and Mary Elfreth. He was a descendant of Thomas Watkins, who, during the War of the Revolution, aided in organizing a troop of cavalry, while on his mother's side he was connected with Timothy Matlack, known as the "Fighting Quaker," a member of the Committee on Safety in Pennsylvania, and later a delegate to the Continental Congress from 1780 to 1787; and also with John Elfreth, who served in the Philadelphia City Troops in 1814.

After receiving an academic education at Tremont Seminary in

Morristown, Pennsylvania, young Watkins entered Lafayette College, from which he was graduated in 1871, with the degrees of C. E. and M. S. He then became connected, as mining engineer, with the Delaware and Hudson Canal Company, remaining one year, after which he entered the employ of the Pennsylvania Railroad Company as assistant engineer of construction. In 1873 he was disabled for field work by an accident, which resulted in the loss of his right leg. Upon his recovery he was assigned to the Amboy division of the Pennsylvania road. In the same year he was appointed chief clerk of the Camden and Atlantic Railroad, and a year later was reassigned to the Amboy division of the Pennsylvania Railroad, which position he held until 1886, two years after the beginning of his connection with the National Museum.

His first connection with the Museum was in 1884, when he was appointed "honorary curator of transportation." In 1886 he accepted a salaried position in the service of the Museum, to which he devoted all of his time until 1892, when he returned to the Pennsylvania Railroad Company and at once began the preparation of its exhibits for the World's Columbian Exposition in Chicago. Later he was placed in charge of the Department of Industrial Arts in the Field Columbian Museum, a direct outgrowth of the exposition. He remained there only one year, however, coming back to Washington in 1895 to fill the positions of curator of mechanical technology and superintendent of buildings in the National Museum, which he held until his death.

In 1891 he became very active in promoting the interests of the Patent Centennial Celebration held in Washington, and served as secretary of the executive committee.

Doctor Watkins was a member of several patriotic and other societies, including the American Society of Civil Engineers, the Society of Colonial Wars, the Society of the Sons of the Revolution, the Society of the War of 1812, and the Philosophical Society of Washington. In recognition of his standing among authorities on the history of the mechanical arts the Stevens Institute of Technology conferred upon him the degree of "doctor of engineering" in 1900.

Among the best known of his published writings are "Beginnings of Engineering" (1888); "The Development of the Rail and Track" (1889); "The Log of the Savannah" (1890); and "Transportation and Lifting of Heavy Bodies by the Ancients" (1898). His most extensive literary undertaking was the compilation of the history of the Pennsylvania Railroad from 1845 to 1896 (as yet unpublished), which also constitutes a very complete exposition of the general subject of railroad transportation in the United States during the half century.

Mr. Henry Marshall, taxidermist of the division of birds, during a period of nearly thirty years, died on May 26, 1904. He was born at

Oldham, Yorkshire County, England, in 1823 and in 1846 emigrated to America, soon thereafter purchasing a farm at Laurel, Maryland, which remained his home until the time of his death. He first engaged in business as a machinist, in partnership with a brother; but having when a young man learned taxidermy, he cultivated it as a recreation and partly as a matter of business, many colleges and other public institutions being supplied with specimens of his handiwork. In 1875 he was appointed to the position of taxidermist in the National Museum, where he continued in service until stricken with paralysis on July 16, 1901.

REPORTS OF HEAD CURATORS.

REPORT ON THE DEPARTMENT OF ANTHROPOLOGY.....By OTIS T. MASON.
REPORT ON THE DEPARTMENT OF BIOLOGY.....By FREDERICK W. TRUE.
REPORT ON THE DEPARTMENT OF GEOLOGYBy GEORGE P. MERRILL.

REPORT ON THE DEPARTMENT OF ANTHROPOLOGY
FOR THE YEAR 1903-04.

By OTIS T. MASON,
Acting Head Curator.

The work of the year has been devoted to the care of specimens in hand and of new materials daily arriving, to finding safe and accessible storage for collections not on exhibition; but, more than all, to making the department useful "for the increase and diffusion of knowledge."

Although the specimens received number over 5,000 less than in the previous year, when 24,319 were catalogued, they were on the whole as valuable, for the reason that besides those acquired without definite aim very many were secured for the purpose of perfecting old series or of making new ones to illustrate special points in anthropology. Some of the more valuable accessions are here enumerated:

GIFTS.

The W. L. Abbott collection, numbering 1,377 specimens from the Malay Peninsula, northern Sumatra, and the adjacent archipelago, adds materially to the resources of the Museum from this almost virgin area. These, with his gatherings in former years from the East Indies and other parts of Asia, form a most valuable addition to the Museum, and constitute the basis of a monograph on the ethnology of the regions explored by Doctor Abbott, now in course of preparation by Professor Mason and Doctor Hough. The collection illustrates the arts of the people of this region, who are especially skillful in the use of plant and vegetable materials, of which the most serviceable is rattan. Besides the ethnological, there are also specimens in physical anthropology, consisting of Moro skulls and monkey and ape brains.

Of unusual interest and value is the collection of 278 ancient Egyptian chipped stone specimens presented by Mr. H. W. Seton-Karr, which includes crescent-shaped implements, leaf-shaped and semilunar blades, spearheads, saws, scrapers, a fine collection of arrow points with extremely long barbes, knives with handles in one piece, and a number of specialized forms for cutting. Mr. Seton-Karr writes:

They are all from the Fayum, and are of a type mainly peculiar to that district. They were found in the desert about 10 miles from present cultivation, the ancient prehistoric lake having a much higher level than the dynastic or, of course, the present one.

There was also secured a large and representative series of archeological specimens, part of a bequest to the U. S. National Museum, in 1898, by the late I. H. Harris, of Waynesville, Ohio. The archeological portion was placed in the division of prehistoric archeology, and consists mainly of stone implements, including hammer stones, pestles, mortars, grooved axes, polished hatchets, discoidal stones, polished stone amulets, beads, pipes, leaf-shaped blades, arrow points and spearheads, scrapers, drills, shell beads, carvings, and a limited number of copper implements and ornaments. A catalogue was furnished, giving exact data for a portion of the collection. A number of other specimens had the locality marked upon them, and from this source as well as from letters and memoranda, it is shown that the material was obtained mainly from a few spots in the Miami Valley, Ohio. There is, in addition, a typical series of earthenware vessels from mounds near Charleston, Missouri. The whole embraces 8,533 numbers, although several lots of small flakes and fragments are counted as one number.

The ethnological and historical collections from the Philippine Islands presented to the Museum by Dr. E. A. Mearns, U. S. Army, are especially interesting and valuable from the fact that they were secured personally in the campaign against the Moros of Mindanao by an experienced observer. They comprise many specimens not heretofore in the National Museum, and are rich in weapons, basketry, and the fine brasswork for which the Moros are so famous.

An important addition to the historical division is the gilt dress sword presented to Gen. Jacob Brown by the State of New York for services in the war of 1812. This sword was received as a gift from his grandson, Nathan Brown Chase.

Other interesting specimens received during the year are a serenato saxophone, with accessories and instructions, presented by William Tonk & Bro., of New York, which fills a niche in the collection of musical instruments; a rare flintlock pistol with folding bayonet, made by Miles, London, and presented by Mr. Paul E. Beckwith.

A collection of Morse keys, insulators, and other important historical apparatus used on telegraph lines in the United States about 1860, was presented by the Pennsylvania Railroad Company through C. E. McKim, superintendent of telegraphs at Pittsburg; a telegraph switch, invented about 1855 by E. W. Culgan, of Pittsburg, Pennsylvania, and used generally throughout the United States up to 1865, presented by Mr. C. S. Greer, of Zanesville, Ohio; a series of specimens illustrating the development of the hand camera, donated by the Eastman Kodak Company, of Rochester, New York; a collection of native firearms from the Philippine Islands, presented by the President of the United States; and a series of heliogravures of Hellenistic por-

traits, useful in connection with the study of the physiognomy of the nations, was given by Theodor Graf, of Vienna, Austria.

PURCHASES.

During the year the Museum acquired by purchase the large archeological collection from various European localities (11,519 specimens), and a smaller collection (7,815 specimens) of American objects, belonging to the estate of the late Dr. Thomas Wilson. The European collection covers a wide range, beginning with the roughly shaped flint implements from the river gravels of England and France, and ending with the more highly elaborated objects of the polished stone age and the bronze age. The more important groups from Europe include objects of stone, bone, pottery, and bronze from the Swiss lakes; a fine series of chipped and polished stone implements from Scandinavia; and pottery and bronzes from Italy. Of the American series, the most notable are the large collection of stone implements, etc., from Fairfax County, Virginia (the Hunter collection); two sets of cache implements, one including 18 leaf-shaped blades of quartzite from Carter County, Tennessee; and 14 large spearheads of quartzite from Pike County, Arkansas.

A collection of 4 house posts and 2 totem poles was purchased from Dr. George A. Dorsey for exhibition at St. Louis. The house posts, hewn from yellow cedar, are very interesting specimens, and were secured personally by Doctor Dorsey from a Tlinkit village. Each pair is 10 feet in height, $2\frac{1}{2}$ feet in breadth, and nearly 4 inches in thickness. The posts are carved, and two of them are of especial interest owing to the fact that they are painted. The totem poles rank among the best examples of wood carving from the Northwest Coast.

Owing to the widespread popular interest in basketry, a number of collections were offered to the Museum, and of these 54 fine examples of Nez Percé, Chemehuevi, and Maidu baskets were purchased from the Fred Harvey collection, rendering more complete the large and valuable series now displayed in the north-west gallery.

A collection of 48 examples of aboriginal art from southeastern Alaska, consisting of carved clubs, knives, figures, dishes, chests, and embroidered blankets, was purchased from Lieut. G. T. Emmons, U. S. Navy, whose long familiarity with the tribes of this region enhances their value.

The purchase of 14 specimens of crania of the Wasco Indians from the Fred Harvey collection made an important addition to the division of physical anthropology.

A series of models of steamboat propellers, dating from 1681 to 1825, and illustrating the development of this feature of marine architecture for that period, were purchased from Mr. Emil Wellauer.

Casts of Assyro-Babylonian, Egyptian, and Græco-Roman sculptures were purchased from various dealers in England, France, Italy, and the United States. In this collection is a stele engraved with the code of laws of the Babylonian King, Hammurabi, which is of peculiar interest, as it aids in portraying the civilization of Babylon more than four thousand years ago.

EXCHANGES.

Among the specimens acquired through exchange during the year may be mentioned copies of rare musical instruments received from Mrs. John Crosby Brown, in exchange for similar material; and 28 specimens illustrative of the folklore of England and Ireland from Edward Lovett, Esq., Croydon, England, in exchange for American Indian specimens.

TRANSFERS AND LOANS.

A very interesting collection numbering 550 specimens was secured by J. Walter Fewkes, of the Bureau of American Ethnology. It includes objects from the islands of Trinidad, Grenada, Cariaco, St. Vincent, Barbados, Dominica, Porto Rico, and Cuba. The most notable of these are stone collars, tripointed stone zemes, earthenware bowls of unique form and decoration, and a series of carved stone masks and amulets. There are also polished hatchets and chisels, axes of the Carib type, sculptured pestles, mortars, beads of stone, shell hatchets, and grotesque heads and faces used as decorations of pottery vessels. This collection was made systematically with a view to working out the ancient connections between the two continents of North and South America.

A large number of archeological objects from various caverns, rock-shelters, and village sites in the Ozark region in Missouri and Arkansas, collected by William H. Holmes, were obtained by transfer from the Bureau of American Ethnology. These include chipped flint implements, ranging from roughly worked pieces and blades to well-finished arrow points, spearheads, and scrapers; hammer and rubbing stones, bone implements, fragments of pottery, pieces of basket work, woven fabrics, twisted cords made from the vegetable fiber, cave breccia containing flints, animal bones (mainly split), and a few human bones. The objects are exceptionally well classified. The position, whether in caves, village sites, bottom lands, etc., is carefully marked, and in addition there are furnished two maps and four charts upon which the different localities are indicated. The collection, which numbers 2,710 specimens, is a notable addition to the Museum, as it represents material from new areas.

The division of physical anthropology has been enriched by over 2,000 crania and skeletons transferred from the Army Medical Museum.

During the last few years the curator of the division of technology has made special effort to increase the series illustrating the development of firearms. Recently there has been lent by Col. Wright Rives a finely finished 44-caliber rifle, made by Henry Deringer, Philadelphia, Pennsylvania, and often used for target practice by David Crockett and other friends of Mr. Rives. This was the rifle used by W. J. Graves in his duel with Jonathan Cilley in 1838.

There may also be mentioned a valuable series of sporting rifles, collected by Mr. Herman Hollerith in Mitchell County, North Carolina, in 1893, and lent by him to the Museum. These are typical specimens of sporting guns used throughout the United States up to about 1850. They are provided with homemade powderhorns, powder charges, turkey calls, and other appliances, showing the skill of the early backwoodsman.

A collection of rifles, muskets, carbines, and revolvers has been transferred to the National Museum by the Ordnance Office of the War Department. These weapons include, besides the guns manufactured by the Government for many years, fine specimens made by private firms for the Government. There is one remarkable example, which is a 7-barrel flintlock revolving gun, with 11-inch barrels, caliber .50, fastened to a central frame and revolved by hand, to bring each barrel successively under a common flash pan.

Another especially rare and valuable loan from the War Department is the Ferguson breech-loading rifle, which it has been claimed is the only one of its kind in existence. It was invented and patented in England in 1775-76 by Maj. Patrick Ferguson, of the British Army, and was manufactured by Mr. D. Egg, of London. This gun was presented by Major Ferguson to Capt. Frederick de Peyster and bequeathed by him to his son, Gen. John Watts de Peyster.

To the division of history there has been added a number of objects illustrating the colonial and Revolutionary periods, including interesting relics received from Gen. John Watts de Peyster, who has during the last few years presented his Napoleonic library to the Smithsonian Institution. Mention may also be made of the sword and epaulets worn by Gen. Alexander McComb, U. S. Army, a loan from Mrs. F. C. d'Hautville, and of a fine portrait in oil of George Catlin, the Indian portrait painter, received from Mrs. Louise Catlin Kinney. The portrait, which is an excellent likeness, was painted in 1849 by Mr. W. H. Fisk, R. A. It adds much to the interest of the great collection of Indian portraits given to the Museum many years ago.

As a result of the war with Spain in 1898 the Museum has gradually acquired a large number of objects illustrating the history of the peo-

ple of our insular possessions. During the past year Dr. R. B. Grubb, U. S. Army, added to his collection 53 specimens from the Moros of western Mindanao, Philippine Islands, consisting of edged weapons, spears, armor, ceremonial objects, matting and costumes of these interesting and warlike people.

EXPLORATIONS.

Dr. J. Walter Fewkes, of the Bureau of American Ethnology, continued his researches in the West Indies, visiting Cuba, Porto Rico, and other islands as far south as Trinidad. His collection contains many notable objects in carved stone, as zemes, or tripointed idols, masks, amulets, pottery of rare forms, and implements and utensils of hard, finely-polished rock.

Field work in New Mexico and Arizona was carried on by Dr. Walter Hough, assistant curator of the division of ethnology, who succeeded in obtaining a valuable collection of basketry, pottery, stone, bone, wood, and shell implements, weapons, ornaments, and ceremonial objects from a region heretofore unexplored. Ruins near Magdalena, Datil, along the upper Tulerosa River at Frisco, and near Luna, New Mexico, were examined. The last named were excavated and important data and specimens were collected. A reconnoissance of cave and cliff ruins in this region was made and a number of specimens secured. At the close of the work Doctor Hough proceeded northward by way of Alpine, Nutrioso, Springerville, and St. Johns, to the Santa Fe Railroad at Holbrook, Arizona. During his trip he traversed a stretch of country 270 miles wide between points on the railroads. The object of Doctor Hough was to cut across lines of north and south migration of peoples in early times, and in this respect much valuable information was gathered.

In May, Mr. George C. Maynard commenced a special investigation of the history of the locomotive "Stourbridge Lion," with a view to clearing up some unsettled questions relating to the authenticity of parts of the locomotive in the custody of the Museum, as well as to determine the whereabouts of other parts now in the possession of private parties. He visited Honesdale, Carbondale, Pittston, Scranton and other places in Pennsylvania, where he obtained much valuable information.

Mr. Paul E. Beckwith, assistant curator in the division of history, acting under special directions from the Assistant Secretary, spent the month of June at the Louisiana Purchase Exposition examining certain anthropological collections.

CARE OF THE COLLECTIONS.

No changes have been made in the method of handling accessions. All collections received during the year have been catalogued and

cared for, and, so far as possible, systematically arranged. Specimens subject to destruction by insects have been poisoned.

Increased space and facilities for preservation and installation were obtained by the finishing of the repairs in the hall of prehistoric archeology, which has been closed for two years; by dismounting many pictures from swinging screens and putting the former into the study series; by building additional racks for unit drawers in the hall of history and in the graphic arts storage; by adding to the furniture in the east hall a large gun rack, presented by the War Department; and by building new racks in the laboratory of physical anthropology.

A great deal of time has been spent in labeling the musical instruments, which number nearly fifteen hundred pieces. This collection is in the care of Mr. E. H. Hawley, who has completed an elaborate catalogue of the entire series. It is provided with four sets of labels, as follows:

1. General labels, descriptive of the plan of classification.
2. Case labels, naming the class of instruments in each inclosure.
3. Descriptive labels, explaining the structure and functions of the instruments in each case.
4. Individual labels, giving the native name, the English name, locality and peoples, and collector of each specimen.

The collection has been installed to teach history of thought and of development through inventions, from the simplest monotone device to mark rhythm up to the most elaborate apparatus for musical expression. The exhibit is divided into four grand divisions, according to the structure of the instruments, and the pieces are arranged according to simplicity or supposed order of invention. The divisions may be described as follows:

(I) Vibrating solid, sonorous bodies; (II) vibrating membranes; (III) vibrating strings; (IV) vibrating columns or currents of air.

Musical instruments are put into vibration or functioned: (1) immediately, by human agency only; (2) mediately, by means of devices in the hand; (3) mechanically, through the agency of keyboards and the like, and (4) automatically, by machinery, which demands no skill; (5) Æolian harps and wind bells are vibrated without human agency. There are five methods employed in playing, namely, striking or hammering; picking or twanging; rubbing with the hand, bow, wheel, etc.; blowing; and sympathetically.

The four grand divisions have been mounted, where practicable, so as to indicate geographic and ethnic distribution, and arranged in sets as related to the musical scale. Some advance has been made in the literature of music, but none in collecting portraits of composers, instrument makers, or writers on the subject,

Cases and specimen labels were prepared for the series illustrating heating and illuminating and other subjects, and many hundreds of labels were printed for the Louisiana Purchase Exposition. Mr. Thomas Sweeny continued the systematic care of the study series.

EXHIBITION AND STUDY SERIES.

The crowded condition of the Museum seriously interferes with the association of the exhibition with the study series. The ideal connection between the two is partly maintained in the northwest range and in a few other parts of the Museum where the student, attracted by a specimen, wishes to go further into the subject, and finds the study series close at hand. But in other exhibits the study material has to be stored away so as to be practically inaccessible.

The exhibits in many of the halls are in a satisfactory condition, being well arranged and well labeled; but in other halls old-fashioned methods still prevail and the labeling is inadequate.

INSTALLATION.

A number of cases were arranged in the northwest gallery, to illustrate the different types of basketry, this subject having attracted much popular attention of late owing to the publication by the National Museum of Professor Mason's monograph on Aboriginal American Basketry. A collection of lamps has been arranged in the east hall, to show the development of illumination. A fine portrait of George Catlin, lent by his daughter, Mrs. Louise Catlin Kinney, was installed in the north-west range amidst the great painter's works. A large number of specimens from the Philippine Islands, from various sources, were set up for exhibition in the gallery of the north-west court. Among these is the Mearns collection from Mindanao. A special studio was set apart for the Abbott collections from Malaysia, with reference to publishing an illustrated account of them. A great deal of time was expended in the installation of musical instruments, now one of the richest in the world. A rare collection of objects illustrating Tibetan religion has been set up and labeled. A walnut case extending along one side of the east hall has been installed with a large collection of muskets, rifles, and carbines, some of which were received from the War Department; and three table-cases, especially fitted up for the exhibition of revolvers and pistols, were also placed in the east hall and filled with a collection of historical military revolvers, and single and double barreled pistols of various dates and types, some of which are not duplicated, so far as known, in any other public or private collection. The original Francis life-saving car was permanently installed in a new mahogany case, especially designed for the purpose; while another was made for the cylinder of the Hornblower

engine, the first steam engine ever erected on the western continent, having been imported from England in 1753, set up by Josiah Hornblower, and used for pumping water from the copper mines of Col. John Schuyler, located opposite Belleville, near Newark, New Jersey. Two clocks received from the Chelsea Clock Company, of Boston, through the courtesy of Charles H. Pearson, treasurer, were placed in the east hall near the telegraph instruments. Here the noon signals are received from the U. S. Naval Observatory, and serve a useful purpose in illustrating to visitors the Government's method of distributing correct time throughout the United States.

The Daughters of the American Revolution have manifested great interest in the historic collections, and cases especially devoted to their contributions have been arranged and labeled.

MODELS AND REPLICAS.

Models of a large number of objects, chiefly ethnologic, have been made under the supervision of the Department for use in filling out the series of exhibits in the Museum and for exchange purposes. A number of replicas in plaster have also been prepared under the direction of Mr. William H. Holmes, including a series of casts of 120 of the most important archeologic objects illustrating the higher achievements of the ancient Mexican peoples. One set of these, carefully colored, was installed with the Museum's exhibit at the St. Louis Exposition, while several additional sets were prepared for exchange with other museums. These replicas have been executed with the greatest care, and one series has been photographed side by side with the original objects for distribution to the museums with which exchanges are contemplated. Up to the present time these include the Field Columbian Museum, Chicago; Carnegie Museum, Pittsburg; Free Museum of Science and Art, Philadelphia; American Museum of Natural History, New York; Museum of the Brooklyn Institute of Arts and Sciences, Brooklyn; Peabody Museum, Cambridge; and also with the following foreign museums: Trocadero Museum, Paris; British Museum, London; Royal Ethnological Museum, Berlin; Royal Museum of Dresden; National Museum of Mexico, and the National Museum of Argentina.

The preparators of this Department, from plans by Mr. Holmes, also constructed models of a number of the ruined buildings of Mexico and Yucatan, five of which were completed and installed with the exhibit prepared for the St. Louis Exposition. These represent the "Pyramid Temple," Xoehicalco; the "Temple of the Columns," Mitla; "House of the Governor," Uxmal; "El Castillo," Chichenitza; and the "Temple of the Cross," Palenque. Models are kept of such parts of these as can be cast in plaster for use in preparing replicas.

In the laboratory of this Department twenty masks, besides other

castings of Indians belonging to delegations visiting Washington, have also been made at the expense of the Bureau of American Ethnology, and from these a number of busts have been prepared for the Museum exhibits and for exchange with other museums. Some material has already been received from the Field Columbian Museum, the American Museum of Natural History, and the Royal Ethnological Museum, Berlin, in exchange for casts. It is expected that these exchanges will result in adding greatly to the collections in the National Museum, and at the same time they will enrich the various museums with which arrangements are made.

The work of photographing Indians visiting Washington has been greatly enlarged during the year. By special arrangement whole delegations have visited the Museum, where photographs of them, either singly or in groups, have been made and measurements taken.

RESEARCHES.

In the past ten years, the Museum has been receiving from Dr. William L. Abbott important ethnological collections made by him in the Eastern Continent, especially in southern Malaysia. During last year much time was spent in arranging and classifying this material, and in preparing descriptions and illustrations for publication. The work will be continued during the coming year. Mr. Holmes has continued intermittently the preparation of a monograph on the mines and quarries of the aborigines, based to a large extent upon collections in the division of prehistoric archeology. Mr. Paul Beckwith began a systematic description of the Grant relics in the National Museum, for publication in the form of an illustrated catalogue. He has also prepared a card catalogue of the swords, with the view of studying the evolution of this arm, and has continued his work on a catalogue of the collections of ancient coinage in the Museum.

Doctor Hrdlicka made measurements on negro children and adults, and on 32 Indians belonging to visiting delegations. He continued his studies on the humerus, atlas, cranial fossæ, parietal and malar bones, and also commenced testing the value and effect of various preservatives on the excised brain.

The usefulness of the Department of Anthropology to students and investigators is shown by the number of persons who have derived benefit therefrom. Each year more and more institutions and individuals seek access to these collections, and through the cordial relations thus established the Department has not only contributed to education, but has profited in the increase of its material for study. Among those visiting the Museum for the purpose of carrying on researches in its anthropological material may be mentioned the following:

Professor Sherrington, of the University College, Liverpool, inves-

tigated the negro brains in the collection, in order to determine the relative proportions of the windings of the Rolandic fissure in this race. Miss Voorhees examined the collections from prehistoric Europe in connection with a study on the Man of the Drift Gravels and the Cave Dwellers of France. Miss Marie Ruef Hofer, of Teachers College, Columbia University, New York, examined the plan of synoptic series in the Museum as a basis of exercise and manual labor teaching. John P. S. Neligh, of Columbus, Georgia, studied Indian textile art, basketry, beadwork, and weaving, with a view to teaching. Ole Solberg, from Christiania, Norway, spent several days in the Museum, preparing himself for a trip to Arizona, in order to investigate the social customs of the Hopi (Moki); on his return he examined the Eskimo collection, with a view to enlarging his monograph on Eskimo stone implements.

Judge James Wickersham, U. S. District Judge, Eagle City, Alaska, made studies of the works and social customs of the Indians in that region, with a view to deciding their fitness for citizenship, and consulted the division of ethnology on what constitutes civilized tribes, with a view to enfranchising certain tribes of his judicial district. Lieut. William E. W. McKinlay, of the First U. S. Cavalry, having been detailed by the Division of Military Information in the War Department to work up grammars and dictionaries of the chief languages in the Philippines, utilized the resources and methods of the Department of Anthropology to aid him in his labors. Miss Maude Barrows Dutton, Columbia University, New York City, spent February 19 to February 29 in the Museum, gathering illustrations for a series of school readers to show the development of primitive industries. Miss Cora M. Folsom, curator of the museum at Armstrong School, Hampton, Virginia, examined cases, methods of exhibition, and the Museum system of caring for the study series; she also received instructions in cataloguing, poisoning, and other museum work. The Director of the Mint, Mr. George E. Roberts, selected from the Museum twenty-eight coins to illustrate a lecture on numismatics, and transparencies were made for him in the Museum laboratory. Mr. Stewart Culin, curator of the division of ethnology in the Brooklyn Institute, made further studies in the games of the American Indians, with reference to a paper being published by the Bureau of American Ethnology. Miss Grace Nicholson, Pasadena, California, spent the month of June at the Museum, studying the classification and care of basketry; and the Immigration Bureau of the Department of Commerce and Labor, through its statistician, Mr. Wells F. Andrews, consulted the Division of Ethnology for the purpose of obtaining information which would enable the Bureau to classify more exactly by nationality and race the vast number of immigrants into the United States.

The following material was transmitted to students and investigators outside of the Museum: A number of photographs lent to Miss Maude Barrows Dutton, of New York City, for reproduction in a series of textbooks prepared under the supervision of the Teachers College, Columbia University; whale tusks, implements connected with whale fishing, and a number of models of fishermen's boats lent to Mr. W. de C. Ravenel, in charge of the exhibit of the Bureau of Fisheries, Department of Commerce and Labor, at the Louisiana Purchase Exposition; a number of arrows from the Natano (Hupa) Indians of California, Indian games (3), Indian tops, and Indian popguns, were lent to Mr. Stewart Culin, to be used in illustrating a paper published by the Bureau of American Ethnology; models of Indian fire-making apparatus were lent to Mr. Gerard Fowke, for the general anthropological exhibit at the Louisiana Purchase Exposition; the original Francis life-saving car was lent to the Treasury Department for exhibit at the Louisiana Purchase Exposition. To Mr. S. W. Stratton, of the Bureau of Standards, for the same purpose, were lent examples of Mexican and Japanese scales, the coin scales of England, and a set of antique silversmith's weights, manufactured in Nuremberg, Germany; from the division of history a number of specimens connected with the military life of Gen. W. T. Sherman were lent, upon the request of Mr. P. T. Sherman, to the U. S. Military Academy, for exhibition at the Louisiana Purchase Exposition; and an interesting case of historical specimens belonging to the Daughters of the American Revolution was sent to the exposition in the care of Mr. Paul Beckwith, for installation.

It is the policy of the Department of Anthropology not to send out valuable specimens to individuals for study, but to invite them to carry on their investigations at the Museum. This course is safer for the collections, and the student himself is thereby brought into touch with other materials of which he probably has had no knowledge.

PLANS FOR FUTURE DEVELOPMENT.

The Acting Head Curator calls attention to the need of additional help in the several divisions. Accessions are multiplied, the correspondence has greatly increased, and yet the same number of men and women have to do the work. These conditions have been recognized and remedied as far as possible by temporary aid.

From Doctor Hough the following observations are received with reference to the plans for the development of the division of ethnology:

This is the era of collector-dealers in ethnology. Material that falls into their hands is held for sale, so that a museum must enter the lists with money to purchase or must go into the field as a collector. The latter plan tends to build up a museum with the most desirable material, but it requires funds as well as trained men who

must spend part of the time in the field, and part in the care of the specimens. It is also most desirable to foster disinterested collectors, who engage in the work for relaxation without thought of gain. It is the opinion of the Curator that this matter of providing for the purchase of specimens should have attention by the Museum authorities. The interior development of the Division as pursued by the Curator and his assistant has been carried on (1) by the study of correlated objects, publication, and exhibition to the best advantage for educational purposes; (2) by the grouping of ethnic material to show at a glance the life and arts of tribes and peoples; (3) the collection of information regarding specimens and filing such data where it is readily available for students and for tables; (4) the storing of photographic blueprints by subjects. This work is being steadily carried on and is improving the status of the division each year.

Mr. Holmes has planned a sweeping reinstallation of the division of prehistoric archeology. To the exhibits prepared for the Louisiana Purchase Exposition will be assigned the space in the middle of the hall. Mr. Maynard proposes to enlarge the subject of metrology in all its branches, by originals when possible, and also by copies and models of originals. He also will assiduously increase the material in the section of gunnery, for which the time is propitious. In this connection Mr. Maynard has prepared an elaborate classification of the topics under his division. Mr. Brockett plans to very much enlarge the study series in graphic arts by bringing from storage and putting in new drawers much material hitherto unavailable. Doctor Flint, having completed his classification and cataloguing in the division of medicine, will develop his plan on the lines established. In the division of history, Mr. Beckwith will avail himself of the gallery recently assigned to him to enlarge and improve the study series. The assistant curator of the division of physical anthropology, Dr. A. Hrdlicka, makes the following recommendations:

The time has come when the division of physical anthropology can begin to prepare exhibits of great interest and instructive value, relating on the one hand to the American aborigines, and on the other to man in general. The part concerning the Indian would complete the immense ethnological exhibit; that concerning man in general would be a continuation of the series in biology. To achieve these results, the division is in need of the exclusive services of a modeler. A most important part of the Indian exhibits, and at the same time valuable for exchanges with other museums, would be a series of casts of the natives. For this purpose the modeler should take visiting Indians, and also be sent to do field work. In the biological exhibits, an important rôle would be played by casts of brain and other objects; by representations in plaster of human development and decline; and by showing the numerous types of man. All this will require the constant application of an able modeler through a number of years, and the work can and should be begun at once.

Doctor Hrdlicka also calls attention to the fact that a comprehensive biological survey of the people of the United States is a possibility, though it would be difficult, extend over a number of years, and require a large corps of trained aids. There is no other country that presents more vital problems to be solved by such a survey

than the United States. This is due to the great diversity of its climate and industries; but above all, to the heterogeneity of its constituents. The objects of such a survey would be to investigate the physical status; certain physiological elements; relative fecundity; the effects of racial mixtures; and certain pathological conditions which have important influences on the population. These investigations would have to be prosecuted on (*a*) the various racial divisions of the population; (*b*) the Americans in large cities, as well as those in the rural districts; those living in high and those in low lands; those in the coldest and in the hottest regions; the seamen with extremes in kinds of nourishment; (*c*) all such parts of the population as follow the same mode of physical or mental activity, such as the laborer, specialized artisan, professional athlete, specialized brainworker, the highest class of inventor or original composer; (*d*) such divisions of the population as are continuously subjected to differing social conditions, and (*e*) the defective classes. In order that a survey of this nature should succeed in this country, the very first condition would be to elaborate, as far as possible, in conjunction with the Immigration Bureau and the Census Bureau of the Department of Commerce and Labor, accurate maps representing the racial constituents of the population.

Mr. Hawley proposes to complete his card catalogue of all the types of musical instruments ever used by man; also by exchanges, copies, and models to make the series of specimens complete as to types.

In looking over the stock of material already mounted for exhibition in swinging screens, unit boxes, and special frames, it was found that much of it was piled up in such a way that for years it would be lost not only to the public but also to the student. In the new Museum installation should not be handicapped by faded backgrounds, soiled labels, and discarded furniture. Therefore many hundreds of specimens have been cut from the mountings and returned to the study series, the boxes and frames being sent to storage. In this way the floors of the halls have been cleared of packing boxes. It is purposed to continue this process into spaces now set apart for storage.

The general plan for the Department during the year 1904-5 will be to make the collections still more useful to the students, authors, and teachers. No changes of arrangement are contemplated for the present building, but every effort will be made to perfect the exhibits that will be set up in the new one.

CHANGES IN THE DEPARTMENT.

Owing to the constant growth of the Department of Anthropology, it was deemed wise during the year to make certain changes in its organization, so that at present all divisions of the subject that may be taught and studied by objects are represented. Physiological

psychology is omitted, since its operations consist of experiments. Its apparatus is provided for in the division of technology, under the class of metrics. Language also is omitted, since its investigation is assigned to the Bureau of American Ethnology. The same is to be said of sociology and primitive religions. The closest relationship, however, exists between the two dependencies of the Smithsonian Institution, the Museum, and the Bureau of American Ethnology, since cult objects, the paraphernalia of customs, writings, and inscriptions are tangible things and may be exhibited. Mr. William H. Holmes served as honorary curator, and Mr. J. D. McGuire as collaborator in the division of prehistoric archeology, Mr. E. P. Upham having charge of cataloguing. The division of technology was enlarged to include all phases of handicraft. Mr. Paul Brockett has been made custodian of the division of graphic arts. The division of religions becomes the division of historic religions, the cults of unlettered peoples being assigned to the Bureau of American Ethnology and their cult objects exhibited in the division of ethnology. The division of history and biography becomes the division of history, with Mr. A. H. Clark as honorary curator and Mr. Paul Beckwith, assistant curator. In February Miss Mary Virginia Young was made clerk in the office of the Acting Head Curator, and in April Mr. Richard A. Allen was appointed preparator in the Department.

REPORT ON THE DEPARTMENT OF BIOLOGY
FOR THE YEAR 1903-04.

By FREDERICK W. TRUE,
Head Curator.

The principal event of the year covered by this report was the completion of the exhibit for the Louisiana Purchase Exposition and its installation in St. Louis. Fully two years were occupied in assembling and preparing this exhibit, and the staff of every division of the department, except that of plants, shared in the work to a greater or less extent. The Head Curator, having been placed in charge of the entire exhibit of the Smithsonian Institution, found it impossible to attend at the same time to the regular work of the department, and for about five months the general management devolved upon one of the curators, Dr. L. Stejneger. A full report on the St. Louis exhibit will be submitted next year after the close of the exposition.

The Museum had the good fortune to receive on deposit for ten years the herbarium and botanical library of Prof. E. L. Greene. The herbarium comprises about 60,000 sheets, and is believed to be one of the finest private botanical collections in existence. A detailed statement of the conditions of this deposit will be found in the earlier pages of this Report.

Dr. William L. Abbott continued his generous donations of valuable zoological material collected by him in the East Indies.

The accessions show a substantial increase in most classes, and in mollusks the number of lots received was double that of last year. While it is often difficult to estimate with exactness the scientific value of material received, the additions of the year as a whole may be considered as comparing favorably with those of previous years. The principal exceptions were among the lower invertebrates, where the accessions, though more numerous than last year, are reported to be much less important. The birds' eggs were fewer in number and less noteworthy.

About 108,000 zoological specimens and 44,000 botanical specimens were received during the year. The former included about 59,000 insects. Marked improvement was made in the condition of the general collections of mammals and reptiles.

The department is handicapped at present chiefly by the crowded condition of the laboratories and storage quarters and exhibition halls, and the want of a sufficient staff of zoological assistants in the lower grades.

EXHIBITION COLLECTIONS.

The arrangement recently made of combining all work on the exhibition series under one head continued in force during the year with excellent results. On account of the great amount of work required in connection with the exhibit for the St. Louis Exposition, however, the regular exhibition work was brought almost to a standstill. The World's Fair work continued until May, and, on account of belated material, one or two pieces were still in hand during the closing months of the year.

The remounting of especially valuable birds in the exhibition series continued during the year, 13 specimens having been successfully treated. Shortly before its close, two new cases were provided for 4 of the new groups of game birds, located in the entrance hall of the Smithsonian building. In addition, 30 other birds were mounted, 12 dismantled, and 59 skins made up for study purposes. Fourteen pieces of groundwork were made for birds exhibited at St. Louis. In the case of birds mounted during the year, an effort was made to color the bills, feet, and naked portions of the skins as in life. New work was begun on a series of fish casts to fill cases now unoccupied.

A brief summary of the work done for the St. Louis exhibit during the past two years is as follows:

A series of large mammals representing the principal large game animals of the world were mounted, including such huge forms as the giraffe, hippopotamus, rhinoceros, polar bear, and moose. Molds were made in Newfoundland of an adult sulphur-bottom whale, 78 feet long, from which a cast in paper was prepared and properly painted. The skeleton of a full-grown whale of this species was also obtained at the same place and mounted in St. Louis. Specimens representing the species of peacocks were mounted, together with a collection of the most beautiful species of pheasants. To these were added a few other birds of remarkable appearance or habits, and a group of the South American hoatzins, which are of special interest from the fact that the young have hooked claws on the wings, by means of which they climb about from branch to branch. Casts of a large python and of several other interesting snakes, such as the cobra, coral snake, rattlesnake, etc., were prepared and painted. A series of enlarged models of the most grotesque or otherwise remarkable deep-sea fishes was prepared from specimens in the National Museum. The synoptic series of invertebrates belonging to the regular exhibition series of the Museum was renovated, enlarged, and thoroughly labeled. A

large series of perfect specimens of the most remarkable butterflies of the world was assembled and arranged for exhibition in unit boxes. A similar series of birds' eggs, representing the largest and the most remarkably colored or shaped eggs were selected from the Museum collection and arranged on newly designed stands. A series of zoological objects attractive to children was prepared for the replica of the Smithsonian "Children's room" which was installed at St. Louis. The whole Museum exhibit was thoroughly labeled, with special reference to the requirements of an exposition.

EXPLORATIONS.

As mentioned in the report of last year, Mr. B. A. Bean and Mr. J. H. Riley accompanied the expedition of the Baltimore Geographical Society to the Bahama Islands in the summer of 1903, and made considerable collections of fishes, birds, reptiles, mammals, and mollusks and other invertebrates. The collection of fishes added to the knowledge of the fauna of the Bahamas and many of the species represented in it were new to the Museum series, as was also the case with the corals and crustaceans.

In the spring of 1904 Mr. William Palmer accompanied Dr. George P. Merrill to the State of Sinaloa, Mexico, for the purpose of making a mold of the great Bacubarito meteorite. While on this expedition, Mr. Palmer collected a few zoological specimens of interest.

Toward the close of the year, Dr. L. Stejneger and Mr. G. S. Miller, jr., were detailed to make faunal collections in the Swiss and Italian Alps, the object being to add to the knowledge of the life zones in that region. Mr. B. A. Bean and an assistant visited Beaufort, North Carolina, in June and collected fishes.

ACCESSIONS.

The number of lots of specimens in all classes received during the year covered by this report was greater than last year, and in the case of mollusks, as already noted, almost double. Birds' eggs were less numerous and less important, and the lower invertebrates, though more numerous than last year, were of much less interest scientifically. So far as plants are concerned, the accessions (numbering 555), though somewhat less numerous than last year, exceeded those of any other year since 1895. Of zoological specimens, the total number received was about 107,473, including about 59,000 insects. Of plants, the accessions aggregated 43,800 specimens, as compared with 35,000 in 1903 and 53,500 in 1902. The purchases of plants comprised 10,000 specimens.

The largest transaction of the year, as regards specimens, was, as already mentioned, the deposit by Prof. E. L. Greene of his very

important herbarium, comprising about 60,000 sheets, and his botanical library, numbering about 2,000 volumes. This valuable acquisition will open new opportunities to systematic botanists in the United States of which they will, without doubt, hasten to avail themselves. The details regarding this important deposit will be found in the report of the Assistant Secretary.

Mrs. T. A. Williams, of Memphis, Nebraska, presented some 15,000 plants from various localities in the United States, consisting of the duplicates from Mr. Williams's herbarium. She also signified her intention to deposit the herbarium itself, now in the George Washington University, but the actual transfer had not been effected at the close of the year on account of press of other Museum business.

Of zoological material, the largest accession was a collection of about 40,000 insects obtained by Messrs. Dyar, Currie, and Caudell in British Columbia. Next in order are the collections received through the Bureau of Fisheries, Department of Commerce and Labor. These comprised about 12,000 land and fresh-water shells and about 670 reptiles from Indiana and other parts of the eastern United States and 3,000 marine mollusks, chiefly from Alaska, preserved in alcohol. The Bureau also transmitted the types of a considerable number of recently-described fishes from the Hawaiian Islands, Japan, and other localities, with other specimens of fishes and also large collections of crustaceans and stony corals, which were obtained during the investigation of the salmon fisheries of Alaska in 1903. In addition, the Bureau transmitted a large series of crayfishes and shrimps from Lake Maxinkuckee, Indiana, collected by Dr. B. W. Evermann and assistants in 1899 and 1900, and also 461 plants collected in Alaska and Oregon.

Special attention is again to be directed to the importance of the collections made by Dr. W. L. Abbott in the East Indies and very generously presented by him to the National Museum. During the year the collections received were those from the Mentawai Archipelago, off the west coast of Sumatra, and from the coast and islands of eastern Sumatra. The mammals from the Mentawi Archipelago comprised about 500 specimens, including 31 new forms, among which were a new genus and species of gibbon, named *Simias concolor* by Mr. G. S. Miller, jr., and another new gibbon, which Mr. Miller has named *Symphalangus klossi* in honor of Dr. Abbott's associate, Mr. C. B. Kloss. The birds from the archipelago number 572 specimens, including several new species and many rare ones, such as the pigeon *Columba grisea*, the cuckoo *Urococcyx ueneicauda*, etc. The collection from eastern Sumatra comprises 371 mammals, 202 birds, and 83 reptiles and batrachians. The mammals have not yet been identified, but among the birds and reptiles are known to be numerous forms not

previously represented in the National Museum and very valuable for comparison. Some new species are quite likely to be detected later.

Dr. E. A. Mearns, U. S. Army, added to his previous donations a number of valuable lots of specimens, comprising 155 mammals from Minnesota, 274 birds from the Philippine Islands, including many rarities, various mollusks, and (conjointly with his son) some interesting birds' eggs.

Through an arrangement with the Baltimore Geographical Society, Messrs. B. A. Bean and J. H. Riley, of the Museum scientific staff, made an excellent miscellaneous zoological collection in the Bahama Islands, including many desiderata, especially among fishes. Of the 110 species of fishes obtained, many were previously unknown as belonging to the fauna of the Bahamas or were unrepresented in the national collections. Of mammals, 181 specimens were obtained, of which one species was undescribed; of birds, 156 specimens, including a new subspecies of night hawk and the second known specimen of the woodpecker *Centurus nyanus*; of reptiles, 73 specimens, including a new large iguana, described by Dr. L. Stejneger under the name of *Cyclura rileyi*.

The Biological Survey, U. S. Department of Agriculture, transmitted some valuable birds' eggs and a collection of 377 reptiles from Texas, the result of several years' collecting and the basis of a paper by Mr. Vernon Bailey on the reptile fauna of the State. One new species of lizard in this collection was described by Doctor Stejneger under the name of *Sceloporus merriami*.

Capt. Wirt Robinson, U. S. Army, presented a collection of bats from Cuba and a number of interesting birds. Some 215 birds, a collection of land shells, and about 3,600 insects, together with 34 mammals, from the mountains of Venezuela were purchased from Mr. M. S. Briceno. Among the former were many rare humming-birds.

A collection of 56 bats and 323 birds from Barbuda and Antigua islands was purchased from Mr. H. Selwyn Branch. The birds represent the fauna of these islands with a great degree of completeness, and comprise several forms not previously known to occur there, as well as a new species of warbler.

Mammals.—Besides the specimens included in the foregoing miscellaneous collections, mention should be made of a number of accessions consisting solely of mammals. Mr. E. O. Wooton, of Mesilla Park, New Mexico, presented the second known specimen of a remarkable bat belonging to the fauna of the United States, known as *Euderma maculatum*.

A jaguar killed in Texas was purchased from Mr. H. P. Attwater. This is the first authentic specimen of the jaguar from the United

States, though the range of the species was considered as including the southern part of that State.

A specimen of the very rare mouse-deer, *Tragulus stanleyanus*, was purchased from M. Émile Deschamps.

A miscellaneous collection of Old World mammals, including representatives of two new species, was purchased from Mr. W. Schlüter.

A collection of Japanese mammals was purchased from Mr. T. Tsuchida. A large collection of bats from Vera Cruz, Mexico, was purchased, and by exchange with the British Museum six exceptionally rare bats, belonging to genera not represented in the national collection, were acquired. By exchange with the American Museum of Natural History, a collection of 51 Colombian mammals was obtained.

Birds.—In addition to the birds presented by Doctors Abbott and Mearns, and those acquired from the Biological Survey and the Baltimore Geographical Society above mentioned, a few other especially interesting accessions deserve notice. Mr. Homer Davenport, of East Orange, New Jersey, presented 26 young pheasants. Pheasants in these early stages, which are valuable in the study of the arrangement of feathers, are difficult to obtain. Mr. N. C. Brown, of Portland, Maine, presented an especially well-prepared series of 267 birds from South Carolina. By exchange with the Philippine Museum, at Manila, an excellent series of well-prepared Philippine birds, comprising about 200 specimens, was obtained. Four species of birds-of-paradise not previously represented in the national collection were purchased, as well as 215 specimens of birds from the mountains of Venezuela, comprising several species new to the Museum and including many specimens valuable for comparison in connection with the work on "Birds of North and Middle America." Some of the humming-birds in this collection are rare in museums.

Of birds' eggs, Dr. W. L. Ralph added many interesting specimens to his previous donations, and some excellent specimens were presented by Gen. J. W. Barlow. A collection of rare Mexican eggs and 13 eggs of the hoactzin, also very rare, were purchased.

Reptiles.—Dr. Hugh M. Smith, Deputy Commissioner of Fisheries, presented a collection of 158 reptiles which he collected in Japan. This material has been of much service to Doctor Stejneger, who is engaged in preparing a work on the reptile fauna of Japan. Mr. E. J. Brown, of Lemon City, Florida, presented 17 rare reptiles from southern Florida, among which were specimens of a new species of spreading adder, described by Doctor Stejneger under the name of *Heterodon browni*.

Fishes.—The Stanford University presented 10 lots of fishes from Japan, comprising types and cotypes of species collected and described by Dr. David S. Jordan and Mr. Snyder. One lot of excellently-prepared fishes from Puget Sound was presented by Dr. J. C. Thompson,

U. S. Navy. In order to replenish the collection with fresh material and to obtain duplicate specimens for distribution, Messrs. Bean and McKnew, as already mentioned, visited Beaufort, North Carolina. They obtained a large series of specimens. A specimen of the rare Japanese shark, *Mitsukurina owstoni*, 11 feet long, was purchased.

Mollusks.—Rev. L. T. Chamberlain presented a small collection of rare river mussels, or *Unionidæ*, for addition to extensive earlier contributions. About 2,500 specimens of several species of western American shells were presented by Dr. R. E. C. Stearns, honorary associate in zoology. Mr. E. J. Court, of Washington City, contributed a series of about 2,000 land shells from Maryland, Virginia, and the District of Columbia. From Mr. H. W. Henshaw, of Hilo, Hawaii, was received a very acceptable lot of about 600 Hawaiian land shells, together with a number of other invertebrates. Mr. Dwight Blaney presented some 300 shells dredged near Mount Desert, Maine, and Mr. C. A. Davis a series of specimens, representing about 72 species, from Bermuda, including cotypes of several forms described by the donor. The Museum received as a gift from Mr. H. N. Lowe and Mrs. Blanche Trask, of California, some small lots of very acceptable Californian shells, which were needed to fill gaps in the series.

Several purchases of mollusks were made during the year in addition to the lot from the mountains of Venezuela referred to. Among these should be mentioned a series of about 2,500 Japanese land and marine mollusks, representing 487 species; a large series of unusually rare or beautiful land shells, comprising 252 species; a fine *Volata pulchra*, and a large collection of land shells from the coast and islands of California. The latter was obtained from Mr. Henry Hemphill, and is commented on by Doctor Dall as follows:

The series sent by Mr. Hemphill is nearly 50 per cent larger than was called for by the agreement, and may to that extent be regarded as almost a donation. The material comprises a thoroughly representative series showing the various mutations, varieties, and species in which the coast is so rich, including the pleistocene forms when they occur, and illustrating in a remarkable manner the flexibility of what have been regarded as species. There were in all 649 lots of specimens, representing as many distinct varieties or mutations.

Lower invertebrates.—A collection of sea-urchins, chiefly from the Gulf of Siam and the Ingolf dredgings, was obtained by exchange from the Zoological Museum, Copenhagen, Denmark. Dr. K. Kishinouye presented 11 specimens of four species of Japanese precious coral, showing the different varieties. Three of the specimens were cotypes of forms described by Doctor Kishinouye. The National Museum of Brazil presented cotypes of the shrimp *Nephrops rubellus*, and of the stomatopod crustacean *Pseudosquilla braziliensis*. Mr. H. N. Lowe, of Long Beach, California, presented a collection of crustaceans from Catalina and San Clemente islands, among which

were found two new species and several rare ones. In a small collection of Mexican fresh-water crabs received from the U. S. Biological Survey, one new species was discovered. Specimens of an undescribed species of isopod crustacean, and of *Branchipus*, were presented by Mr. George E. Morris, of Waltham, Massachusetts. Through exchange with the Museum of Comparative Zoology, Cambridge, Massachusetts, five specimens (four species) of crabs from the Hawaiian Islands, all new to the Museum collection and two new to science, were obtained. By purchase from Émile Deschamps, San José, California, the Museum procured miscellaneous invertebrates from Shanghai, a locality scarcely at all represented in our collections.

Insects.—The accessions of insects numbered 377, comprising 58,953 specimens, as compared with 250 accessions, comprising 37,684 specimens, last year, a gratifying increase both in number and in quality of material.

Mr. E. A. Schwarz added to the donations of previous years a collection of 6,300 Coleoptera, Lepidoptera, etc., from Texas. Prof. T. D. A. Cockerell presented a large collection of insects from Colorado and 325 specimens from New Mexico. Mr. C. F. Baker, of Claremont, California, presented a large collection of Diptera. The members of the Washington Biologists' Field Club who are interested in entomology collected and presented to the Museum about 3,400 miscellaneous insects from the grounds of the club at Plummers Island, Maryland. A valuable collection of Lepidoptera from British Columbia was presented by Mr. E. M. Anderson, of the Provincial Museum, Victoria. Two large collections of British Columbia insects, comprising in all about 40,000 specimens, were collected by Messrs. Dyar, Currie, and Caudell.

A miscellaneous collection of Peruvian insects was presented by Mrs. M. J. Pusey, of Callao, Peru, and Mr. Edward A. Klages donated a collection of Venezuelan beetles. Two excellent series of Japanese Hymenoptera were the gift of Prof. S. Matsamura, of Sapporo. Two collections from India deserve notice here—a series of Hymenoptera presented by Maj. C. G. Nurse, and a series of spiders presented by Prof. N. Jambunathan. Sir George Hampson, of the British Museum, presented a collection of Norwegian Lepidoptera.

Four lots of Philippine insects were donated by the Rev. W. A. Stanton, of Manila. Another Philippine collection of importance was received as a gift from Mr. R. C. McGregor, of the Philippine Museum, Manila.

The Washington Agricultural College presented, through Prof. C. V. Piper, a large collection of Diptera, containing types of Tipulidæ described by Mr. Doane. A collection of Diptera containing types of Poridæ was presented by Mr. C. T. Brues, of Paris, Texas. Twelve

eotypes of species of spiders were the gift of Mr. Theodore Scheffer, of Manhattan, Kansas.

Among the purchases of the year were three important lots of South American insects, including one from Paraguay and one from Venezuela; also a miscellaneous collection from Australia.

The U. S. Department of Agriculture transmitted two lots of miscellaneous insects comprising 6,054 specimens, of which 4,500 were collected by Mr. E. A. Schwarz in Cuba.

Plants.—The accessions to the National Herbarium during the year numbered 555, which is considerably above the average for the last thirteen years, though somewhat exceeded last year. The specimens numbered 43,800, or about 9,000 more than last year. The deposit of Professor Greene's herbarium and the large accession from Mrs. T. A. Williams have already been mentioned (pp. 79, 80). Following these should probably be placed the accessions from the Philippine insular bureau of agriculture, Manila, which aggregate 3,360 specimens. These were received in exchange. Other important exchanges with the New York Botanical Garden, resulting in the acquisition of 1,317 specimens, were effected during the year. These were from Jamaica and other islands of the West Indies, and from Colorado. By exchange with the Royal Botanical Gardens, Kew, London, 278 plants from Europe, India, and other Old World regions were obtained. Mr. C. V. Piper, of Pullman, Washington, presented 658 plants from that State. An interesting collection from Mexico, comprising 139 specimens, was presented by Mr. E. W. D. Holway, of Minneapolis, Minnesota. Mr. William Palmer, of the Museum staff, collected 328 plants in Newfoundland while engaged in making molds of a whale at the Balena whaling station.

About 10,000 plants were purchased from outside the United States. The series acquired in this manner were 773 specimens from Australia, 1,606 specimens from Mexico, 471 from Nicaragua, and 109 from Costa Rica. Important purchases of plants of the United States were as follows: Utah, Wyoming, and Nevada, 1,402; California, 1,269; Virginia, 325; Texas and Arkansas, 280; Florida, 212; Oregon, 204.

The national herbarium received from the Department of Agriculture 68 accessions, comprising 1,870 specimens, among which the most important were the collections made in Texas by Mr. Arthur Howell (74 specimens), by Mr. Fred G. Plummer in New Mexico and Oklahoma (97 specimens), and by Mr. Vernon Bailey, also in New Mexico (165 specimens).

The plants transmitted by the Bureau of Fisheries have been mentioned (see p. 80). They comprise 461 specimens collected in Alaska and Oregon by Messrs. Gilbert, Evermann, Chamberlain, and others.

WORK ON THE STUDY SERIES.

In the division of mammals the two principal operations which tend toward the preservation and improvement of the great series of specimens reserved for the use of systematic zoologists are the cleaning of skulls and the renovation of skins which have deteriorated on account of the presence of oily matter or from other causes. During the year 1903-4, 6,760 skulls were cleaned, or about 2,700 more than in the preceding year. Somewhat more than two-thirds of these skulls belong to the collection of the Biological Survey, U. S. Department of Agriculture. At the end of the year, 3,000 small and 1,200 large skulls were on hand, for which no contract for cleaning had been made. The importance of this work is due to the fact that at the present time genera and species of mammals are founded largely on cranial characters and measurements, which can only be determined satisfactorily after the skulls have been entirely stripped of the soft parts surrounding or attached to them.

During the year, 289 skins of the smaller species were made over and put in order, and 73 large skins, such as those of deer, antelopes, bears, etc., these being cleaned and tanned.

The condition of the collection as a whole is excellent, but as no new cases for small species were provided no improvement could be made in the systematic arrangement of the material. The large skins are now arranged systematically, but are much overcrowded. During the year the space behind the large exhibition case in the east side of the west hall, about 90 feet in length, was fitted with 274 trays, and the large skulls which are kept there were arranged in systematic order, so that the material is now available. The labeling and arrangement of the alcoholic series was completed during the year, and that part of the collection is in excellent condition.

In the division of birds, on account of lack of assistance and overcrowded quarters, no special progress could be made in improving the general condition of the study series, but many type-specimens were newly labeled, obscure species identified, etc. Some 650 birds sent to the Museum for naming during the year by various institutions and individuals were properly identified, a task which consumed much time. A large amount of material, comprising about 3,500 specimens, was borrowed for use by Mr. R. Ridgway in connection with his manual of North and Middle American birds.

The collection of birds' eggs is reported to be in better condition than ever before. The arrangement of the nests and eggs was much improved during the year.

The study collection of reptiles and batrachians is in a satisfactory condition and the systematic arrangement progressed favorably during the year, though on account of insufficient space many difficulties

are encountered. The entering of the specimens returned to the Museum from the estate of E. D. Cope was completed.

In the division of fishes, the regular routine occupied most of the time. The equipment was improved by the addition of some new tanks, and a number of type-specimens were rebottled and placed with the special series of types.

In the division of mollusks, the arrangement of several families was revised, and a separate series was established for the fauna of the District of Columbia. The collection as a whole is reported as thoroughly accessible and in a good state of preservation.

The honorary curator of the division of insects, Dr. L. O. Howard, reports as follows regarding the insect collections:

The insect collections were never before so admirably arranged or so well preserved as they are to-day. This is due principally to the liberality shown the Division in furnishing so many of the standard insect drawers, and the specialists are now arranging the several orders as rapidly as possible in these drawers.

Doctor Dyar continues his excellent work in naming, arranging, and increasing the Lepidoptera, and deserves special mention for the great work he is doing for this order. It is mainly due to him that the national collection of these insects is now so large and in such splendid systematic order.

Mr. E. A. Schwarz, of the U. S. Department of Agriculture, is another who has contributed more than anyone else to increasing the insect collections in all orders. The Coleoptera, now under his charge, are probably not surpassed in any other museum in this country.

Mr. D. W. Coquillett, of the Department of Agriculture, continues his work on the Diptera and has made many additions to the collection of the past year. The Culicidae, or the mosquitoes, in the collection are worthy of special mention, as they have been enormously increased the past year in all stages of their development—from egg to wings—and the collection of these insects in the National Museum is probably unequaled in any other museum, except the British Museum.

Mr. Rolla P. Currie, during the present year, has been fully occupied in superintending and perfecting the collection of insects sent to the St. Louis Exposition, and should receive credit for the excellence of that exhibit. Such time, however, as he could spare from this and other work he has devoted to the Neuropteroid insects—Odonata, Neuroptera, and Trichoptera—and the collections of these insects will before a great while be in excellent order and arranged in the standard insect drawers.

Mr. A. N. Candell, of the Department of Agriculture, has done some excellent work in arranging the Orthoptera, removed last year to Doctor Dyar's room, and now virtually under his charge.

Doctor Ashmead continues his work on the Hymenoptera, and in the coming year hopes to have the whole order arranged in the standard insect drawers. He has published his generic revision of the order, except the ants, or the superfamily Formicoidea. The generic revision of the ants will probably be completed this autumn. He has also worked up all the Japanese and Philippine Hymenoptera now in the National Museum, and papers on these subjects will appear in the Proceedings of the Museum.

The great order Rhynchota still remains without a specialist to take care of it, and almost nothing has been done toward arranging and determining the rich collection of these insects now in the Museum.

In the division of marine invertebrates, a special cataloguer was employed for two and one-half months in bringing up the records of various series, especially the Hawaiian crabs and shrimps, the amphipods of the New England coast, identified by Dr. S. J. Holmes, and the isopods obtained during the investigation of the salmon fisheries of Alaska by the Bureau of Fisheries in 1903. Fifty-one sets of duplicates, each containing about 200 specimens, were distributed, together with several special sets of few specimens each.

As the Helminthological collections are without separate permanent quarters, no special action was taken in connection with them beyond the care required to keep them in good condition. They constitute, according to the custodian, Dr. C. W. Stiles, the finest collection for study purposes in the country.

The work done in the national herbarium is reported on as follows by Mr. F. V. Coville, honorary curator:

During the year we have added 64 standard insect-proof cases, making 312 now in use. In addition, we have added 5 half-units, making 12 now in use. Beside these, we have had constructed 17 three-fourths-unit cases, for storage purposes only. This gives us a total of 7,938 pigeonholes. No insects have been observed in these cases during the last six months, although they have been very bad in other parts of the herbarium. The entire herbarium is now stored in insect-proof cases, except the following groups: Lower cryptogams (exclusive of algae), the ferns and fern allies and the coniferae.

Practically all the specimens which have been mounted during the year have been stamped and recorded. The number of specimens stamped and incorporated in the permanent herbarium since its transfer to the National Herbarium on July 1, 1894, is 241,000. Of these, 21,000 have been added the past year.

Owing to our small force, only a little work has been done toward stamping and recording the old part of the herbarium. Our record shows only 429 of these specimens stamped, all of which were loaned for study.

The specimens are recorded in large books, each one of which contains space for 5,000 names. Thirty-five of these have been closed and 13 are still open. Seven new books were opened during the year.

The following table shows the number of plants mounted during the last few years, exclusive of the lower cryptogams:

1898-99.....	22,556
1899-1900.....	22,272
1900-1901.....	18,117
1901-02.....	18,000
1902-03.....	21,076
1903-04.....	29,700

The number of specimens mounted, as is here shown, is 29,700. This is the largest number mounted during the last six years. This large number is due to the fact that some \$400 was transferred to our account, which was used in mounting specimens. Of these plants, 21,900 were mounted by contract at a cost of \$876, while 3,350 were mounted by the Department of Agriculture.

The rearrangement of the herbarium according to the Engler and Prantl sequence, to which reference was made in the last two annual reports, has been continued. The work has continued from near the end of family No. 105, the Cruciferae, to the beginning of family No. 246, Gentianaceae.

COOPERATION OF SPECIALISTS AND LOAN OF COLLECTIONS.

The Museum continued, as in previous years, the custom of lending specimens to specialists engaged in scientific investigations. The activity in this direction among mammalogists was about the same as last year. Seventeen lots, comprising 316 specimens, were sent out to eight persons. Among the specimens were five types. The principal loan consisted of 244 bats, which were sent to Mr. J. A. G. Rehn, of Philadelphia, who is engaged in the study of the American species of this order. Among the remaining classes of vertebrates the transactions of this kind were less numerous, amounting in all to nine or ten lots, comprising somewhat more than 50 specimens.

The loans of insects and lower invertebrates were far more numerous, amounting to more than 5,500 specimens in the case of the former. Among them the most extensive were 1,914 Coleoptera, sent to Dr. F. E. Blaisdell, of San Francisco, California; 1,709 Orthoptera to Mr. J. A. G. Rehn, of Philadelphia; 493 Rhynchota to Prof. P. R. Uhler, of Baltimore; and 440 Diptera, of the family Tabanidæ, to Prof. James S. Hine, of the Ohio State University, Columbus, Ohio.

The collections of marine invertebrates made during the investigation of the salmon fishery of Alaska by the Bureau of Fisheries in 1903, were sent to the following specialists for identification and report: Siphonostoma to Prof. Charles B. Wilson; Pycnogonida to Dr. Leon J. Cole; Schizopoda to Dr. A. E. Ortmann; Amphipoda to Dr. S. J. Holmes; Cirripedia to Prof. H. A. Pilsbry. Doctor Ortmann also received the Schizopoda collected by the Bureau of Fisheries steamer *Albatross* in 1891, for use in connection with the report on the collection of 1902. A number of starfishes from Bering Sea and the Arctic Ocean were sent to Prof. A. E. Verrill for use in connection with his report on the starfishes of the Harriman Alaska Expedition. Several lots of actinians were sent to Dr. J. E. Duerden, who is preparing a report for the Bureau of Fisheries on the forms found in the Hawaiian Islands, and also on species held in the claws of certain crabs. Fifty bottles of surface towings from the Woods Hole region were sent to Dr. K. W. Genthe, from which to sort out copepod crustaceans for a report on that group.

The general collection of Cumacea was forwarded to Dr. W. T. Calman of the British Museum for study.

Loans of plants from the National Herbarium were about as numerous as last year, comprising 43 lots, containing 2,873 sheets, as compared with 35 lots, containing 2,704 sheets, sent out in 1902-03. The principal loans were as follows:

To Dr. Janet Perkins, at the Berlin Botanical Garden, 1,150 Philippine plants; to Dr. B. L. Robinson, Gray Herbarium, Harvard University, 423 sheets of Mexican plants and specimens of *Xyris* and

Polygonum; to Dr. Theo. Holm, Brookland, District of Columbia, 277 sheets of *Carex*, *Betula*, *Lychnis*, etc.; to Mr. George R. Shaw, Arnold Arboretum, Jamaica Plains, Massachusetts, 212 specimens of pines; to Mr. Oakes Ames, 219 specimens of orchids.

DISTRIBUTION OF SURPLUS MATERIAL.

As already stated, 51 sets of duplicate specimens of marine invertebrates were distributed during the year. These sets contain about 200 specimens each, representing from 92 to 99 species, and as many different groups as the nature of the material available permits. Of the 10,000 or more specimens, somewhat less than one-half went to high schools, and the remainder to various other public schools, and to universities, colleges, academies, seminaries, institutes, and museums. Eighteen States are represented in this distribution.

LABORATORY USE OF THE COLLECTIONS BY INVESTIGATORS.

The bird collections have been very frequently consulted during the year by ornithologists from different parts of the country. The collections from the Western States were examined by Mrs. Vernon Bailey, of Washington City, who is revising her handbook of western birds. The bluebirds and crested flycatchers were studied by Mr. E. W. Nelson, of the Biological Survey, in connection with a list of Mexican birds which he is preparing. Mr. H. C. Oberholser, of the same Bureau, made almost daily use of the collection in connection with his official work, and also for identifying birds sent in by various correspondents, and in preparing a report for the Museum on Doctor Abbott's collection from Mount Kilima-njaro, East Africa. Prof. W. W. Cooke, another ornithologist of the Survey, examined the North American series in connection with his study of migrations. The entire study series was examined by Dr. R. M. Strong, of the University of Chicago, on points connected with his researches on the structure and color of feathers. The Nomenclature Committee of the American Ornithologists' Union considered the validity of various species and subspecies of North American birds as represented in the collection. Dr. Jonathan Dwight, jr., examined the collection of North American gulls.

In the division of reptiles, Mr. W. P. Hay was given facilities for studying specimens of the diamond-back terrapins, on which he is preparing a report for the Bureau of Fisheries. Mr. Vernon Bailey spent several weeks in studying the reptiles of Texas.

The collection of fishes was frequently consulted by the ichthyologists of the Bureau of Fisheries, especially Messrs. Evermann, Kendall, Goldsborough, and Pope.

Mr. Ralph Arnold made a study of the Western American Pectinidæ, in connection with a monograph of the group which he has in contem-

plation. Col. Thomas L. Caesy, U. S. Army, made an investigation of the fossil and recent Pleurotonidæ for a classification of that family.

Regarding the insect collections, Doctor Howard reports as follows:

Prof. J. B. Smith, of New Brunswick, New Jersey, W. D. Kearfott, of New York, Dr. W. J. Holland, Pittsburg, Pennsylvania, Wm. Schaus, London, England, and others, have consulted the collection of Lepidoptera; John H. Emerton, of Boston, and Prof. R. V. Chamberlain, of Cornell University, made use of the collection of Arachnidæ; C. Schaeffer, of Brooklyn, Dr. Henry Skinner, of Philadelphia, and others, have made studies on our Coleoptera; several physicians have examined our collection of mosquito larvæ. The Carnegie Institute has also had the use of our *Polista* for the purpose of illustrating a paper on the American species.

Regarding investigation carried on in the national herbarium, Mr. Coville reports as follows:

Dr. E. L. Greene, of the Catholic University of America, has spent much time here engaged on various lines of systematic work. Dr. N. L. Britton, director of the New York Botanical Garden, has been a frequent visitor, being engaged with Mr. Rose in preparing a monograph of the North American genera of Crassulaceæ, which will soon be published. Mr. Theo. Holm, of Brookland, District of Columbia, has frequently been here to examine our Carices. He has frequently borrowed material to take to his home, and we have had specimens sent on here for him to study. We have endeavored to give him every facility to carry on his work and to grant all requests consistent with the Museum rules and regulations. Prof. E. L. Morris, of the Washington High School, has been studying the genus *Plantago*, doing much of his work at the herbarium. We have borrowed several collections for him from other institutions.

The following persons from the Department of Agriculture, in addition to those officially connected with the Division, have frequently consulted the herbarium: Mr. L. H. Dewey, Mr. V. K. Chestnut, Mr. W. F. Wight, Mr. C. L. Sheer, Mr. C. R. Ball, Mr. P. L. Ricker, Mr. C. F. Wheeler, Mr. C. V. Piper, Mr. Scofield.

SCIENTIFIC RESEARCHES AND INVESTIGATIONS.

While the preparations for the St. Louis Exposition occupied a portion of the time of nearly every member of the scientific staff, on the other hand the separate management of the exhibition work by a chief designated for that purpose more than compensated for the diversion. The scientific work accomplished during the year, therefore, showed no important diminution as compared with that of previous years. A complete list of papers published will be found under the heading "Bibliography".

Work on the manual of the Birds of North and Middle America was continued by Mr. Ridgway without interruption during the year. Part 1 of this work was published in 1901 and part 2 in 1902. Part 3 was printed to page 472 and the manuscript for the remainder completed and sent to press. Of part 4, more than 700 pages of manuscript were made ready for the printer, and the work beyond that point is well in hand. Mr. Ridgway was assisted after January 1, 1904, by Mr. J. H. Riley, who prepared the necessary tables of measurements, etc.

Mr. Ridgway also published during the year two papers containing descriptions of 4 new genera and 29 new species and subspecies of American birds.

Lists of the birds collected by Doctor Abbott and Mr. C. B. Kloss on Anambas and Tumbelans islands, China Sea, and at Tringamu, Malay Peninsula, were prepared by Doctor Richmond and sent to Mr. Kloss at his request. Doctor Richmond also completed the majority of identifications of the birds collected by Doctor Abbott on the islands off the west coast of Sumatra and published five notes on matters of zoological nomenclature.

Mr. J. H. Riley published three notes on birds of the Bahama Islands, including a description of a new nighthawk.

Dr. F. W. True submitted the manuscript of his memoir of the Whalebone Whales of the Western North Atlantic for publication, and at the close of the year the entire work, consisting of about 300 pages, with 50 plates, had passed through the press. During the year he published four papers on cetaceans and a number of articles for the *Encyclopedia Americana*.

The study of Doctor Abbott's collections of mammals from the Malay Archipelago was continued by Mr. G. S. Miller, jr., during the year. He published descriptions of 70 new species from these collections, including a new genus and 6 new species of monkeys, 2 new species of mouse-deer (*Tragulid*), and 6 new species of flying lemurs (*Galeopithecus*), etc. He published also descriptions of 4 additional species of Old World mammals, a note on the bat *Eudermid maenulatum*, and a paper on bats collected by Mr. William Palmer in Cuba. In addition, Mr. Miller continued work on a reclassification of the Cheiroptera. Dr. M. W. Lyon completed his study of the osteology of the hares and their allies, mentioned in last year's report, and published an elaborate revision of the genera and subgenera, based on osteological characters.

Doctor Stejneger's Herpetology of Porto Rico was published during the year in the Museum report for 1902. It is a comprehensive work of 175 pages, with numerous illustrations. Doctor Stejneger continued his investigation of the reptile fauna of eastern Asia, and also worked up the collections obtained by Dr. Hugh M. Smith in Japan and by Mr. J. H. Riley in the Bahama Islands. The latter contained a new species of iguana, which was named *Cyclura rileyi* by Doctor Stejneger. He also published a description of a new snake from Florida and a new lizard from Texas, together with a report on the Fifth Zoological Congress, to which he was delegate.

A report on the fishes collected in the Bahama Islands by Mr. B. A. Bean for the Baltimore Geographical Society was prepared by him for the society. It included a list of 165 species, with notes on their habits, abundance, and uses. Mr. Bean also identified the collection

of fishes of the Nile made by the Senff Expedition of 1899, and published notes on collections from North Carolina and the Barbados.

Dr. William H. Dall completed reviews of the nomenclature of the Pupacea and of the history and classification of the Tritons and Frogshells, and also a summary of the recent and fossil land-shell fauna of the Bahamas. He also began a general review of the land and fresh-water shells of Alaska and adjoining regions in Asia and North America. His publications on recent mollusks for the year consisted of descriptions of 13 new species from California, a new genus of Trochidae from Hawaii, three notes on nomenclature, a note on the family Septidae, and one on the relations of *Grundlachia* and *Ancylus*. He also published conjointly with Mr. Paul Bartsch the chapter on the Pyramidellidae in Mr. Ralph Arnold's Paleontology of San Pedro, California, a synopsis of the genera of the same family, a revision of *Ampullaria*, and a description of a new California species of *Periploma*.

Mr. Bartsch continued work on the Pyramidellidae, as noted in last year's report, and published descriptions of new species of *Scissurella* and *Sonorella*, a note on *Limax*, and also an account of the herons living in the District of Columbia.

The bibliography of the staff of the Division of Insects (including the honorary officers) for the year comprises 114 titles. It is obviously impossible to mention so large a number in detail in this place, but a full list will be found under "Bibliography". Dr. L. O. Howard published 16 papers, including one in the Yearbook of the Department of Agriculture for 1903 on silk culture. Doctor Ashmead's papers number 20, the most extensive being a classification of the Chalcid flies, based partly on the collection of the National Museum and published by the Carnegie Museum of Pittsburg. It consists of 326 pages and 9 plates. Dr. H. G. Dyar's entomological publications for the year number 31, among them being a paper of 160 pages on the Lepidoptera of the Kootenai District of British Columbia. Mr. D. W. Coquillett published 15 papers, including descriptions of new genera and species in Mrs. C. F. Baker's reports on the Diptera of California. Mr. Nathan Banks's publications on spiders were of equal number; among them one on Phasmidae of 23 pages, the spiders of Florida, containing a list of 279 species, of which 13 were new (28 pp.).

Mr. Caudell published 14 papers, among them one on the Walkingsticks (Phasmidae) of the United States (23 pp.), containing descriptions of a new subfamily, three new genera, and four new species. Mr. R. P. Currie published an account of an insect-collecting trip in British Columbia (14 pp.) and two other papers.

Dr. J. E. Benedict's revision of the crustaceans of the genus *Lepidopa*, mentioned in last year's report, was published in the Proceedings of the Museum, and he has continued his studies of the

anomurans and published a paper on new albuncids. Miss M. J. Rathbun's monograph of the fresh-water crabs (Potamonidæ) was completed and is in course of publication in the *Archives* of the Paris Museum of Natural History. She also continued work on the Hawaiian crabs. Her report on the decapod crustaceans of the northwest coast of North America (190 pp.) was published in the Harriman Alaska Expedition series. A report on isopod crustaceans of this region by Dr. Harriet Richardson was included in the same volume. Doctor Richardson published two other papers on isopods during the year.

Dr. C. W. Stiles, custodian of the helminthological collection, completed his investigation of the hookworm disease in the Southern States, and undertook an investigation of the "spotted fever." He published two papers relating to parasites, and, in cooperation with Dr. Albert Hassall, the fourth, fifth, and sixth parts of an index catalogue of medical and veterinary zoology.

The titles of papers published by Dr. F. V. Coville, honorary curator of the national herbarium, are given in the Bibliography (Appendix III of this Report). Dr. J. N. Rose continued the study of the Crassulaceæ, and expects soon to publish a monograph of that family conjointly with Dr. N. L. Britton. One preliminary paper on the family by these authors appeared during the year, in which eleven new genera and a large number of new species were described. Doctor Rose also published a description of a new species of *Begonia*. He was invited to join Doctor Britton in a work on the cactuses of North America, the investigations for which will occupy some four or five years. Mr. W. R. Maxon gave some time to the study of the ferns of the Philippine Islands.

PERSONNEL.

Dr. Edward L. Greene was appointed honorary associate in botany June 1, 1904.

The Head Curator was appointed representative of the Smithsonian Institution and National Museum for the Lewis and Clark Exposition, Portland, Oregon, 1905.

Dr. Leonhard Stejneger acted as Head Curator of the Department from January to May, 1904. He was also appointed representative of the National Museum at the Sixth Zoological Congress, Berne, Switzerland. Mr. G. S. Miller, jr., was also designated as a delegate to this congress.

Mr. F. A. Lucas, curator of the division of comparative anatomy, severed his connection with the staff of the Museum on June 30, 1904.

Dr. J. E. Benedict, assistant curator, was designated to act temporarily as chief of exhibits, on May 17, 1904.

Mr. J. H. Riley, aid, was transferred on December 30, 1903, from the section of birds' eggs to the division of birds, to assist Mr. R. Ridgway in completing his *Manual of the Birds of North and Middle America*, and Mr. Edward Horgan was appointed temporarily in his place.

Mr. R. P. Currie, aid, division of insects, was transferred to the Department of Agriculture on June 30, 1904.

Mr. C. A. McKnew was appointed aid in the division of fishes on April 16, 1904.

Mr. F. A. Walpole, artist in the national herbarium, died May 11, 1904.

Mr. Henry Marshall, bird taxidermist, died May 26, 1904.

Mr. C. L. Pollard, assistant curator, division of plants, was given an extended furlough, beginning October 1, 1903, to enable him to engage in temporary botanical work elsewhere.



**REPORT ON THE DEPARTMENT OF GEOLOGY
FOR THE YEAR 1903-04.**

By GEORGE P. MERRILL,
Head Curator.

The year 1903-04 compares favorably with those immediately preceding it in both the number and value of accessions. Indeed, when that acquired for the Louisiana Purchase Exposition is taken into consideration, the value of exhibition material received exceeds that of either of the two previous years. As, however, much of this has not yet been installed in the Museum collections, its full value can not be made apparent.

ACCESSIONS.

The total number of accessions received by the Department is shown in tabular form below, those of 1902-03 being also given for purposes of comparison:

Divisions and sections.	1903-04.	1902-03.
Geology.....	377	371
Mineralogy.....	143	110
Invertebrate paleontology.....	106	86
Vertebrate paleontology.....	45	22
Paleobotany.....	19	15

Below is a list of the more important of the materials received:

DIVISION OF GEOLOGY.

1. A series of 102 specimens of platiniferous rocks from the Demidoff Mines, Russia; gift of M. Juarez Sponville.
2. A magnificent mass of amethystine quartz, weighing some 400 pounds, from the extraordinary geode discovered a few years since in Rio Grande do Sul, Brazil, and described by Dr. G. F. Kunz in the Mineral Resources for 1901.
3. A series comprising 78 specimens of rocks, illustrating the occurrence and association of the diamond at the De Beers Consolidated Mines, Kimberley, South Africa. These came to the Museum as a gift from Mr. Gardner F. Williams, the manager of the mines, and the author of the work *The Diamond Mines of South Africa*.

4. A series of 22 specimens of copper and its associations from Calumet, Michigan.

5. A large slab of polished rose quartz, some 33 by 39 by 5 inches, from the Black Hills of South Dakota.

6. A beautiful nugget of native silver; gift of Mr. A. L. Pellegrin, Nogales, Arizona.

7. A sample of diamond-bearing gravel with small diamond attached from Minas Geraes, Brazil; gift of Prof. O. A. Derby.

In addition, mention should be made of a fine series of opalized wood from near Logan, Montana, and a unique series of silicified geyser tubes from southwestern Wyoming (both collected for the Louisiana Purchase Exposition by the Head Curator); some large slabs of the peculiar porphyritic rock known as leopardite from near Salisbury, North Carolina, and of orbicular diorite from near Advance, in the same State; also of the various quadrangle series, comprising some 385 specimens, received from the U. S. Geological Survey.

DIVISION OF MINERALOGY.

1. The largest accession of the year comprised some 600 specimens illustrating the occurrence and association of zeolites and other silicates in the trap rocks of New Jersey. The collection is remarkably complete and valuable for both study and exhibition purposes. It came to the Museum through the instrumentality of Dr. William S. Disbrow, of Newark, New Jersey, to whom we have been indebted for much interesting material in years past.

Of historical interest, the division has also received from this same gentleman one of the first known crystals of American spodumene, forming one of the lot exhibited by Dr. Edward Hitchcock in New England in the early part of the last century.

2. An example of the recently discovered and described pink spodumene known locally as kunzite and utilized as gem material; the gift of Mr. F. M. Siekler.

3. A specimen of anglesite with sulphur on galena from Monte Poni. The material is of interest in showing the processes of oxidation and reduction in the same specimen.

4. A series of artificial stones used in the gem trade, including fine examples of pastes, doublets, triplets, and stones artificially colored; the gift of Mr. Oscar T. Johnsson.

5. Cut turquoise from Idaho, Clay County, Alabama; the gift of Mr. Eugene A. Smith.

6. A set of paste models showing the various forms in which gems are cut.

7. Several important additions have been made to the meteorite collection, including examples of the Trenzano fall, weighing 163

grams; the Franceville, Missouri, iron, weighing 300 grams; the Mukerop, South Africa, iron, weighing 14,288 grams; and the Finnmarken pallasite, weighing 595 grams.

In addition is to be mentioned a large series of showy quartzes and calcites obtained by gift, collection, and purchase for the Louisiana Purchase Exposition. This includes some magnificent smoky quartzes from Montana, the gift of Mr. A. P. Pohndorf and Mr. J. R. Wharton, beautiful agates, opals, and other materials which can not be described in detail until they are returned from the Exposition.

INVERTEBRATE PALEONTOLOGY.

The permanent accessions in this division amount to something like 68,000 specimens, though, naturally, this includes much duplicate material.

1. The largest single accession includes some 40,000 reserve specimens transferred from the U. S. Geological Survey. These are for the most part determined, labeled, and arranged in zoological and stratigraphical order, and comprise the material which Dr. William H. Dall and his assistants have spent years in gathering and working up to its present high scientific value.

2. The Survey has also turned over to this Museum another very valuable, though in large part unworked, collection. This comprises a series of some 1,932 Tertiary insects, brought together by Dr. Samuel H. Scudder, besides many hundred original drawings, a great part of which are unpublished. Mr. Charles Schuchert reports that this transfer makes the Museum collection of fossil insects the largest in America, if not in the world.

3. Second only to the accessions mentioned above is the final portion of the E. O. Ulrich collection. This embraces the mollusca and miscellaneous materials of this most valuable collection, and comprises no less than 15,000 reserve specimens and 500 lots of original types or illustrated specimens.

4. From the Imperial Academy of Sciences, St. Petersburg, Russia, through Dr. Frederich von Schmidt, was received as a gift an excellent suite of Lower Silurian Estland fossils. The material was selected by Mr. Schuchert while in Russia for the purpose of making correlations between the Russian and American faunas.

5. From the Zoological Museum of the University of Copenhagen, Denmark, through Prof. G. M. R. Levinson, there was received in the way of exchange a fine series comprising more than 100 specimens of identified European Mesozoic and Tertiary bryozoa.

6. From the Yale University Museum, through Dr. C. E. Beecher, was received as a gift a collection of 18 species, comprising 580 specimens, of Hamilton brachiopods, representing the various stages of

growth. This is a collection of more than ordinary value, because of the great care exercised by Doctor Beecher in the selection and mounting of the material.

7. From Mr. B. E. Walker, Toronto, Canada, as a gift, there was received a number of excellent cystids from the Silurian of Grimsby, Ontario.

8. For exhibition at St. Louis there were obtained, largely by purchase, an excellent series of Lower Devonian starfishes and crinoids, a large slab with many fine examples of *Pentacrinus fossilis*, a similar slab of *Trigonia clavata*, several large ammonites, and an excellent series of Solenhofen invertebrate fossils.

VERTEBRATE PALEONTOLOGY.

1. The most important accession of the year was a specimen of the pterodaetyl, *Rhamphorhynchus phyllurus*, showing the impression of the wing and tail membranes. This, as well as fine specimens of ichthyosaur and teleosaur (*Stenosaurus*) and a number of fishes typical of the fauna of the lithographic limestone, was purchased for the Louisiana Purchase Exposition.

2. A cranium of *Bison alleni*, presented by Mr. D. McLean, of Rampart city, Alaska, is important from the fact that it is the first specimen of this species obtained in Alaska, and because the horn material itself was preserved.

PALEOBOTANY.

The only accessions of great importance in this department were:

1. One hundred and ninety specimens from Mazon Creek, Illinois; Athens, Ohio; and other localities, which form a part of the Carl Rominger collection purchased a year ago. This collection is especially valuable as containing a fair representation of silicified trunks, particularly of the genera *Dadoxylon* and *Psaronius*. These were accompanied by a series of well-prepared microscopic sections.

2. One hundred and thirty-two specimens from the higher beds of the anthracite series, collected and presented to the Museum by Mr. C. W. Unger, of Pottsville, Pennsylvania.

ROUTINE.

In the division of geology some 1,250 labels for the exhibition series have been printed and distributed; at least a thousand duplicates have been sorted out from the material that has been gradually accumulating for years past, labeled, wrapped, and sent to storage to be utilized for exchanges and future distribution; 8,632 catalogue, bibliographic, and title cards have been prepared; 1,041 slips written for the type catalogue; 1,530 catalogue entries made; copy for 612

labels prepared for the printer; 193 temporary labels prepared for the exhibition series; 2,140 slips for the reserve collections; 895 pages of manuscript of scientific material prepared; and 3,658 specimens have been permanently numbered in oil colors.

The entire lithological study series has been overhauled and a complete card catalogue made of the same.

The geological section across North America, referred to in my previous reports, has been completed and placed on exhibition against the south wall of the west-south range. This, it will be remembered, comprises a section on a scale of 2 miles to the inch, extending from the coast of North Carolina to that of California near San Francisco.

Upward of 300 thin sections of rocks have been prepared.

In the division of minerals the entire descriptive exhibition series has been overhauled and labeled. The work on a card catalogue of the mineralogical collection is progressing favorably, some 4,300 cards having been thus far prepared.

In the division of stratigraphic paleontology Mr. Schuchert reports that Mr. R. S. Bassler has spent a large portion of the fiscal year in the work of unpacking, labeling, and sorting specimens, and remounting the thin sections of bryozoa in the E. O. Ulrich collection. To this collection have now been added nearly all the other Museum bryozoa, the greater part of which are in an unworked condition.

During the year there have been put away in final Museum condition probably not less than a hundred thousand specimens. The exact number can not be given, since the Paleozoic collections have been growing at a remarkable rate. This growth is due largely to the purchase during the past three years of the Ulrich, Rominger, and Sherwood collections, besides much other material, not including such as comes to the Museum regularly from the U. S. Geological Survey and through the efforts of the departmental staff. The registering of these specimens, as well as the work of painting the numbers and making the cards, is now far behind, owing to the lack of sufficient assistance.

The work of preparing for distribution 500 school collections of invertebrate fossils, each comprising 30 to 60 specimens, is well in hand and will be completed during the first month of the coming year. The 500 collections will contain altogether not less than 60,000 specimens.

In the division of vertebrate paleontology a skull of a *Diplodocus* from the Marsh collections has been cleaned and mounted, and one of a *Trachodon* from Butler County, Montana, restored and remounted for exhibition purposes.

Two skulls of *Ceratopsia*, one the type of *Triceratops calicornis* and the other a fine specimen of a new genus of these great Dinosaurs, have been prepared for exhibition.

In the division of paleobotany the work of preparing the card catalogue of the Lacey collection of fossil plants is progressing slowly.

The regular work of the Museum has been greatly interrupted during this period by preparation for the Louisiana Purchase Exposition. The Curator of the Department was absent from Washington in connection with this work some ninety-one days of the year. During this time he made—

- (1) A trip to the Pacific coast and back, going viâ Ishpeming, Michigan, and the Northern Pacific to Portland, Oregon, and returning by way of San Francisco; Ogden, and Salt Lake, Utah; Pocatello, Idaho; through Wyoming to Laramie, Denver, and the Black Hills of Dakota.
- (2) A trip into western Mexico in the vicinity of Bacubirito, State of Sinaloa, and (3) finally, a trip into the apatite, mica, and asbestos regions of Canada.

The purpose of the Mexican trip was to secure for the Louisiana Purchase Exposition a cast of the celebrated Bacubirito meteorite, the second largest known mass of meteoric iron in the world.

Mr. Wirt Tassin, of the division of mineralogy, made a trip into an interesting zeolite locality near Newark, New Jersey, and obtained much valuable material.

Mr. William C. Phalen made two trips into Virginia for the purpose of making collections and studying the unakite near Milams Gap, Virginia.

Mr. Schuchert was granted four months' leave of absence in Europe, where considerable time was devoted to collecting Ordovician, Silurian, Devonian, and Carboniferous fossils.

Messrs. W. H. Newhall, Charles Schuchert, Wirt Tassin, and the Head Curator were in St. Louis for periods varying from one to three weeks, engaged in the work of installing the exhibits of the Department. Dr. A. C. Peale was also on leave for a period of more than two months.

ASSISTANCE TO INDIVIDUALS AND INSTITUTIONS.

There have been sent out by the Department during the period covered by this report, in the way of gifts and exchanges, some 64 lots, comprising 7,138 specimens.

In addition, material for study has been loaned to the individuals and institutions mentioned below:

Mr. John M. Clarke, of the New York State Museum; Prof. W. B. Clark, of Johns Hopkins University; Mr. S. F. Emmons, of the U. S. Geological Survey; Dr. A. Handlirsch, of the K. K. Naturhistorische Hofmuseum, Vienna; Prof. C. H. Hitchcock, of Dartmouth College, Hanover, New Hampshire; Prof. Edwin G. Kirk, of Columbia University, New York City; Dr. George F. Kunz, New York City; the American Museum of Natural History; Mr. P. E. Raymond, New

Haven, Connecticut; and Mr. Frank Springer, of the Bureau of Standards, Washington City.

Portions of the collections of the Division of Geology have been studied by Dr. Thomas L. Watson, of Denison University, Granville, Ohio, in connection with the preparation of a report on the building stone of North Carolina.

Prof. H. F. Osborn has continued his work on the Titanotherium of the Marsh collection. Dr. J. B. Hatcher spent several weeks in the study of the Triceratops, and Mr. F. A. Lucas in the study of the Stegosaur remains.

In addition to the members of the U. S. Geological Survey, the following persons have studied the collections in Paleobotany:

Dr. Arthur Hollick, assistant curator of botany in the New York Botanical Gardens; the Rev. H. Herzer, of Marietta, Ohio; and Mr. E. W. Berry, of Passaic, New Jersey.

PRESENT CONDITION OF THE COLLECTIONS.

The condition of the collections as a whole is quite satisfactory, when everything is taken into consideration. In spite of numerous interruptions, due to the work of the Louisiana Purchase Exposition, the general work of cataloguing and numbering has been carried on, and the records are being daily improved.

The exhibition series is kept constantly alive through the insertion of new material and the weeding out of that which is old and less desirable.

The section of vertebrate paleontology at present needs the largest share of attention. This is in part due to the fact that the work of preparation of vertebrate material is slow, laborious, and necessarily expensive. The Claosaurus mount, which was reported as nearly complete at the close of the last fiscal year, is now installed against the south wall of the southeast court.

The exhibition series has been increased by the addition of a fine skull of a new genus of Ceratopsia and skulls of a Diplodocus and Trachodon, the latter from Butler County, Montana; also a mounted skeleton of *Syornis casuarinus* from New Zealand.

It was hoped that we might be able to report fair progress in the way of mounting a Triceratops, but numerous events, including the resignation of a preparator, have conspired to prevent this.

The collection of bryozoa, which has been already referred to, is reported by Mr. Schuchert as occupying nearly 150 standard drawers and comprising what is probably the most important collection of its kind extant. This is indicated by the number of types and illustrated specimens, of which there are some 620 different lots or species.

The exhibition collections in all the divisions, with the exception of that of vertebrate paleontology, are as full as available space will permit.

The study collections are, as a rule, in a fairly satisfactory condition, although much remains to be done to bring the records up to date.

In the division of stratigraphic paleontology much yet must be done to complete the records relating to the Ulrich, Rominger, and Sherwood collections. It is estimated that at the present rate of progress at least two years will be required to complete this work.

RESEARCH.

The routine work of the Museum, taken in connection with that of preparing for the Louisiana Purchase Exposition, has greatly interfered with research work on the part of the Museum force. The Head Curator published but little. He has, however, supervised the work of an economic survey in North Carolina, having particular reference to the building and ornamental stones of the States, and has acted in the capacity of expert special agent in charge of Report on Stone Quarries in connection with the census. He has prepared reports in both instances, but they have not yet been published.

Mr. William C. Phalen has studied and described the rocks of the Nugsuaks Peninsula, in Greenland, and an occurrence of unakite near Milams Gap, Virginia.

Mr. Wirt Tassin reports some eighteen analyses made looking toward the identification of little-known material; he has also studied and described a meteorite from Persimmon Creek in North Carolina.

Mr. R. S. Bassler has continued his studies on the Rochester shale bryozoa, a work which he hopes to complete during the coming year.

Mr. E. O. Ulrich, in conjunction with Mr. Bassler, has completed two papers on Paleozoic bryozoa.

Miss Elvira Wood, of the U. S. Geological Survey, has prepared a paper treating of all the Middle Devonian crinoids in the Museum collections.

CHANGES IN PERSONNEL.

The Department of Geology has suffered severely through resignations, due in nearly every instance to insufficient salaries.

Mr. Alban Stewart, preparator in the section of vertebrate paleontology, resigned on March 12, last. His place has been filled, temporarily, by Mr. C. W. Gilmore.

Messrs. R. S. Bassler and William C. Phalen resigned on May 9 and 15, respectively, to accept positions with the U. S. Geological Survey.

Mr. Charles Schuchert has accepted the position of professor of paleontology in Yale University, though his resignation has not yet taken effect.

Mr. F. A. Lucas, of the Department of Biology, who has been in charge of the collections of vertebrate fossils, has also severed his connection with the Museum.

APPENDIX I.

THE MUSEUM STAFF.

[June 30, 1904.]

S. P. LANGLEY, Secretary of the Smithsonian Institution, Keeper Ex-officio.
RICHARD RATHBUN, Assistant Secretary, in charge of the U. S. National Museum.
W. DE C. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

Otis T. Mason, Acting Head Curator.

- (a) *Division of Ethnology*: Otis T. Mason, Curator; Walter Hough, Assistant Curator; J. W. Fewkes, Collaborator.
- (l) *Division of Physical Anthropology*: A. Hrdlicka, Assistant Curator.
- (c) *Division of Historic Archeology*: Paul Haupt, Honorary Curator; Cyrus Adler, Honorary Assistant Curator; I. M. Casnowicz, Aid.
- (d) *Division of Prehistoric Archeology*: W. H. Holmes, Honorary Curator; J. D. McGuire, Collaborator.
- (e) *Division of Technology*: George C. Maynard, Assistant Curator.
- (f) *Division of Graphic Arts*: Paul Brockett, Custodian.
Section of Photography: T. W. Smillie, Custodian.
- (g) *Division of Medicine*: J. M. Flint, U. S. Navy (Retired), Honorary Curator.
- (h) *Division of Historic Religions*: Cyrus Adler, Honorary Curator.
- (i) *Division of History*: A. H. Clark, Honorary Curator; Paul Beckwith, Assistant Curator.

DEPARTMENT OF BIOLOGY:

Frederick W. True, Head Curator.

- (a) *Division of Mammals*: Frederick W. True, Curator; G. S. Miller, Jr., Assistant Curator; Marcus W. Lyon, Jr., Aid; Walter L. Halm, Aid.
- (b) *Division of Birds*: Robert Ridgway, Curator; Charles W. Richmond, Assistant Curator; J. H. Riley, Aid.
Section of Birds' Eggs: William L. Ralph, Honorary Curator; E. J. Horgan, Aid.
- (c) *Division of Reptiles and Batrachians*: Leonhard Stejneger, Curator; R. G. Paine, Aid.
- (d) *Division of Fishes*: Tarleton H. Bean, Honorary Curator; Barton A. Bean, Assistant Curator; C. A. McKnew, Aid.
- (e) *Division of Mollusks*: William H. Dall, Honorary Curator; Paul Bartsch, Aid; William B. Marshall, Aid.
- (f) *Division of Insects*: L. O. Howard, Honorary Curator; W. H. Ashmead, Assistant Curator; R. P. Currie, Aid.
Section of Hymenoptera: W. H. Ashmead, in charge.
Section of Myriapoda: O. F. Cook, Custodian.

DEPARTMENT OF BIOLOGY—Continued.

(f) Division of Insects—Continued.

Section of Diptera: D. W. Coquillett, Custodian.

Section of Coleoptera: E. A. Schwarz, Custodian.

Section of Lepidoptera: H. G. Dyar, Custodian.

Section of Arachnida: Nathan Banks, Custodian.

(g) Division of Marine Invertebrates: Richard Rathbun, Honorary Curator; J. E. Benedict, Assistant Curator; Mary J. Rathbun, Assistant Curator; Harriet Richardson, Collaborator.

Section of Helminthological Collections: C. W. Stiles, Custodian.

(h) Division of Comparative Anatomy: Frederic A. Lucas, Curator.*(i) Division of Plants (National Herbarium):* Frederick V. Coville, Honorary Curator; J. N. Rose, Assistant Curator.

Section of Forestry: B. E. Fernow, Honorary Curator.

Section of Cryptogamic Collections: O. F. Cook, Honorary Assistant Curator; W. R. Maxon, Aid.

Section of Higher Algae: W. T. Swingle, Custodian.

Section of Lower Algae: G. T. Moore, Custodian.

Section of Lower Fungi: D. G. Fairchild, Custodian.

Associates in Zoology (Honorary): Theodore N. Gill, C. Hart Merriam, R. E. C. Stearns.

Associate in Botany (Honorary): Edward L. Greene.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

(a) Division of Physical and Chemical Geology (Systematic and Applied): George P. Merrill, Curator; W. H. Newhall, Aid.*(b) Division of Mineralogy:* F. W. Clarke, Honorary Curator; Wirt Tassin, Assistant Curator; Rev. L. T. Chamberlain, Honorary Custodian of Gems and Precious Stones.*(c) Division of Stratigraphic Paleontology:* Charles D. Walcott, Honorary Curator; Charles Schuchert, Assistant Curator.

Section of Vertebrate Fossils: F. A. Lucas, Acting Curator.

Section of Invertebrate Fossils: Paleozoic, Charles Schuchert, Custodian; Carboniferous, George H. Girty, Custodian; Mesozoic, T. W. Stanton, Custodian; Cenozoic, W. H. Dall, Associate Curator; Madreporarian Corals, T. Wayland Vaughan, Custodian.

Section of Paleobotany: Lester F. Ward, Associate Curator; A. C. Peale, Aid; F. H. Knowlton, Custodian of Mesozoic Plants; David White, Custodian of Paleozoic Plants.

Associate in Paleontology (Honorary): Charles A. White.

ADMINISTRATIVE STAFF.

Chief of Correspondence and Documents, R. I. Geare.

Librarian, Cyrus Adler.

Assistant Librarian, N. P. Scudder.

Disbursing Clerk, W. W. Karr.

Superintendent of Construction and Labor, J. S. Goldsmith.

Editor, Marcus Benjamin.

Photographer, T. W. Smillie.

Registrar, S. C. Brown.

Property Clerk, W. A. Knowles.

APPENDIX II.

LIST OF ACCESSIONS, 1903-04.

- ABBOTT, Dr. W. L., Singapore, Straits Settlements: A very extensive, interesting, and valuable collection of ethnological specimens, including many unique objects from various islands off the western coast of Sumatra, and a large variety of natural history material, including many new and rare species from the same localities (41342); also a large collection of natural history specimens, containing mammals, birds' skins, birds' nests and eggs, birds' skeletons, reptiles, insects, and skeletons of different animals, besides many hundreds of ethnological objects in daily use among the inhabitants of the Rhio-Linga Archipelago (42168).
- ABRAHAM, LOUIS, Washington, D. C.: Six watch movements. 42468.
- ABREU, ROSALIA, Polotina, Cerro, Habana, Cuba: Leaf and fruit of a plant from Cuba. 41675.
- ACKER, Dr. G. N., Washington, D. C.: Brains of white and colored children (41792; 42101; 42466; 42549; 42864).
- ADAMS, C. C. (See under Michigan, University of.)
- ADAMS, MRS. FRANK, Mount Dora, Fla.: Two specimens of *Callitris robusta*. 42607.
- ADAMS, HENRY, Mason City, W. Va.: Three archeological specimens. 41242.
- ADAMS, Dr. S. S., Washington, D. C.: Brain of a negro child (42034); brain of a white child (42340).
- ADAMS, WALLACE, U. S. National Museum: Paroquet, *Conurus hæmorrhous*. 42306.
- ADELAIDE, AUSTRALIA, Royal Geographical Society of Australasia. Received through Mr. Thomas S. Reed: Fifty-nine impressions of leaves and ferns; also a description of the process. 42192.
- AGRICULTURE, BUREAU OF, Manila, P. I. (See under Philippine Islands, Manila, Bureau of Agriculture.)
- AGRICULTURE, DEPARTMENT OF, Hon. James Wilson, Secretary: Received through the Biological Survey, 90 birds' eggs and 5 nests, collected by Messrs. E. W. Nelson, E. A. Goldman, F. Stephens, W. H. Osgood, L. A. Fuertes, H. C. Oberholser, and J. F. Gant, in various parts of North America during the year 1903 (41350); 5 specimens of *Ashmunella chiricahuana* Dall from Capitan Mountains, New Mexico (41566); received through the Biological Survey, 8 fresh-water crabs from Guerrero, Mexico, collected by Messrs. Goldman and Nelson (41925); received through Dr. John R. Mohler, Bureau of Animal Industry, two dogs' skulls (42033); skull of a black and tan terrier (42052); through Dr. L. O. Howard, 14 insects and other specimens (42150); 1,554 specimens of miscellaneous insects collected by Messrs. D. W. Hunter, W. E. Hinds, J. H. Harris, and A. W. Morrill in Texas (42151); specimen of flax fiber from New Zealand (42483); 4,500 specimens of insects, principally Coleoptera from Cayamas, Cuba, collected by Dr. E. A. Schwarz (42622); 99 specimens of Coleoptera from Brazil (42623); meteorological instruments and apparatus from the Weather Bureau (42625);

AGRICULTURE, DEPARTMENT OF—Cont'd.

25 specimens of land shells collected by Mr. J. H. Gant in Oklahoma (42755); 375 insects collected by Dr. L. O. Howard in Mexico, consisting of Hymenoptera, Coleoptera, Diptera, Lepidoptera, Hemiptera, Orthoptera, Odonata, and Chrysopa (42759).

Material deposited in the National Herbarium: Fourteen plants from various parts of the United States (41261); 15 plants from the vicinity of Portland, Oreg., collected by Mr. E. P. Sheldon (41265); 74 plants collected in Lipscomb, Tex., by Mr. Arthur Howell (41280); 26 plants collected by Mr. Howell in Texas (41333); through the Biological Survey, 2 plants from Arizona collected by Mr. Vernon Bailey (41395); through the Division of Plant Industry, 2 specimens of lichens from Europe (41411); 2 specimens of *Hoffmanseggia* from Oklahoma collected by Mr. R. G. Dunlap (41492); plant from Missouri (41510); plant from Louisiana collected by Mr. W. R. Dodson (41511); received through the Division of Agrostology, 342 plants from Algeria, obtained by purchase from Mr. L. Chevallier, Prcigné, Sarthe, France (41597); plants collected in New Mexico and Oklahoma by Mr. F. G. Plummer (41700); 165 plants from New Mexico collected by Mr. Vernon Bailey (41888); type specimen of *Abies* (42091); 2 specimens of *Ribes* collected by Mr. F. V. Coville at Kew Gardens, England (42122); 17 specimens of *Ribes* from Germany and France (42161); 6 plants from Arizona collected by Dr. C. Hart Merriam (42185); 7 plants from California collected by Dr. C. Hart Merriam (42246); specimen of *Abies* collected by Mr. Vernon Bailey in New Mexico (42315); 2 plants from Porto Rico (42391); 10 plants from Texas collected by Mr. Vernon Bailey (42405); 4 plants from California obtained by Dr. C. Hart Merriam (42406); plant from Paraguay, collected by Mr. J. N. Ruffin (42512); 2 plants from California collected by Dr. B. E. Fernow (42525); 8 plants from California collected by Miss Alice Eastwood (42630); 8 plants from Alabama

AGRICULTURE, DEPARTMENT OF—Cont'd.

collected by Mr. S. M. Tracy (42631); herbarium specimens of woody plants (42670); 2 plants from Ohio collected by Mr. J. L. Reid (42820); 9 plants from various localities (42841); 2 specimens of *Ribes* from Minnesota and Georgia (42848); through the Biological Survey, 19 plants from Oklahoma collected by Mr. J. H. Gant (42852); 15 plants from Oregon collected by Mr. C. V. Piper (42894); 10 plants from Colorado collected by Miss E. W. Cathcart (42898); 6 specimens of cactus from near Emma, Tex., collected by Mr. F. V. Coville (42899).

(See also under: Baker, C. F.; Blankinship, J. M.; Dugès, Dr. A.; Fisher, H. L.; Fredholm, A.; Gant, J. H.; Giloeira, J. J.; Hall, H. M.; Hayes, W. R.; Hummel, Gustave; Pearsall, R. F.; Perkins, R. C. L.; Piper, C. V.; Prey, Nina; Simms, Mrs. Thomas; Singer, G. P.; Sias, A. W.; Tullock, A. E.; Wilcox, G. B.; Wilcox, Dr. T. E.).

ALBANY MUSEUM. (See under Grahams-town, South Africa.)

ALBERS, A., Cincinnati, Ohio: Specimens of fossil ostracods. 42417.

ALLEN, Dr. J. A. (See under American Museum of Natural History, New York City.)

ALLEN, O. D., Ashford, Wash.: Six plants from Washington (41359, 41832).

ALLISON, ANDREW, Slidell, La., and Iuka, Miss.: Reptiles, a skin and skull of a bat (42891, 42706).

ALTAMIRANO, DR. FERNANDO. (See under Mexico, City of, Instituto Medico Nacional.)

ALTOFAR, ANDREW, Washington, D. C.: Larva of Elm sawfly, *Cimbex americana* Leach. 42849.

ALWOOD, Prof. W. B., Blacksburg, Va.: Miscellaneous specimens of insects. 41747.

AMERICAN ENTOMOLOGICAL COMPANY, Brooklyn, N. Y.: Received through George Franck, manager. Nineteen specimens of Coleoptera. 42132.

- AMERICAN GEM AND PEARL COMPANY, New York City: Twenty-two gems (purchase) L. P. X. (42601); received through Mr. Lucien M. Zell, manager, gummite from Mitchell County, N. C.; also specimens of topaz and amethyst (gift) (42602).
- AMERICAN MUSEUM OF NATURAL HISTORY, New York City: Received through William Beutenmüller, 7 specimens, including 2 types of Lepidoptera (exchange) (41756); received through Prof. H. F. Osborn, 2 casts of feet of a fossil horse representing the species *Neohipparian whitneyi* (exchange) (42428); received through Dr. J. A. Allen, mammal skins and skulls and a skeleton (exchange) (42530); 16 plants collected by Miss Constance Dubois in California (gift) (42657); window transparencies illustrating the "Spine" of Mount Pelé (gift) (42781).
- AMERICAN RUTILE COMPANY, Washington, D. C.: Received through William M. Slater, president. Specimen of titanium carbide. 42401.
- AMES, OAKES, North Easton, Mass.: Type specimen of *Habenaria sanbornii* from Cuba (gift) (41734); 24 species of ferns and fernallies principally from Florida (gift) (42388); 103 plants from various sections of the United States (exchange) (42488).
- ANDERSON, E. M., Provincial Museum, Victoria, B. C.: One hundred and seventy-seven specimens of Lepidoptera (41611; 41865; 42424).
- ANDERSON, J. R., Department of Agriculture: Two plants from British Columbia. 41392.
- ANDERSON, R. W., Wando, S. C.: Six plants and three snakes from South Carolina (42482; 42708).
- ANDERTON, Mrs. I. W., Mackay, Idaho: Three teeth of a horse and two teeth of a fossil bison. 42438.
- ANDREWS, BYRON, Washington, D. C.: Thirty-five skulls of the Arctic fox (purchase) (42179); skull of an Arctic fox (gift) (42250).
- ANTHONY, R. A., New York City: Eleven photographs of Niagara Falls and vicinity. 42236.
- APPLETON, NATHAN, New York City: Oil painting by Etex, representing a scene from the "Gentleman of France." 42397.
- ARCHIBALD, W. S., Norfolk, Va.: Three specimens of Purple finch, *Carpodacus purpureus*. 42176.
- ARNHEIM, J. S., San Francisco, Cal.: Eight specimens of land and marine shells, representing 7 species from various localities. 41554.
- ARNOLD ARBORETUM, Jamaica Plain, Mass.: Forty-one specimens of *Crataegus*. Exchange. 42415.
- ARNOLD, DR. RALPH. (See under Dr. J. J. Rivers.)
- ARRONDELLE SONS, E., Paris, France: Plaster casts of the column of Hamourabi and of the circular monument of Telle; also of the head of Mercure (Discobole) Lancelotti. Purchase. L. P. X. 42435.
- ASUMEAD, DR. W. H. (See under Prof. S. Matsumura.)
- ATTWATER, H. P., Houston, Tex.: Skin and skull of a jaguar. Purchase. 42609.
- ATWOOD, S. H., & Co., Plattsmouth, Nebr.: Limestone with flint inclosures from a quarry at Wymore, Nebr. 42099.
- AUSTRALIAN OPAL COMPANY, New York City: Specimen of Australian opal (41406); 3 opals in silicified wood from Australia (42600). Purchase. L. P. X.
- BABCOCK, CHARLES, Ithaca, N. Y.: Specimen of weathered French Caen stone from Ithaca. Exchange. 42564.
- BABCOCK, E. B., Berkeley, Cal.: Two plants from California. 41325.
- BABCOCK, Mrs. P. H., Mount Dora, Fla.: Three specimens of *Bignonia*. 42283.
- BACHE, RÉNÉ, Washington, D. C.: Seven photographs illustrating Indian technical industries. 41704.
- BACHTEL, W. L., Joplin, Mo.: Three specimens of calcite. Purchase. 42698.

- BACORN, Mr., Cable, Mont.: Ores and minerals from Cable mine, Cable, Mont. 41624.
- BAGWELL, I. C., Stephenville, Tex.: Specimens of Longicorn beetle, *Neoclytus caprea* Say. 42266.
- BAHAMA EXPEDITION, Baltimore, Md.: Collection of mammals, birds, reptiles, fishes, mollusks, marine invertebrates, and corals made by Messrs. J. H. Riley and B. A. Bean in the Bahama Islands during June and July of 1903. 41471.
- BAILEY, VERNON, Department of Agriculture: Specimen of *Rhodiola* from New Mexico. 42005. (See also under Department of Agriculture and W. L. Bray.)
- BAIN, H. F., U. S. Geological Survey: Three specimens of fluospar from Roseclaire, Ill. 42200.
- BAIRD, Capt. G. W., U. S. Navy. (See under War Department.)
- BAKER, Prof. C. F., Stanford University, Cal.: Pomona College, Claremont, Cal.: Three plants from California (41284); 78 plants from Nevada (41288);^a 48 plants from California (41296); 490 plants from California (41319);^a crabs, including the species *Hemigrapsus nudus* (Dana); *Petrolisthes rupicolus* Stimpson; *Epiattus productus* Randall; *Pagurus granosimanus* Stimpson; *Hemigrapsus oregonensis* (Dana); *Arenaeus mexicanus* (Gerstaecker) (41442); 148 specimens of Diptera from Mexico, Central America, and other localities (41498); 2 plants from California (41910); 43 specimens of Diptera (41930); fishes from San Pedro and Stanford University, California (42260); 13 specimens of Diptera (42275); 471 plants from Nicaragua (42284);^a 34 specimens of Lepidoptera (42355); 8 butterflies (42419); 2 species of Helices from Catalina Island (42478); crustaceans from southern California (42492); 16 specimens of Lepidoptera, also larvæ (42521); 3 specimens of Lepidoptera (42538); received through Department of Agriculture, 38 specimens of Diptera from California (42651);
- BAKER, Prof. C. F.—Continued.
2 specimens of *Emerita analoga* (Stm.) (42677); 6 plants from Central America (42803); 395 specimens of Diptera from California (42829).
- BAKER, Dr. F.: Six specimens of marine shells from California (42056); specimen of *Ooula lutea* Sby., from the Philippine Islands (42683).
- BAKER, T. M., Washington, D. C.: Shoemaker's foot measure. (Loan.) 8765.
- BALDRIDGE, Mrs. MARIA, Los Angeles, Cal.: Two specimens of *Ocinebra barbarensis* Gabb., from San Pedro, Cal. 42839.
- BALDWIN, W. T., East Bradford, Va.: Specimen of *Lepidodendron scobiniforme* Meek. 41784.
- BALL, Mrs. PAULA, Los Angeles, Cal.: Specimen of *Tylothina fungina* Gabb. (alcoholic specimen); also 4 shells of Pleurotomidæ from Laguna beach, Los Angeles County. 41830.
- BANKS, NATHAN, Department of Agriculture: Six specimens of Hemiptera, including *Fulvius heidemanni* Reut., and *Ploaria errabunda* Say (gift) (41457); 10 specimens of *Brachymemurus versutus* Walker, from Mexico (gift) (41656); 20 specimens of Myrmelionidæ (purchase) (41746).
- BARBER, H. S., U. S. National Museum: Three specimens of *Polygyra columbiana* from Eureka, Cal. (41304); frog (*Rana sylvatica*) from near Plummers Island, Maryland (41485); bat from California (41763); bat (*Lasiurus borealis*) (41862); plant from Texas (42873); rattlesnake (*Crotalus tigris*) from Arizona (41960); 5 specimens of *Lasiurus* from Brownsville, Tex. (42892). See also under Washington Biologists Field Club.)
- BARBER, M. D. Knoxville, Tenn.: Ten specimens of land and fresh-water shells from Tennessee (41443); 11 specimens of fresh-water mollusks (41796); 11 species of fresh-water shells (42222).
- BARNEY, Lieut. J. P. (See under Brig. Gen. W. H. Carter, U. S. Army.)

^a Purchase.

- BARROTT, A. F., Owego, N. Y.: Three arrow points found in Tioga County. 41543.
- BARTLETT, H. H., Indianapolis, Ind.: Snake (*Coluber obsoletus*), from Marion County, Ind. 42529.
- BARTON, JOHN, U. S. Marine Corps, Washington, D. C.: Bill found in circulation in the Philippine Islands. (Loan.) 8874.
- BARTSCH, PAUL, U. S. National Museum: Set of negatives showing Gould's types of Western American Pyramidellidæ and *Pecten herricens*: also figures of some the duplicates of Pyramidellids of the Reigen collection (42204); about 200 specimens of land and marine shells from Hampton, Cape Charles City, and Brighton, Va. (42308); 2 specimens of fungus representing the species *Cryptoporus volvatus* from the District of Columbia (42617); 3 salamanders from District of Columbia (42696); 2 specimens of Crane-fly, *Limnobia* species, from Great Falls, Md. (42724). (See also under Department of Commerce and Labor, Bureau of Fisheries and Gerrit S. Miller, jr.)
- BASHORE, HIRAM, Mifflintown, Pa.: Mole (*Scalops aquaticus*). 41829.
- BATES, DR. E. N., Boston, Mass.: Twenty-six gun flints. 41229.
- BATES, M. A., Clanton, Ala.: Product of natural weathering. (Loan.) 8888.
- BATTLES, MRS. J., Washington, D. C.: Specimen of Long-sting, *Thalassa lunator* Linnaeus. 41453.
- BAUSCH, PAUL, Washington, D. C.: Specimen of *Xylotrya fimbriata* Jeffr. from Texas. 42629.
- BEALL, W. J., Lloyd, Tex.: Neuropteroid insect representing the species *Acanthaclisis americana* Drury. 41449.
- BEAN, B. A., and C. A. MCKNEW, U. S. National Museum: Fishes and crustaceans collected at Beaufort, N. C. 42896.
- BEAN, B. A. (See under Bahama Expedition.)
- BECKWITH, DR. E. G., Fostoria, Ohio: Larva of a beetle representing the species *Tenebrio molitor* Linnaeus. 42020.
- BECKWITH, P. E., U. S. National Museum: Silver coin, a lira 1863 of Victor Emanuel the Second, King of Italy (gift) (41444); full-dress uniform of a lieutenant-colonel in the Continental Army (exchange) (41462); silver threepence, the first issue of King Edward VII of Great Britain (gift) (41873); flintlock pistol made by Miles, of London, with a bayonet (gift) (42206); trumpet kazoo (gift) (42256); copy of the Missouri Republican, January 1, 1864, containing the chronology of the year 1863; also invitation and card to the unveiling of the Sherman statue (gift) (42597).
- BEECHER, DR. C. E. (See under Yale University Museum.)
- BELL, MISS A. A., Chicago, Ill.: Specimen of an insect known as "Walking-stick," from Eagle Lake, Michigan. 41577.
- BELL, A. BERNIE, Cairns, Queensland, Australia: Three hundred and thirty-two specimens of Lepidoptera. Purchase. 41584.
- BELL COMPANY, GEORGE, Denver, Colo.: Seven specimens of minerals. Purchase. L. P. X. 41635.
- BENEDICT, DR. J. E., U. S. National Museum: Five plants from Maryland collected by Messrs. Benedict and Oldys. 41260.
- BENEDICT, J. E., jr., Woodside, Md.: Specimen of *Adiantum pedatum*. 41416.
- BENEZET, G. P., Peoria, Ill.: Beetle (*Silpha americana*). 41352.
- BENHAM INDIAN TRADING COMPANY, New York City: Four baskets and two sashes. Purchase. L. P. X. 42507.
- BERGER, A., La Mortola, Ventimiglia, Italy: Thirty-one plants from Italy. Exchange. 42687.
- BERLIN, GERMANY, Königliches Botanisches Museum: Seven hundred and sixteen plants collected by Mr. H. A. Braun. Exchange. 42287.

- BERLIN, GERMANY, Königliches Museum für Naturkunde. Received through Dr. Paul Matschie. Specimen of *Tragulus* from Singapore. Exchange. 41519.
- BERLIN, GERMANY, Königliches Museum für Völkerkunde: Received through Dr. Eduard Seler. Græco-Roman plaster casts (exchange) (42733); 7 Græco-Roman plaster casts (purchase.) L. P. X. 42734.
- BERNDT, E. L. (See under Department of Commerce and Labor, Bureau of Fisheries.)
- BERNICE PAUAAHI BISHOP MUSEUM, Honolulu, Hawaiian Islands: Received through Mr. W. T. Brigham. Double calabash and 16 capa-markers. Exchange. 41979.
- BERRY, S. S., Redlands, Cal.: Ten species of marine shells from near Avalon, Catalina Island (41560); 2 shells from California (42660).
- BESSAC, F. T., Natchez, Miss.: Beetle (*Lucanus elephas* Fabricius). 41384.
- BEUTENMÜLLER, WILLIAM, American Museum of Natural History, New York City: Cotypes of *Cychnus venicollis* and *Platynus gracileutus* Beutenmüller. 41640. (See also under American Museum of Natural History.)
- BEZZI, Prof. M., Sondrio, Italy: Two hundred and fifty-three specimens, 97 species, of European Diptera. 42427.
- BIEDERMANN, C. R., Florence, Ariz.: Insects (41237); 15 beetles (42044).
- BIGELOW, E. F., Stamford, Conn.: Specimens of Psyllid galls on *Celtis* (41253); specimen of Saddleback caterpillar (41612.)
- BIOLOGICAL LABORATORY, U. S. National Museum: Plaster cast of a cobra. 42552.
- BITTENBAU & Co., Neucestown, Tex.: Twelve specimens of *Nysius angustatus* Uhler. 42692.
- BLAKE, W. W., Mexico, Mexico: Ancient Mexican greenstone carving representing a sacrificial yoke. Purchase. L. P. X. 41399.
- BLANEY, DWIGHT, Boston, Mass.: Collection of shells dredged near Mount Desert Island, Maine, by the donor, including about 290 specimens representing 40 species. 42175.
- BLANKINSHIP, J. M., Bozeman, Mont. Received through the Department of Agriculture. Fifty-eight plants from Montana. 42245.
- BLATCHLEY, Prof. W. S., State Geologist, Indianapolis, Ind.: Eighty-four specimens of Orthoptera. Exchange. 42650.
- BOHM, JULIUS, Vienna, Austria: Specimen of meteoric stony iron from Finnmarken, weighing 595 grams. Exchange. 41771.
- BOLLINGER, W. A., Washington, D. C.: Seven-dollar bill of North Carolina, dated April 2, 1776. 41867.
- BOLTON, A. L., Berkeley, Cal.: Birds' skeletons and the skull of a coyote. 41274.
- BOND, FRANK, Washington, D. C.: Piece of a tree engraved with ancient letters, figures, etc. 43857.
- BOUBÉE, E., Paris, France: Egg of *Epyornis maximus*. Purchase. L. P. X. 41257.
- BOULANGER, E., Paris, France: Two specimens of mushroom spawn from France. 41820.
- BOYCE, THOMAS E., Middlebury, Vt.: Chips cut by a beaver. 42446.
- BOYD, G. S., Honduras, Central America: Specimens of pottery from Central America. (Loan.) 9150.
- BRADFORD, MRS. SIDNEY, Avery Island, La.: Plants, roots, and nuts, representing material from which the Chetimacha Indians make their red, yellow, and black dyes (42815); 2 plants from Louisiana (42821).
- BRACELEY, J. TURNER, Hornerstown, N. J.: Larvæ of three species of mosquitoes (42624); larvæ of *Culex melanurus* Coquillett (42640; 42652); four pupal skins and four adults of a dipteron representing the species *Corethra cinetipes* Coquillett (42681); larvæ, pupæ, and adult mosquitoes principally representing the species *Culex aurifer* Coquillett (42805).

- BRANCH, H. G. SELWYN, Antigua, British West Indies: Fifty-six bats and 323 birds' skins from Barbuda and Antigua. Purchase. 42688.
- BRAND, H. J., San Francisco, Cal.: Plaster bust of President William McKinley. (Loan.) 8824.
- BRANDEGEE, T. S., San Diego, Cal.: Two plants from California. 42086. (See also under C. A. Purpus.)
- BRANSON, E. B., (See under Prof. S. W. Williston.)
- BRAUN, H. A. (See under Berlin, Germany, Königliches Botanisches Museum.)
- BRAUNTON, ERNEST, Glendale, Cal.: Sixty-nine plants from California (41335; 42593; 42798).
- BRAVERMAN, M., Visalia, Cal.: Three small Japanese baskets, and skeleton of a snake. 42582.
- BRAY, W. L., University of Texas, Austin, Tex.: Received through Mr. Vernon Bailey. Three specimens of wood from Texas. 42606.
- BREINIG, G. M., New Milford, Conn.: Specimen of rock quartz from a quarry near Branchville. 42074.
- BREZINA, DR. ARISTIDES, Vienna, Austria: A fragment of the "Trenzano" meteorite weighing 164 grams. Exchange. 41396.
- BRICENO, SALOMON, Merida, Venezuela: Large collection of shells, birds' skins, mammals, birds' nests and eggs, insects, principally Lepidoptera and Coleoptera, from Venezuela. Purchase. 42234.
- BRIGHTMAN, WILLIAM T. (See under Bernice Pauahi Bishop Museum.)
- BRIMLEY, C. S., Raleigh, N. C.: Natural-history specimens (gift) (41272); eggs of reptiles (purchase) L. P. X. (41275); 12 specimens of dragon flies, representing the species *Telagrion duxkii* (purchase) (41331); 18 specimens, three species, of dragon flies from North Carolina (gift) (41599).
- BRITISH MUSEUM, (Natural History). (See under London, England.)
- BRITTON, DR. N. L., New York City: Plant from New Jersey. 42838. (See also under New York Botanical Garden.)
- BROOKS, MIRIAM G., Salt Lake City, Utah: Partly consolidated dolomitic sand. 41662.
- BROOKS, THEODORE, Guantanamo, Cuba: Rapid-firing gun shield secured from the Spanish gunboat *Sandoval*, which was sunk in Guantanamo Bay, July 28, 1898. 42314.
- BROWN, CHARLES E., Milwaukee, Wis.: Four dragon flies. 42030.
- BROWN, E. J., Lemon City, Fla.: Reptiles, batrachians, and insects from Florida (41481); snake (*Coleuber guttatus*) from Florida (42735).
- BROWN, FREDERIC, Perry, Me.: Received through Dr. David White. Specimen of *Archaeopteryx jacksoni* Dn. 41728.
- BROWN, H. J., Newcastle, New South Wales, Australia: Received through Hon. F. W. Goding, United States consul. Algae, squids, and egg cases of a shark. 42782.
- BROWN, H. J., Washington, D. C.: Plant from Calapach Island. 42440.
- BROWN, MRS. J. CROSBY, Metropolitan Museum of Art, New York City: Piano of obsolete make, with two photographs (42336); stringed instrument and a transverse flute (42736). Exchange.
- BROWN, NATHAN C., Lakewood, N. J.: Two hundred and sixty-seven birds' skins from South Carolina. 42516.
- BROWN, MRS. N. M., Ashtabula, Ohio: Three hundred and thirty-five plants from Mexico, collected by Mr. E. W. Nelson. Purchase. 41245.
- BROWN, DR. P. D., contract surgeon, U. S. Army, Camp Mataling Falls, Philippine Islands: Moths and butterflies from the Philippine Islands. 41996.
- BROWN, REV. ROBERT, Philippine Weather Bureau, Manila, P. I.: Specimens of parasitic Hymenoptera. 42793.
- BROWNE, CECIL SEYMOUR, Anacapri, Italy: Sixty-three moths (41344); Lepidoptera (41901; 42066). Exchange.

- BROWNING, J. M., Mill Creek, Ind. T.: Specimen of horned *Corydalus*. 42884.
- BRUCCIANI, D., & Co., London, England: Ten casts of Assyrian, Egyptian, and Greek sculptures. Purchase. 42673. L. P. X.
- BRUES, Prof. C. T., Marine Biological Laboratory, Woods Hole, Mass., and Paris, Tex.: Two hymenopterous parasites (41347); 62 specimens of North American Phoridae, including the types of 26 species described by Aldrich and Brues (42322); specimen of *Telenomus heliothidis* Ashm. (42823).
- BRYAN, H. W., Plano, Tex.: Clam shells, or lamellibranchs, *Radiolites austiniensis* Roemer. 41329.
- BRYAN, W. ALANSON, Bishop Memorial Museum, Honolulu, Hawaiian Islands: Eight specimens of shells from Marcus Island, Pacific Ocean. 41604.
- BRYAN, ST. GEORGE T. C., Oroville, Cal.: Specimen of soapstone from near Oroville, used by the Indians in making pottery and other objects. 41821.
- BRYANT, OWEN, Cambridge, Mass.: Specimen of green crab from Ipswich, Mass. (42645); 80 specimens of mollusks from Bermuda (42705); crustaceans from Massachusetts and Bermuda (42751); crustaceans and eggs of mollusk (42807); specimen of *Crangon septemspinosa* Say (42869).
- BRYANT, THEO., Wellington, B. C.: One hundred and twenty-four specimens of Lepidoptera (41528); received through Dr. H. G. Dyar, 75 moths (42288).
- BUCCIANI, D. & Co., London, England: Cast from Temple of Sun God. Purchase. 42339.
- BURRIG, Dr. C. H., Director, Cement Fabrik, Port Kunda, Estland, Russia. Two specimens of *Estonioceras*, specimen of *Vaginaten*, specimen of *Receptaculites*, a trilobite, and 6 gastropods. 42133.
- BULKLEY, L. C., Avalon, Alden Bridge, Bossier Parish, La.: Four specimens of fossil coral representing the species *Balanophyllia angustinensis* Vaughan. 41447.
- BUNKER, E. H., Biddeford Pool, Me.: Specimen of *Spheroides maculatus*. 41290.
- BUNKER, Mr., Fanturce, Porto Rico: Received through Smithsonian Institution, Bureau of American Ethnology: Two models of Porto Rican homes. 42913.
- BUNNELL, J. H. & Co., New York City, received through Clarence A. Stimpson: Morse telegraph apparatus, consisting of a sounder and a key. 41950.
- BURKE, H. E., Division of Entomology, Department of Agriculture: Six dragonflies. 42149.
- BURKS, W. S., Pittsburg, Tex.: Scarabæid beetle, *Dymastes tityus* Linnæus. 42046.
- BURNS, Dr. FRANK, Smithsonian Institution: Specimen of Cambrian sandstone with *Scolithus linearis* Hall, from the drift near Washington, D. C. 41861.
- BURNSTINE, ABRAHAM, Washington, D. C.: Fifteen watch movements. 41705.
- BURRALL, H. D., Washington, D. C.: Twelve plants from Texas. Exchange. 42557.
- BURROWS, C. H., National Zoological Park, Washington, D. C.: Specimen of American Bittern, *Botaurus lentiginosus*. 42818.
- BUSCK, AUGUST. (See under Washington Biologists' Field Club.)
- BUSH, A. H., Vanconver, B. C.: Twenty-one specimens of Lepidoptera. 41525.
- BUSH, B. F., Courtney, Mo.: Two hundred and eighty plants from Texas, Arkansas, and other localities. Purchase. 41263.
- BUTTERFIELD, Dr. E. E., Washington, D. C.: Brain of a colored man. 42009.
- BUTTON, F. L., Oakland, Cal.: Specimen of *Pecten diegensis* Dall and *Capulus californicus* Dall, from San Pedro Bay, Cal. 41951.
- BUYSSON, COUNT ROBERT DU. (See under Paris, France, Musée d'Histoire Naturelle.)
- CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Cal.: Fifty-four plants from California. Exchange. 42172.

- CALIFORNIA, UNIVERSITY OF, Berkeley, Cal.: One hundred and fifty-five plants from California. Exchange. 42747.
- CAMBRIDGE, ENGLAND, SEDGWICK MUSEUM: Received through Prof. T. McHenry Hughes. A part of the type specimen of *Bryozoa nebulipora (monticulipora) papillata* McCoy. 42881.
- CAMPBELL, JAMES, Hastings, Pa.: Received through Dr. David White. Twenty-six specimens of Paleozoic fossils from the head of Cecil Creek, Cambria County, Pa. 42450.
- CAPRONI, P. P., & Bro., Boston, Mass.: Eight plaster casts. Purchase. 42437. L. P. X.
- CARNEGIE INSTITUTION, Washington, D. C.: Archæological collection made by Gerard Fowke (9101); archæological collection made by J. D. McGuire (9192). (Deposit.)
- CÁRNEGIE MUSEUM, Pittsburg, Pa.: Duplicate of the Morse telegraph register used in Baltimore in 1844. (Loan.) 8704. Returned.
- CARPENTER, G. O., St. Louis, Mo.: Two printed cotton handkerchiefs. (Loan.) 9192.
- CARRINGTON, Dr. P. M., Fort Stanton, N. Mex.: Molar of a mammoth (*Elephas columbi*). 41539.
- CARROLL, CHARLES, National Military Home, Montgomery County, Ohio: Three case worms representing the species *Thyridopteryx ephemeraformis* Stephens. 41470.
- CARTER, MRS. CATHERINE A., Mrs. Mary E. Mills, and Mr. R. A. Golden, Washington, D. C.: Spinning wheel and cards owned by Mrs. Catherine A. Golden. 42851.
- CARTER, Brig. Gen. W. H., U. S. Army, received through War Department: Hoe and trowel dug from the ruins of Jamestown, Va., by Lieutenant Barney, U. S. Army. 41941.
- CARY, MERRITT, Biological Survey, Department of Agriculture, Washington, D. C.: Seventeen butterflies from Canada. 42777.
- CATHCART, Miss E. W. (See under Department of Agriculture.)
- CAUDELL, A. N., Department of Agriculture: Lizard, snake, and frog from Kaslo, British Columbia (41754); 19 insects from Iowa and Assiniboia (41900); specimen of *Planorbis* from British Columbia (42290). (See also under Dr. H. G. Dyar and Prof. C. P. Gillette.)
- CAUDELL, A. N., R. P. Currie and Dr. H. G. Dyar: Worm from Kaslo, British Columbia. 41365.
- CENTRAL RAILROAD COMPANY OF NEW JERSEY, Jersey City, N. J.: Received through F. G. Sherman, superintendent of telegraph. Telephone transmitter, telephone receiver, and magneto-telephone bell (41502); electrical instrument (41557).
- CHAMBER OF COMMERCE OF THE STATE OF NEW YORK. (See under Smithsonian Institution.)
- CHAMBERLAIN, E. B., Washington, D. C.: Twenty-two specimens of *Pteridophyta* from Maine (42269); 105 cryptogams, principally mosses, from the northeastern section of the United States (42471); 30 specimens of mosses from New England (42788). Exchange.
- CHAMBERLAIN, F. M. (See under Department of Commerce and Labor, Bureau of Fisheries.)
- CHAMBERLAIN, Rev. L. T., New York City: Thirty specimens of rare exotic Naiades, new to the Museum collection. 41773.
- CHANDONNET, Z. L., Fosston, Minn.: Four plants from Minnesota. 42484.
- CHAPMAN, Mrs. C. N.: Received through F. C. P. Davey, Sault Ste. Marie, Mich. Eskimo and Indian clothes and curiosities. Purchase. 41731.
- CHAPMAN, S. B., Swannanoa, N. C.: Two caddis-worms and their cases. 42908.
- CHAPMAN, Rev. —, Christ Church Mission, Anvik, Alaska: Fossil horn core of a musk ox. 41564.
- CHARNAY, DÉSIRÉ, Paris, France: Casts of Tikal, Temple of the Sun; Sacrifice of the Tongue; and lintel of Quetzalcoatl. Purchase. 42420. L. P. X.

- CHASE, Miss ALICE, Washington, D. C.: One hundred and ninety-eight plants from the region of Lake Michigan. 41990.
- CHASE, NATHAN BROWN, Bethesda, Md.: Received through Mrs. Susan Brown Chase. Gilt dress sword presented to Gen. Jacob Brown, U. S. Army, by the senate and assembly of the State of New York for services in the war of 1812. 42794.
- CHASE, Mrs. SUSAN BROWN, Bethesda, Md.: Order of procession for the funeral of Major-General Brown. (Gift.) 42665. Gold snuff box, presented to Gen. Jacob Brown, U. S. Army, by the city of New York for services in the war of 1812. (Loan.) 9443. (See also under Nathan Brown Chase.)
- CHELSEA CLOCK COMPANY, Boston, Mass.: Received through Charles H. Pearson, treasurer. Chelsea navy clock and Chelsea ship's bell clock. 42910.
- CHESNUT, Dr. V. K., Department of Agriculture: Twenty specimens of land and fresh-water shells (41517); plant from the Yellowstone National Park (41536).
- CHEVALLIER, L. (See under Department of Agriculture.)
- CHICHESTER, WILLIAM S., Aquasco, Md.: Specimen of fossil wood. 41694.
- CHIPMAN, C. H., Curtis Mills, Fla.: Copper coin, 12 gros, Urban VIII, 1625-44. Purchase. 42006.
- CHRISTIANIA, NORWAY, KONGELIGE FREDERIKS UNIVERSITET: Received through Prof. Robert Collett. Eight specimens of reptiles and batrachians from Madagascar, South Africa, Australia, and Formosa. 41775.
- CLAPP, G. H., Pittsburg, Pa.: Four species of land shells from various American localities, representing cotypes of species lately described. 41585.
- CLARK, A. HOWARD, U. S. National Museum: Pamphlet containing historical view of Philadelphia. 42094.
- CLARK, Prof. H. L., Olivet, Mich.: Specimen of Tree-frog, *Hyla evittata*, from Easton, Md. 41491.
- CLARKE, Prof. F. W. (See under V. H. Goldschmidt and Isadore Wise.)
- CLARKE, Dr. J. M., State paleontologist, Albany, N. Y.: Two plaster restorations of *Eurypterus*. 41959.
- CLEMENTS, F. E., Nebr.: Twenty-five plants from Colorado. Purchase. 42112.
- CLIFT, J. O. (See under South Side Sportsmen's Club.)
- CLIFTON, R. S., Bureau of Entomology, Department of Agriculture: Specimen of *Ambystoma* from Annapolis Junction, Md. 41550.
- COCKERELL, Prof. T. D. A., East Las Vegas, N. Mex.: Three hundred and twenty-seven insects from New Mexico (41251); 2 specimens of land shells from Mexico (41321); specimen of Alysiid, *Idiaste megacephala* Ashm. (41458); 3 specimens of Hymenoptera (41465); 9 specimens of parasitic Hymenoptera (41499); 4 species of Carboniferous brachiopods from Pecos, N. Mex. (41500); 65 insects, including 54 specimens of Orthoptera, 3 of Diptera, and 6 of Hymenoptera from Colorado Springs (41658); 233 specimens of miscellaneous insects (42356); 2 plants from Colorado (42743).
- COCKLE, J. W., Kaslo, British Columbia: Eleven specimens of insects (41735); 3 specimens of Lepidoptera, including 2 types (42656).
- COFFIN, T. H., Baltimore, Md.: Received through Mr. D. W. Coquillett. Seven hundred and seventy-five specimens of Diptera, 6 specimens of Hymenoptera, and 10 vials containing mosquitoes in an early stage. 42209.
- COHEN, REUBEN S., Cambridge, Mass.: Ten silver coins of Morocco. 41580.
- COHN, Mrs. A., Carson City, Nev.: Pintе basketry water bottle. 42565.
- COLEMAN, J. B., Crowley, La.: Walking stick, *Brunneria borealis* Seud. 41757.
- COLESTOCK, Miss, Kipple, Pa.: Specimens of land shells from Blair County, Pa. 42876.

- COLLETT, Prof. ROBERT. (See under Kongelige Frederiks Universitet, Christiania, Norway).
- COLLIER, M. F., president, Aston Rogen Mining Company, Paragould, Ark.: Zinc ore from Sharp County, Ark. 41885.
- COLLINS, F. S., Malden, Mass.: One hundred plants. Purchase. 41868.
- COLTON MARBLE WORKS, Colton, Cal. Specimen of marble. 42463.
- COMBS, Mrs. E., Lakeside, Ohio: Fifty specimens of marine algae collected at Half Moon Bay, San Mateo County, Cal. 41322.
- COMMERCE AND LABOR, Department of, Hon. George B. Cortelyou, Secretary. Transferred from Bureau of Fisheries: Types and other specimens of fishes of the Hawaiian Islands; also crustaceans and other invertebrates and a piece of coral (41289); 15 specimens of *Mistichthys luzonensis* from Lake Buli, Philippine Islands (41408); marine worms from Beaufort, N. C. (41587); received through Dr. B. W. Evermann, 6 plants from Alaska (41819); mollusks, insects, and invertebrates, birds, reptiles, batrachians, and a mammal (41840); 2 plants (41859); about 10,000 specimens of land and fresh-water mollusks collected in and about Lake Maxinkuckee, Indiana, by Dr. Paul Bartsch (41966); skull of a mule obtained by S. G. Worth (42054); 7 specimens of holothurians from Porto Rico (42064); 27 plants from Alaska collected by Prof. C. H. Gilbert (42214); piece of rock containing brachiopods from Albatross dredging station No. 3088 (42291); types and cotypes of fishes collected by the steamer *Albatross* in Japan and Hawaii, received through Prof. C. H. Gilbert (42327); collection of reptiles and batrachians from Indiana, also 3 fishes (42335); reptiles and batrachians from Indiana (42358); 11 plants from northern Maine, collected by Dr. W. C. Kendall (42373); 11 mammals from West Virginia and Maine (42410); miscellaneous specimens of reptiles and batrachians from different localities in the United States (42426); head of a shark, tail of a shark, and a whole specimen collected by Mr. E. L. Berndt in Honolulu (42439); through Dr. B. W. Evermann, crustaceans collected in Lake Maxinkuckee, also crustaceans from different sources (42461); about 2,000 specimens of land and fresh-water shells from various sections of the United States (42500); 246 plants from the vicinity of Karlak, Kadiak Island, Alaska, collected by Cloudsley Rutter (42561); Hawaiian fishes (42563); collection of plants from Alaska, obtained by F. M. Chamberlain (42632); 24 sheets of plants collected in southern Oregon by Dr. B. W. Evermann (42633); collection of turtles made by Prof. W. P. Hay in North America (42749); type specimen of *Anguilla caca* (42917).
- COMPUTING SCALE COMPANY, Dayton, Ohio: Received through O. O. Ozias, manager. No. 71 scale. 42103.
- CONGDON, J. E. (See under A. A. Heller.)
- CONGRESS, LIBRARY OF: Received through Hon. Herbert Putnam, librarian: Hand-made pins with hand-bound heads, found with a mass of manuscripts dated from 1801 to 1819 (41896); through Mr. W. P. Cutter, leather card-case, which is believed to have once been in the possession of Mrs. Dolly Payne Madison (41282).
- CONRAD, Dr. H. S., Philadelphia, Pa.: Plant from Pennsylvania. 42635.
- COOK, DAVID N., Salem, Mass.: Samples of road material. 42243.
- COOK, Prof. M. T., Greencastle, Ind.: Three specimens of Gallwasp, *Dryophanta radicola* Ashm. 42169.
- COOK, Dr. O. F., Department of Agriculture: Two hundred and seven spiders and miscellaneous insects from Africa and the Canary Islands; also a mollusk and a lizard. 41788.
- COOK, Mrs. T., Sandusky, Ohio: Specimens of water lily from Ohio. 41378.
- COOLEY, R. A., Bozeman, Mont.: Toad, *Bufo boreas*. 42445.

- COPELAND, E. B. (no address given): Received through Dr. E. L. Greene. Specimen of *Gormania* from California. 41825.
- COPENHAGEN, DENMARK: Zoological Museum of the University. Received through Prof. Th. Mortensen: Echino-derms (41588); through Prof. G. M. R. Levinson, about 100 species of European Mesozoic and Tertiary bryozoans (42476). Exchange.
- COQUILLET, D. W. (See under T. H. Coffin.)
- COTTON, JAMES S. (See under Smithsonian Institution.)
- CUMBE, W. W., Gunston, Va.: Skin and skull of *Arctomys* sp. 42647.
- CURT, E. J., Washington, D. C.: About 950 specimens of land and fresh-water shells from Harpers Ferry, W. Va. (41494; 41516; 41690; 41714); about 150 specimens of land and fresh-water shells from the District of Columbia (41760); about 550 land and fresh-water shells from Harpers Ferry, W. Va., the District of Columbia, and Cherry Hill, Md. (41964; 42047); 2 specimens of *Succinea ovalis* Say, from Maryland (42533); specimens of land and fresh-water mollusks from Virginia (42877).
- COVILLE, F. V., Botanist, Department of Agriculture: Twenty-four specimens of cacti. 42846. (See also under Department of Agriculture.)
- COYNE, P. J., Greaterville, Ariz.: Beetle, *Alaus zumianus* Casey; 2 beetles representing the species *Psiloptera drummondii* Laporte and Gory; Hawk-moth *Phylampelus typhon* Kulg, and 8 Honey-ants, *Myrmecocystus*. 42909.
- CRAIG, R. LEE, Fossil, Wyo.: Three fossil fishes (41622); 3 fossil fishes from a quarry at Kemmerer (42927). Purchase.
- CRANE, W. E., Brooklyn, N. Y.: Seventy specimens of Clinton fossils from McKees, Pa. Exchange. 42115.
- CRAWFORD, J. G., Albany, Oreg. Through Dr. Leonhard Stejneger: Three photographs of archeological specimens. 42562.
- CRIDDLE, NORMAN, Aweme, Manitoba, Canada: Three specimens of *Leucobreplos middendorfi*, a rare Lepidoptera. 42527.
- CRIPPS, O. N., Aiken, S. C.: "Glass snake," *Ophisaurus ventralis*, from South Carolina. 41660.
- CROSBY, F. W., Washington, D. C.: Basaltic lava, garnetiferous sand, and a portion of a tusk of a mammoth (?) from St. Michael and Nome, Alaska (41642); diatomaceous earth from Colby, Wash. (41650); specimens of silicified wood from Glover, Idaho (42205); specimen of molybdenite from near Campo, San Diego County, Cal. (42464); specimen of massive granite from 20 miles east of San Diego (42574).
- CROSS, WHITMAN. (See under Interior Department, U. S. Geological Survey.)
- CROSSINGHAM, W., U. S. National Museum: Snake (*Coluber guttatus*), from Silver Hill, Md. (41506); salamander (42690).
- CROZIER, Brig. Gen. WILLIAM, U. S. Army. (See under War Department.)
- CULLEN, O. C. (See under Smithsonian Institution.)
- CURRIE, R. P., U. S. National Museum: One hundred and forty specimens of miscellaneous insects from Alberta, North Dakota and Minnesota (41545). (See also under A. N. Caudell; H. G. Dyar; Washington Biologists Field Club; E. B. Williamson.)
- CURTISS, A. H., Jacksonville, Fla.: Two hundred and twelve plants from New Providence Island. Purchase. 41606.
- CUSHING, Mrs. F. H., Washington, D. C.: Zuni suit. (Loan.) 9473.
- CUSICK, W. C., Union, Oreg.: Two hundred and four plants from Oregon. Purchase. 41815.
- CUTTER, W. P. (See under Congress, Library of.)
- DALL, DR. W. H., U. S. Geological Survey: Nine color sketches of fishes painted by the donor while a student under the elder Professor Agassiz, including the species *Holocentrus*; *Rhombus triacanthus*; *Perca flava-pupurea*;

DALL, Dr. W. H.—Continued.

Chetodon brownriggii; *Mesopium*; *Pristipoma rudo*; *Ocyurus chrysurus* and *Glyphiodon* (41445); specimen of quartz crystal from Herkimer County, N. Y. (41717); about 140 specimens of West American chitons (41928); 237 specimens, 48 species, of land and marine shells from Alaska, California, Arizona, Mexico, Venezuela, Canada, and other localities (42307); specimen of *Conus tenuitatus* (42385).

DAMON, C. A., Fenton, Mich.: Deringer pistols and revolver. (Loan.) 9394. (Returned.)

DAMON, ROBERT F., Weymouth, England: Slab of *Oentacrinus* fossils, slab of *Trigonia clavata*, 18 fossils crinoids, 12 ammonites, and 13 miscellaneous fossils (41838) L. P. X.; meteorites from Bialostock and Krasnojarsk (42053). Purchase.

DANIEL, J. W., jr., Washington, D. C.: Two specimens of Swainson's warbler, *Helinaia swainsoni*, and an Ant thrush, *Thamnophilus* sp. (41309); 5 birds' skins from Mount Rogers, Va. (41483); 3 specimens of *Parus carolinensis* and 1 of *Porzana noveboracensis* from Virginia (41809); small mammals from Virginia (42296); 11 birds' eggs and 2 nests of North American birds (42509).

DAVENPORT, HOMER, Morris Plains, N. J.; Twenty-two birds, principally the downy young of the Impeyan, Golden, Reeve's, and other pheasants (41454); specimen of Sonnerat's jungle fowl, *Gallus sonnerati* (42010); 2 specimens of pheasant, *Chrysolophus pictus* and *Calophasis ellioti* (42583); chicken of a Green jungle-fowl, *Gallus varius* (42819).

DAVEY, F. C. P. (See under Mrs. C. N. Chapman.)

DAVIESON, A., Los Angeles, Cal.: Two plants from California. 41277.

DAVIDSON, Mrs. A. S., Washington, D. C.: Piece of silver Chinese money. 41937.

DAVIS, Prof. C. ABBOTT, Providence, R. I.: Thirty-eight species of Bermudan shells (41623); 3 shells from Bermuda (42069); cotypes of 2 species and 9 varieties of Bermudan shells (42389);

DAVIS, Prof. C. ABBOTT—Continued.

41 specimens of shells from Bermuda, including 8 lots of cotypes of recently described forms (42628).

DAVIS, Mrs. E. J., Buffalo, N. Y.: Two specimens of unfinished bead work. 42486.

DAVIS, L. F., Le Roy, Kans.: Specimens of *Calamites cistii* Brogn., and *Calamites suckowii* Brogn. (41799); mollusks, pearls, sample of oil, piece of lava and water-worn pebbles (42126).

DAVIS, Dr. S. A., Yonkers, N. Y.: Reptiles and batrachians from Ecuador. 42409.

DAVIS, W. A. (See under Manitou Mineral Springs Company.)

DAWSON, Mrs. M. M., Washington, D. C.: Two Oglala Sioux war bonnets. Purchase. L. P. X. 42560.

DAY, Dr. D. T., U. S. Geological Survey: Specimen of pyrophyllite from Murphy, N. C. (41620); specimens of cassiterite from Gaffney, S. C. (41823); rock from Mariposa County, Cal. (41945); pig iron from Spottswood furnace on the Rappahannock River, Spottsylvania County, Va. (42108); graphite from Bald Mountain, New Hampshire (42536).

DAYTON, C. N., New York City: Nineteen photographs of Mexican ethnological objects. Purchase. 41403.

DEAM, C. C., Bluffton, Ind.: Thirty plants from Indiana (41909; 42265). (See also under A. A. Heller.)

DEAN, Dr. BASHFORD. (See under Dr. F. T. Delfin.)

DE BEERS CONSOLIDATED MINES, Kimberley, South Africa: Received through Gardner F. Williams, general manager. Specimens of rock and blue ground; also concentrates from the Kimberley mines. 42728.

DECKER, G. M., Waco, Tex.: Luna moth. 42886.

DELFIN, Dr. F. T., Valparaiso, Chile: Received through Dr. Bashford Dean, Columbia University, New York City. Deer from Chile. Exchange. 32618.

- DEMING, Dr. N. L., Walloon Lake, Mich.: Moth representing the species *Erebus odora* Linnæus. 41451.
- DEMOKIDOFF, K., St. Petersburg, Russia: Eighteen hymenopterous parasites (41348; 41547); 12 specimens of *Hymenoptera parasitica* (41738); 23 specimens of parasitic hymenoptera (41924; 42408).
- DENMAN, Miss M. S., New Brunswick, N. J.: Slab of stone containing a fossil fish representing the species *Ischchyp-terus* sp. 41540.
- DENNIS, F. M., Albany, N. Y.: Fossil fruit of a palm representing the genus *Sabal*. 41725.
- DE PEU, H. P., Jacksonville, Ill.: Specimens of long-tailed Ichneumon fly, *Thallessa lunator* Fabricius. 42835.
- DERBY, ORVILLE A., Sao Paulo, Brazil: Diamond-bearing gravel with an imbedded diamond from Minas Geraes, Brazil. 42694. (See also under Antonio M. Magalhaes, jr.)
- DERICKSON, Prof. S. H., Lebanon Valley College, Annville, Pa.: Three specimens of *Vespertilio*. 42418.
- DESCHAMPS, EMIL, San Jose, Cal.: Collection of natural-history material from Shanghai, China. Purchase. 41273.
- DE USERA, VICENTE, Ponce, Porto Rico: Eight stone celts from Porto Rico. 41575.
- DIETRICH, Hon. HERMAN R., consul-general, United States of America, Guayaquil, Ecuador: Sample of "Palo de Balsa" or "Balsa log," and a sample of "Bejuco" or wythe. Received through State Department. 42319.
- DIMMOCK, GEORGE, Springfield, Mass.: One hundred specimens of larvæ, representing *Culex cantans*, *C. dyari*, and *C.* sp. 42691.
- DISBROW, Dr. W. S., Newark, N. J.: Crystal of spodumene, of historic interest, being one of the first known crystals found by Doctor Hitchcock at Huntington, Mass. (41351); 225 minerals from Great Notch, New Jersey, and 3 minerals from Franklin, N. J. (42163).
- DIXON, CHARLES, Harlesden, London, England: Twenty-four birds' skins from various localities. 42377.
- DIXON, ROLAND B., Harvard University, Cambridge, Mass.: Eight Maidu baskets from California. Purchase. 41905.
- DOD, F. H. W., Millarville, Alberta, Canada: Received through Dr. H. G. Dyar. Lepidoptera. 42138.
- DODGE, BYRON E., Davison, Mich.: Thirteen archeological objects (9413); grooved stone axe (9510). (Loan.)
- DODGE, C. K., Port Huron, Mich.: Thirty plants from Michigan (42364); 5 specimens of *Laciniaria scariosa* (42421).
- DODGE, W. C., Washington, D. C.: Sixty cartridges for small arms. 42429.
- DODSON, W. R. (See under Department of Agriculture.)
- DORFLINGER, C., & SONS, New York City: Glass model of the "Excelsior" diamond. 42585.
- DORRANCE, Miss F., Dorranceton, Pa.: Ten specimens of Amphipods representing the species *Lepidactylis dytiscus* Say, from Mosquito Lagoon, Florida. 42775.
- DORSEY, G. A., Field Columbian Museum, Chicago, Ill.: Four Tlinkit house posts and 2 totem posts. Purchase. L. P. X. 42671.
- DOWELL, PHILIP, U. S. National Museum: Specimen of *Polygala nuttallii* from Takoma Park, D. C. (41469); about 30 plants, principally ferns, from Staten Island, New York (42270).
- DRESDEN, GERMANY: KÖNIGLISCHES ZOOLOGISCHES UND ANTHROPOLOGISCHES-ETHNOGRAPHISCHES MUSEUM: Received through Dr. A. B. Meyer. Three skins of Sturnidæ (exchange) (41464); 125 negatives taken in the Philippine Islands (gift) (41586).
- DUBOIS, CONSTANCE GODDARD, Waterbury, Conn.: Small basket, a root used in dyeing baskets, and a few dyed splints. 42646. (See also under American Museum of Natural History.)
- DUBOSE, J. H., Huguenot, Ga.: Seventy-two specimens of unios; also human bones (41552); skull found along the

DUBOSE, J. H.—Continued.

base of one of the old Rembert Indian mounds near the bank of Savannah River, Petersburg District, Ga. (41816); spider (42887).

DUGÈS, Dr. A., Guanajuato, Mexico: Received through Department of Agriculture. Plant from Mexico. 42378.

DUNLAP, R. G. (See under Department of Agriculture.)

DYAR, Dr. H. G., and R. P. Currie, U. S. National Museum: A. N. Caudell, Department of Agriculture: 18,355 insects, consisting of Arachnida and Myriapoda from British Columbia (41365); collection of Lepidoptera, comprising 20,320 specimens from British Columbia (41463).

DYAR, Dr. H. G. (See under Theo. Bryant; F. H. W. Dod; H. D. Merrick, Washington Biologists' Field Club.)

EARLE, MRS. ALICE MORSE, Brooklyn, N. Y.: Three bayberry candles. 42627.

EASTERBROOK, Miss ELVA, Camden, N. J.: Twenty-seven Confederate notes. 41313.

EASTMAN KODAK COMPANY, Rochester, N. Y.: Eastman-Walker roll-holder, 1885; Eastman detective camera of 1887; kodak of 1888; 4-folding kodak of 1890; B. daylight kodak of 1892; pocket kodak of 1895; folding kodak of 1902; folding kodak of 1903. 41782.

EASTWOOD, Miss ALICE, Academy of Natural Sciences, San Francisco, Cal.: Fifteen plants from California (41232; 41278; 41286; 41381; 42816); specimen of *Woodwardia* sp. from California (41324). (See also under Department of Agriculture.)

EDMUNDOZ, JUAN C., Kingsford, Fla.: Fossil teeth from Florida. Purchase. 41308.

EDSON, G. E., St. Albans, Vt.: Six fossil brachiopods. 41911.

EDWARDS, A. J. (See under Dr. R. E. C. Stearns.)

EGYPT EXPLORATION FUND, London, England. (See under Smithsonian Institution.)

EHRENSBERGER, FRITZ, Eichstätt, Bavaria, Germany: Ninety-two specimens of

EHRENSBERGER, FRITZ—Continued.

Jurassic invertebrates from the quarries of Eichstätt (purchase) (41914); 9 specimens of squids, crabs, and worms from the same quarries (purchase) (42143); fossil fishes (purchase) L. P. X. (42477).

ELDER, J. H., Atlanta, Ga.: Fossorial wasp, representing the species *Specius speciosus* Drury. 42480.

ELGIN, G. D., Port Orford, Oreg.: Longicorn beetle, *Rosalia melancholia* Motsch, and a Buprestid beetle, *Buprestis adjecta* Horn. 41766.

ELMER, A. D. E., Palo Alto, Cal.: Five hundred and forty-eight plants from California. Purchase. 41828.

EMERSON, W. O., Haywards, Cal.: Forty-seven birds' skins from California. 42572.

EMERY, J. S., Emeryville, Cal.: Small cube of granite from Newcastle Island, near Nanaimo, British Columbia. 41732.

EMMONS, Lieut. G. T., U. S. Navy, Princeton, N. J.: Stone pile driver from Knights Inlet, British Columbia, and a Klikitat basket from Victoria; also 2 fish bags from Victoria (purchase) (41495); ethnological material from the northwest (purchase) L. P. X. (41512); 14 antique baskets from Thompson River, Alaska, and 2 awls made by the Thompson River Indians of British Columbia (purchase) (41665); ivory implement from northern Alaska (exchange) (41874); 2 killing clubs, 5 feast spoons, and a Shaman blanket (purchase) L. P. X. (42081); basket shot pouch made by the Tlinkit Indians of Sitka (exchange) (42338); Klikat blanket shirt (purchase) L. P. X. (42526); ethnological material from British Columbia (exchange) (42638).

ENGLISH, G. L., New York City: Specimens of minerals and ores. Purchase. L. P. X. 41879.

ESHNAUR, Mrs. N. M., Terminal Island, San Pedro, Cal.: About 25 specimens of marine shells (*Renilla*) (Benedict) from California (42000); specimens of *Bittium* from California (42345); 5 speci-

- ESHNAUR, Mrs. N. M.—Continued.
mens of bryozoans and a fragment of a sponge from Catalina Channel (42546).
- ESTEY, Mrs. J. J. (See under National Society of the Daughters of the American Revolution.)
- EUREKA SLATE COMPANY, Slatington, Cal.: Specimen of blue and gray slate from a quarry at Slatington. 41973.
- EVANS, Dr. A. W., New Haven, Conn.: Thirty-six specimens of *Hepaticæ* from Jamaica (exchange) (42299).
- EVANS, Dr. R. H., Demerara Museum, Georgetown, Demerara: Eight skins of Hoatzin or "Stink bird," with two nests and branches on which they were found. Purchase. L. P. X. 42104.
- EVERMANN, Prof. B. W., Bureau of Fisheries, Department of Commerce and Labor, Washington, D. C.: Six fossil plants from Chignik, Alaska. 41647. (See also under Department of Commerce and Labor, Bureau of Fisheries.)
- FAIRBANKS, Mrs. C. W. (See under National Society of the Daughters of the American Revolution.)
- FAWCETT, H. S., Salem, Ohio: Five specimens of *Nymphæa advena* Ait from Salem. 41301.
- FAXON, Dr. WALTER. (See under Museum of Comparative Zoology, Cambridge, Mass.)
- FEATHERSTONHAUGH, Dr. THOMAS, Washington, D. C.: Bell-mouthed blunderbuss. 42452.
- FELT, Dr. E. P., Albany, N. Y.: Two specimens of parasitic Hymenoptera. 42458.
- FENYES, Dr. A., Pasadena, Cal.: Two specimens of beetles representing the species *Palafoxenus dohrni* Horn. 41899.
- FERNALD, Dr. H. T., Hatch Experiment Station, Amherst, Mass.: Three slides of *Thysanoptera* representing cotypes of species described by Doctor Hinds. 41932. (See also under Dr. A. D. Morrill.)
- FERNEKES, VAL., Milwaukee, Wis.: Five specimens of Lepidoptera. 42334.
- FERNOW, Dr. B. E. (See under Department of Agriculture.)
- FERRISS, J. H., Joliet, Ill.: Leaves of *Panicum*. 41426.
- FEWKES, Dr. J. WALTER, Bureau of American Ethnology, Washington, D. C.: Wax candle or taper from Porto Rico (41390); carib hammock, cassara strainer, fans, and a set of rope harness (42911). (See also under Smithsonian Institution, Bureau of American Ethnology, and Señor Arturo Subiña.)
- FIELD COLUMBIAN MUSEUM: Specimen of *Napus allenii* (exchange) (41295); meteorite from Brenham, Kiowa County, Kans. (purchase) L. P. X. (42367); piece of a meteorite from Mexico (exchange) (42907).
- FIELD, GEORGE, Washington, D. C.: Received through Otto Heidemann. Specimen of East Indian beetle, *Dioecenes dendrobii*. 41479.
- FINK, JOHN, Nashua, Fla.: Tooth of a mammoth, and piece of a fossil bone. 42147.
- FIRST ZOOLOGICAL INSTITUTE OF THE IMPERIAL UNIVERSITY. (See under Vienna, Austria.)
- FISHER, Dr. A. K., Department of Agriculture, Washington, D. C.: Specimen of *Mammillaria* from Texas (41394); snake (*Ophibolus getulus*), from Annapolis Junction, Md. (41438); 5 birds' nests and 5 birds' eggs from Guadeloupe Island (42153); carapace of a large snapping-turtle, *Chelydra serpentina* (42219).
- FISHER, H. L., Califon, N. J.: Received through Department of Agriculture. Plant from New Jersey. 42837.
- FISHERIES, U. S., Bureau of. (See under Department of Commerce and Labor.)
- FISKE, WILLIAM F., Department of Agriculture: Three hundred specimens of Lepidoptera from Tryon, N. C. (42193); 19 specimens of Myriapoda from the same State (42678).
- FLETCHER, Dr. JAMES, Ottawa, Canada: Twenty-five specimens of Orthoptera (42003); 2 inflated larvæ of *Semaphora* (42031); 4 moths (42316); 12 specimens

- FLETCHER, DR. JAMES—Continued.
of Lepidoptera, types of new species described by the donor (42757).
- FOERSTE, A. F., Dayton, Ohio: Specimens of Ordovician fossils. 41532.
- FONS, F. J., Marion, Ky.: About five hundred specimens of Middle Chester fossils (41307); fluorite crystals from Hardin County, Ill. (41435). Exchange.
- FOOTE MINERAL COMPANY, Philadelphia, Pa.: Minerals and ores (purchase) L. P. X. (41881); 3 specimens of fayalite from Rockport, Mass.; specimens of hanksite from Borax Lake, California, and a specimen of selenite from South Dakota (purchase) L. P. X. (41946); 14 minerals (purchase) L. P. X. (42235); polished slab of rose quartz from Black Hills, S. Dak. (exchange) (42704).
- FOOTE, PIERSON & Co., New York City: Received through Clarence A. Stimpson. Morse telegraph apparatus, consisting of a relay, sounder, key, and resonator (41949); twentieth century telegraph key (42158).
- FORBES BROTHERS, San Rafael, Cal.: Two specimens of jasper. 42241.
- FORBUSH, E., care United States consul, Port-au-Prince, Haiti: Twelve specimens of land shells from Haiti. 41902.
- FORRESTER, ROBERT, Salt Lake City, Utah: Fifteen specimens of minerals (41630); specimen of martite from Iron County, Utah (41713). Exchange.
- FOSTER, WILLIAM T., Sapucay, Paraguay: Thirty-five specimens of Coleoptera (41709); 59 moths from Paraguay (42498). Purchase.
- FOWKE, GERARD, Bureau of American Ethnology, Washington, D. C.: Cave material from Colossal Cave, near Mammoth Cave, Ky. 41722. (See also under Carnegie Institution.)
- FOWLER, GEORGE L., New York City: Two colored drawings of locomotives (41877); 10 tracings of steamboat machinery (41878). Purchase.
- FOWLER, J. O., Annapolis, Md.: Specimens of Eocene fossils from near Annapolis (42534; 42576; 42739).
- FRAILE, M., Washington, D. C.: Two specimens of cultivated *Hawartha* (41360); plants from Texas and the District of Columbia (42331; 43786).
- FRANCK, GEORGE. (See under American Entomological Company.)
- FRANKLIN, DR. MELVILLE, Philadelphia, Pa.: Thirty-three photographs of eminent musicians. 41357.
- FRAZEE, W. E., Columbus, Miss.: Moth (*Citheronia regalis* Fabr.). 41420.
- FREDENDALL, Miss, Tucson, Ariz.: Specimens of Sphinx moth, *Philampelis achemon* Drury. 41414.
- FREDHOLM, A., Fort Drum, Fla.: Received through Department of Agriculture. Six specimens of Caddis-flies. 41931.
- FRENCH, DR. CECIL, Washington, D. C.: Two wild turkeys representing the species *Meleagris silvestris*. 42156.
- FRIC, V., Prague, Bohemia: Fifty-five specimens of fossils from the Paleozoic formations of Bohemia. Purchase. 41836.
- FRIERSON, L. S., Frierson, La.: Five specimens of fresh-water shells from Japan (41777); four shells of *Anodonta* from Japan (41891).
- FRIESSER, JULIUS, Holland, Mich.: Eighteen skins and skulls of bats and 84 specimens of alcoholic bats. Purchase. 42919.
- FRISBY, R. H. (See under Swift and Company.)
- FUCHS, CHARLES, San Francisco, Cal. Seventeen specimens of Coleoptera. 41486.
- FUCHS, DR. THEODORE. (See under Vienna, Austria, K. K. Naturhistorisches Hofmuseum.)
- FUERTES, L. A. (See under Department of Agriculture.)
- FULLER, C. V., Grand Ledge, Mich.: Bar amulet (42218); cast of bannerstone (42666).
- FURGESON, J. M., Kingsville, Tex.: Four plants. 42569.
- FYLES, REV. T. W., Levis, Quebec, Canada: Two specimens of dragon flies (41737); 2 specimens of Lepidoptera

- FYLES, Rev. T. W.—Continued.
and 2 specimens of Odonata (41803);
3 species of Hymenoptera (41393).
- GALT & BRO., Washington, D. C.: Two
watch movements. 42608.
- GANT, J. H., Fort Scott, Okla.: Received
through Department of Agriculture.
Three specimens of cacti. 42787. (See
also under Department of Agriculture.)
- GARFIELD HOSPITAL, Washington, D. C.:
Brain of a colored man. 41404.
- GARRETT, A. O., Salt Lake City, Utah:
Twenty-eight plants. 42384.
- GEE, N. GIST, Soochow University, Soo-
chow, China: Miscellaneous insects
from China (41998); 7 wooden models,
consisting of a native small boat, sedan
chair, wheelbarrow, agricultural im-
plement, water-wheel and caraboo,
tea man, and a jinrikisha (42039).
- GEOLOGICAL SUBVEY, U. S. (See under
Interior Department.)
- GERRARD, E. & SONS, Camden, England:
Specimen of sheep (*Ovis musimon*)
(purchase) L. P. X. (42131); specimen
of *Pantholops* sp. (purchase) (42135);
mounted specimen of zebra (purchase)
(42370).
- GICLAS, ELI, Flagstaff, Ariz.: Five plants
from Arizona. 42790.
- GIFFORD, E. W., Alameda, Cal.: About
40 specimens of fresh-water shells from
California. 42070.
- GIGLIOLI, Prof. HENRY H., Florence,
Italy: Photographic copy of a Haida
Indian stone dish. 42396.
- GILBERT, Mrs. A. P., Logan, Okla.: Specimen
of a Solpugid. 41413.
- GILBERT, Prof. C. H. (See under Leland
Stanford Junior University; and De-
partment of Commerce and Labor, Bu-
reau of Fisheries.)
- GILBERT, Prof. G. K. (See under Smith-
sonian Institution, Bureau of American
Ethnology.)
- GILL, Mrs. M. W., Washington, D. C.:
One hundred and eighty-two tablets
illustrating Indian symbolism. Pur-
chase. L. P. X. (42518; 42598).
- GILL, Dr. T. N., Smithsonian Institution:
Carabao horn needle for weaving nets,
obtained from the Philippine Islands.
42801.
- GILLETTE, Prof. C. P., Fort Collins, Colo.:
Twenty-four specimens of Orthoptera,
received through A. N. Caudell (42297);
24 specimens of Lepidoptera (42304);
17 specimens of Acridiidae (42353); 16
specimens of Microlepidoptera (42354);
39 specimens of Lepidoptera (42547).
- GILOEIRA, J. J., Vedada, Habana, Cuba:
Received through Department of Agri-
culture. Plant from Cuba. 42822.
- GIRAULT, A. A., Blacksburg, Va.: Six
cotypes of *Aulacidea solidaginis* Girault
and 2 species of parasites (41248); 3
cynipid galls representing the species
Solenozopheria vaccini Ashm. (41497);
5 specimens of a Braconid, *Rhogas in-
termidius* Cr. (41848); 2 specimens of
Hadronotus carinatiferus Ashm. (42895).
- GODING, Hon. F. W. (See under H. J.
Brown.)
- GOLDEN, R. A. (See under Mrs. Cather-
ine A. Carter.)
- GOLDMAN, E. A., Department of Agricul-
ture: Two plants from Mexico. 41300.
(See also under Department of Agri-
culture.)
- GOLDMAN, L. J., Berkeley, Cal.: Two
specimens of Cotyledon from Califor-
nia. 41593.
- GOLDSCHMIDT, V. H.: Received through
Prof. F. W. Clarke, U. S. Geological
Survey. Specimen of anglesite on
galena from Monte Poni, Sardinia.
41233.
- GONZALES, G. J., Guaymas, Mexico: Rocks,
fossils, and minerals from Mexico. Ex-
change. 42454.
- GOODE, HARRY, Philadelphia, Pa.: Rail-
road link of obsolete pattern. Pur-
chase. 41645.
- GORDON, R. H., Cumberland, Md.: Specimen
of *Pseudocrinites perdewi* with arms
(42043); specimen of pseudo-meteoric
iron from near Cumberland (42382).
- GRABHAM, Dr. M., Kingston, Jamaica:
Seven adult mosquitoes and larvæ from
Jamaica. 42520.

- GRAF, THEODORE, Vienna, Austria: Thirty-two heliographs of Græco-Egyptian portraits. 41522.
- GRAHAMSTOWN, SOUTH AFRICA, ALBANY MUSEUM: Received through Dr. S. Schönland, director. Two elands. Exchange. 42013.
- GRANT, Gen. FREDERICK D., U. S. Army: Illuminated parchment presenting Gen. U. S. Grant with the freedom of the city of Londonderry, Ireland. 42659.
- GRANT, G. B. (See under A. A. Heller.)
- GRAY HERBARIUM, Harvard University, Cambridge, Mass.: Two plants from Arizona and New Mexico (41981); plant from Mexico (42785).
- GRAY, Mrs. WILL, Soddy, Tenn.: Canary bird. 42221.
- GREBLE, Mrs. M. D., Washington, D. C.: Four baskets. Loan. 8909. Returned.
- GREELY, Gen. A. W., U. S. Army. (See under War Department.)
- GREENE, Dr. E. L. (See under E. B. Copeland and E. Janazerosky.)
- GREENE, Dr. H. W., Springfield, Mass. Old-style saw. 42441.
- GREER, C. S., Western Union Telegraph Company, Columbus, Ohio.: Telegraph switch board and a Brooks telegraph insulator. 42110.
- GREGER, D. K., Fulton, Mo.: Eleven specimens of coal-measure fossils from Washington, Mo. 42029.
- GRIFFIN, A. C., Pierre, S. Dak.: Mammal representing the species *Putorius nigripes*. 41741.
- GRIFFITHS, DAVID, Department of Agriculture: Plants from Arizona (42083; 42247).
- GRIMES, J. II., Durango, Colo.: Received through Max Pracht. Specimen of azurite crystals. 41864.
- GRÖNWALL, Dr. CARL A., Copenhagen, Denmark: Four hundred specimens of Cambrian fossils, collected by the donor. Purchase. 42722.
- GROTT, Dr. A. J., Brooklyn, N. Y.: Twenty-five specimens of mosses. Purchase. 41800.
- GRUBBS, Dr. R. B., U. S. Army, The Presidio, San Francisco, Cal.: Swords, knives, and other articles belonging to the Moro tribes in the vicinity of Lake Lanao, Mindanao, P. I. (8498); carved Nautilus shell (9090). (Loan.)
- GRUBER, F. (See under Memorial Museum, Golden Gate Park, San Francisco, Cal.)
- GUERIN, T. M., Decatur, Nebr.: Ethnological objects from the islands of Guam and Saipan. 42501.
- GUNN, J. M., Laguna, N. Mex.: Fossil bones, including the upper end of humerus and the lower end of femur of a Belodont, *Heterodontosuchus ganei*. 41423.
- GUNTHER, Dr. A., British Museum (Natural History), London, England: Mammals, birds, reptiles, and fishes. 42075.
- HALL, Dr. C. L., Elbowoods, N. Dak.: Photographs of Indians. 42238.
- HALL, C. LYON, Port au Prince, Haiti, West Indies: Shells from Lake Enriquillo, Haiti. 41493.
- HALL, H. M., University of California, Berkeley, Cal.: Plant from California (41607); received through Department of Agriculture, 15 plants from California (41787); 3 specimens of *Ribes* from California (41884); 240 plants from California (purchase) (42244).
- HALLOCK, CHARLES, Washington, D. C.: Specimen of copper ore from the Windsor Bush mine, near Plainfield, Mass. 41617.
- HAMMERSTIEN, H. L., Chicago, Ill.: Two snakes and 2 geckos (41455); also specimen of European viper (41456).
- HAMPSON, Sir GEORGE F., British Museum (Natural History), London, England: Seventeen specimens of Lepidoptera from Norway. 42621.
- HANDS, E. J., Willcox, Ariz.: Moth. 41343.
- HANHAM, A. W., Victoria, B. C.: One hundred and fourteen specimens of Lepidoptera. 41527.
- HARPER, ROLAND M., College Point, N. Y.: Three specimens of *Nymphæa*

- HARPER, ROLAND M.—Continued.
from Georgia (41302); musical sand from Canoochee River, near Groveland, Ga. (41379); 4 species of land shells (42882).
- HARRIMAN ALASKAN EXPEDITION: Received through U. S. Geological Survey. Three boxes containing a collection of rocks and thin sections of rocks. (Transmitted to the Museum through Prof. Charles Palache.) 41844.
- HARRIS, GRAHAM H., Chicago, Ill.: Lock Leven Trout, *Salmo lewiniensis*, from Madison River, Montana. 41707.
- HARRIS, J. H. (See under Department of Agriculture.)
- HARRIS, L. C., Genoa, Nev.: Received through Smithsonian Institution, Bureau of American Ethnology. Piute bead charm. 42493.
- HARSIBARGER, DR. JOHN W., University of Pennsylvania, Philadelphia, Pa.: Thirty-one plants, principally from North Carolina. Exchange. 41772.
- HARTMAN, CARL, Austin, Tex.: Specimen of hymenopterous parasite. 41249.
- HARTT, I. H., Manitou, Colo.: Geological specimens from various localities. Purchase. L. P. X. 41753.
- HARTWELL, MRS. CHARLES, Long Beach, Cal.: Specimen of *Ischnochiton* from San Pedro, Cal. 42227.
- HARVEY, FRED, Kansas City, Mo.: Fourteen Chinook skulls (purchase) (41387); 23 Chimehuevi baskets and 21 Nez Percé bags (purchase) L. P. X. (41388); 10 Maidu baskets (purchase) L. P. X. (42213).
- HARVEY, R. V. Vancouver, British Columbia: Ten specimens of Lepidoptera. 41526.
- HASSE, DR. H. E., Soldiers' Home, Cal.: Four living plants from California (41226); 2 plants and 74 specimens of lichens, principally from California (41956; 42258).
- HASSETT, BURDETT, Reliance, Va.: Specimen of Sharp-shinned hawk, *Accipiter velox*. 41503.
- HATCH, J. W., Fruitland, N. Mex.: Madstone. (Loan.) 9280.
- HATTENDORF, F. C., Western Springs, Ill.: Specimen of Raspberry gall, *Diastrophus turgidus* Bassett. 41849.
- HAUTEVILLE, MRS. F. C. D', Washington, D. C.: Received through Mrs. M. B. Wheaton. Sword and pair of bullion epaulettes, to be placed with other relics of Maj. Gen. Alexander McComb, U. S. Army. (Loan.) 8797.
- HAWLEY, E. H., U. S. National Museum: Whistle harmonica. 42831.
- HAY, Prof. W. P. (See under Department of Commerce and Labor, Bureau of Fisheries.)
- HAYES, W. R., Skidmore, Tex.: Received through Department of Agriculture. Three plants from Texas. 42084.
- HEIDEMANN, OTTO, Washington, D. C.: Specimens of *Limnæa* from the District of Columbia. 42861. (See also under George Field.)
- HEIGHWAY, A. E., Habana, Cuba: Received through Dr. G. P. Merrill. Four eggs of *Strix flammea furcata*. 42107.
- HELLER, A. A., Pacific Grove, Cal.: Two plants from California (gift) (41354); 482 plants from California (purchase) (41814); 639 plants collected by George B. Grant and J. W. Congdon in California (purchase) (41246); 2 plants from California (gift) (41276); 285 plants from California (purchase) (41318); plant from California (gift) (41991); 246 plants from California and Europe (purchase) (42092); 65 ferns from Europe (purchase) (42106); 20 plants from California (gift) (42280; 42591; 42605); about 60 plants from Mexico collected by C. C. Deam (gift) (42637); 10 living plants from California (exchange) (42654; 42655).
- HEMPHILL, HENRY, San Diego, Cal.: Sixteen specimens of *Amphithulmus* from California (gift) (42540); photographs of west American shells illustrating variations, etc. (gift) (42614); 649 species or varieties of land shells from California (purchase) (42930).
- HENDERSON, MRS. A. P., Chicago, Ill.: Six samples of beads collected by Carl Lumholtz. 41428.

- HENSHAW, H. W., Hilo, Hawaiian Islands: Specimens of Macruran crustaceans (41484); specimen of *Conus cotus* L., and a slide containing a mount of teeth of the same, from Hilo (41759); crustaceans, worms, mollusks, and other invertebrates (41822); crustaceans and a specimen of Flying-gurnard or "Robin," *Dactylopterus* (41854); 540 specimens of Hawaiian Succineas and Achatinellas (41939); crustaceans, worms, and a fish (42062); 30 specimens of fossil land shells from the Hawaiian Islands (42229); 3 specimens of Gephyrean worms (42259); Planarian worm (*Stylochus*?) (42709); crustaceans, echinoderms, worms, and a nudibranch mollusk (42800).
- HERRON, W. G., U. S. Geological Survey: Specimen of Sunflower coral, *Receptaculites oweni*, from Big Iron Mountains. 42726.
- HEUSNER, DR. KARL, Belize, British Honduras: Specimens of *Tricharis trichiura* (= *Trichocephalus dispar*). 42323.
- HEWITT, FOSTER, Pittsburg, Pa.: Copper ore, and specimens showing weathering, from near the Choix River, Mexico. 42573.
- HEYWOOD, MAJ. GEN. CHARLES, U. S. Marine Corps (retired), Washington, D. C.: Loving cup of silver presented to him by the officers of the U. S. Marine Corps, on the occasion of his retirement from the service. (Loan.) 9472.
- HICKMAN, DR. C. W., Augusta, Ga.: Pair of Spanish dueling pistols. (Loan.) 8682.
- HILL, E. J., Chicago, Ill.: Thirty-seven plants from Illinois. Exchange. 42502.
- HILLIARD, G. R., Springfield, Ohio.: Myriapod representing the species *Cermatia forceps* L. 42045.
- HILLMAN, F. H. (See under J. Wheeler.)
- HIMALAYA MINING COMPANY, New York City: Six specimens of tourmaline from California. Purchase. L. P. X. 42599.
- HINDS, W. E. (See under Department of Agriculture.)
- HINES, GEORGE H., Oregon Historical Society, Portland, Oreg.: Siliceous pebbles from Oregon. 42626.
- HINKLEY, A. A., Dubois, Ill.: Ninety-three specimens of mollusks from the Southern States. 42863.
- HIRASE, Y., Kyoto, Japan: One thousand three hundred and fifty-one specimens of shells from Japan (41422); 1,106 specimens of Japanese mollusks (42918). Purchase.
- HOCHDERFFER, COL. GEORGE, Flagstaff, Ariz., and C. A. PURFUS, Zacatecas, Mexico: Small collection of fishes from Mexico. 42032.
- HODGE, DR. E. R., Army Medical Museum, War Department, Washington, D. C.: Two bows, bolo, shield, spearheads, and a fishing spear from the Philippine Islands. Exchange. 42024.
- HODGMAN, C. M., Waterway, Va.: Two specimens of *Dynastes tityus*. 42689.
- HODSON, E. R., Washington, D. C.: One hundred and five plants collected at St. Regis Falls, N. Y. (41305); received through the Department of Agriculture; 44 plants from Maine (41434).
- HOLLERITH, HERMAN, Washington, D. C.: Three guns and a pistol. (Loan.) 9304.
- HOLT, G. W., East Andover, N. H.: Plant from New Hampshire. 42197.
- HOLTZ, MARTIN, Vienna, Austria: Eight reptiles and batrachians from Europe. Purchase. 41389.
- HOLWAY, E. W. D., Decorah, Iowa, and Mexico, Mexico: Plants, seeds, and fungi from Mexico (41813; 41834; 41895; 41955; 42035; 42365; 42422).
- HOPE GARDENS, Botanical Department of Jamaica. (See under Kingston, Jamaica.)
- HOPKINS, L. S., Troy, Ohio: Beetle (*Euphoria inda* Linnæus). 41524.
- HOPKINS, S. J., Mount Holly, Va.: Stone axe from a shell heap at the mouth of Nomini Creek, Westmoreland County, Va. 42826.

- HORGAN, EDWARD, U. S. National Museum: About 25 specimens of land-shells from Colonial Beach (41433); 18 specimens of caddis worms (42537).
- HORNUNG, DR. JOHN, San Francisco, Cal.: Starfishes, bats, reptiles, shells, fossil, and a bird (exchange) (41952); 120 specimens of marine shells from California (gift) (42223).
- HOUGH, DR. WALTER, U. S. National Museum: Ethnological objects collected in New Mexico (purchase) (41791); specimen of porcupine skull from Arizona; Louisiana lottery ticket, dated December 12, 1893; 12 plaster casts of medals; bound volume of "History of the Soldiers' Medals," and an ancient document relating to the home of Washington (gifts) (41855; 41876; 41975; 42027). (See also under Dr. F. M. Zuck.)
- HOUSE, H. D., Bronx Park, N. Y.: Nine specimens of Bryophyta collected in New York by Mr. W. R. Maxon and himself. 42251.
- HOVEY, F. L., Auburn, Me.: Specimen of pyrrhotite. 41553.
- HOVEY, G. U. S., White Church, Kans.: Fourteen flint implements. 42065.
- HOWARD, DR. L. O. (See under Department of Agriculture; Charles E. Jenney; E. S. G. Titus.)
- HOWELL, ARTHUR. (See under Department of Agriculture.)
- HOWELL, A., Lipscomb, Tex.: Specimen of cactus from Texas. 41264.
- HOWELL, A. H., Biological Survey, Department of Agriculture, Washington, D. C.: Fifty-five specimens of plants from New Mexico. 41507.
- HOWELL, E. E., Washington, D. C.: Nine quartz crystals, specimen of cut smoky quartz, opal, tabular calcite, cleavage calcite, 3 quartz spheres, and a sphere of crocidolite (purchase) L. P. X. (42049); specimen of sepiolite from Eskihi-Shehr, Asia Minor (exchange) (42544); meteorites (purchase) L. P. X. (42588); meteorite from Mount Joy, Pennsylvania (gift) (42687).
- HRDLIČKA, DR. A. F., U. S. National Museum: Brain of a negro woman (41698); 3 Banderilla from Jalesco, Mexico (41708); specimen of *Junco hyemalis* (41794); Indian sparrow (41916); 25 brains of various birds and mammals (41976); ceremonial stick from Jalesco, Mexico, 2 bands from Huichol, Jalesco, and a pouch-band from the same locality (41980); humerus (42195); 100 brains of various kinds (42249); brain of a red squirrel, *Chickaree* (41254); brain of a white American adult male (41298); Huichol ceremonial band made on a small loom (42348).
- HUDSON, JOHN, Dean, Mont.: Fragment of a deer horn. 41646.
- HUGHES, PROF. T. MCHENRY. (See under Cambridge, England, Sedgwick Museum.)
- HUMMEL, GUSTAVE, Luling, Tex.: Received through Department of Agriculture. Plant from Texas. 41340.
- HUNGATE, J. W., Snoqualash, Wash.: Six plants from Washington. 41314.
- HUNGERFORD BRASS AND COPPER COMPANY, New York City: Received through Mr. B. Ris, assistant secretary. Samples of solders and alloys manufactured by the company. 41339.
- HUNTER, D. W. (See under Department of Agriculture.)
- HUNTER, WILLIAM, National Zoological Park, Washington, D. C.: Plant. 42658.
- IHERING, DR. H. VON, Museu Paulista, Sao Paulo, Brazil: Sixteen specimens of fresh-water shells. 41999. (See also under Sao Paulo, Brazil.)
- INSTITUTO MÉDICO NACIONAL. (See under City of Mexico, Mexico.)
- INTERIOR DEPARTMENT, United States Geological Survey: Rock specimens from Bennington quadrangle (41244); specimen of titanium mineral and crude petroleum (41621); sample of sand from Bebara River, Colombia (41745); 1,932 fossil insects collected by Dr. S. H. Scudder (42117); 2 specimens of detritic limestone from Grand Canyon, Arizona (42157); specimen of fulgurite from Crested Butte, Colo.,

INTERIOR DEPARTMENT—Continued.

- collected by Mr. Whitman Cross (42211); specimen of crystallized arsenopyrite from Custer County, Colo., obtained by Mr. Cross (42212); 47 specimens of Cretaceous ammonites, described and figured by Hyatt in monograph No. 44 of the Survey (42253); specimens of tetradymite and garnet from Colorado and California (42333); rocks illustrating the geology of the Bisbee, Ariz., quadrangle (42400); lead and zinc ore from Arkansas, and sulphur and associated rocks from Nevada (42442); collection of Tertiary fossils, including duplicates and study series, containing about 12,000 lots of specimens, and, in the reverse series, about 40,000 specimens, mostly determined, labeled, and arranged in zoological and stratigraphic order (42740); rocks from Oklahoma and Indian Territory, obtained by Mr. T. Wayland Vaughan (42776); 1,458 specimens of Cambrian brachiopods collected by the Survey and 1,842 Cambrian brachiopods collected for the National Museum by Prof. S. Ward Loper (42867); fossil plant obtained by Mr. L. M. Prindle (42888). (See also under Harriman Alaskan Expedition and Dr. David White.)
- JACKSON, GEORGE, Deadwood, S. Dak.: Twenty-nine specimens of ore. 41992.
- JACKSON, S. E., Trinidad, British West Indies: Received through Smithsonian Institution, Bureau of American Ethnology. Eleven carib axes and 16 specimens of lava from St. Vincent. 42915.
- JACOBS, E. H. (See under Smithsonian Institution, Bureau of American Ethnology.)
- JAMBUNATHAN, Prof. N. S., Native College, Madura, India: Fifty-two spiders from India. Exchange. 42273.
- JAMES, GEORGE WHARTON, Pasadena, Cal.: Seventeen photographs of Indian women making baskets. 41579.
- JAMES, MRS. JULIAN, Washington, D. C.: Masonic relics of Hon. Mordecai Myers, consisting of a jewel of past grand master, apron of past grand master,
- JAMES, MRS. JULIAN—Continued.
apron of master mason, and ring of Theodorus Bailey, U. S. Senator from New York in 1803 (loan) (9145); Korean fan presented to her by Prince Minionette of Korea (gift) (41785).
- JANAZEROSKY, E., Craovie, Austria: Received through Dr. E. L. Greene. Two specimens of *Ribes* from Europe. 42903.
- JANSON, O. E., & SON, London, England: Twelve hundred and fifty-one specimens of Lepidoptera. Purchase. 41571.
- JAYNES, ROBERT T. (See under E. Dwight Sanderson.)
- JENNEY, CHARLES E., Fresno, Cal.: Received through Dr. L. O. Howard. Eight specimens of rose-gall, *Rhodites politus*. 42885.
- JENSEN, HERT A. S., Zoological Museum, University, Copenhagen, Denmark: Cotype of *Pecten frigidus* Jensen, from the North Atlantic Ocean. 42165.
- JEPSON, W. L., Berkeley, Cal.: Five plants from California. 41262.
- JOHN, ANDREW, Washington, D. C.: Models of baskets, etc., of the Seneca Indians. Purchase. 41513.
- JOHNSON, Prof. O. B., Seattle, Wash.: Seventy-three specimens of Lepidoptera. Exchange. 42539.
- JOHNSON, S. ARTHUR. (See under State Agricultural College, Fort Collins, Colo.)
- JONASSOHN, OSCAR T., New York City: Manufactured ruby (purchase) (41475); genuine and imitation stones (gift) (41476).
- JONES, A. W., Salina, Kans.: Received through Dr. T. W. Stanton. Concretions of silicobarite from near Bavaria, Kans. 41944.
- JONES, MRS. B. F., Bordentown, N. J.: Colonial bill of New Jersey, "one shilling," March 25, 1776. 41835.
- JONES, FRANCIS W., New York City: Photograph of eminent electricians. Purchase. 42012.
- JONES, McDUFFEE, and STRATTON COMPANY, Boston, Mass.: China plate and calendar file. 42173.

- JONES, MARCUS E., Salt Lake City, Utah: Seven plants from Mexico and Arizona (gift and exchange) (41514; 41786; 42590).
- JORDAN, DR. DAVID STARR. (See under Leland Stanford Junior University and Alan Owston.)
- JOSEPH, LEE, Cuero, Tex.: Last molar of a mastodon (*Mastodon americanus*). 41371.
- JOYNES, A. L., manager of East Tennessee Telephone Company, Paducah, Ky.: Specimen of submarine cable laid across the Tennessee River at Paducah before the civil war. 41534.
- JUNG, A. M., Desmet, Idaho: Four fossil plants. 42834.
- KAPP, HOMER, Bluffton, Ind.: Received through Prof. E. B. Williamson. Specimen of Vesper rat (*Nyctomys*) from Bluffton. 41833.
- KARPELES, DR. S. R., Washington, D. C.: Human foetus; foetus; white foetus (gift) (41860; 42511; 42517); two human foetuses (exchange) (42261).
- KEARFOTT, W. D., New York City: Nine specimens of hymenopterous parasites (41452); 463 specimens of butterflies belonging to the family Hesperidae (42076).
- KEARNEY, T. H., Department of Agriculture: Two hundred and ten plants collected on Plummers Island, Montgomery County, Md. (41450; 41461; 41467; 41518).
- KELLOGG, Prof. V. L., Leland Stanford Junior University, Stanford University, Cal.: Cotypes of Aleyrodidae represented by 24 species. 41767.
- KENDALL, DR. W. C., Bureau of Fisheries: Two specimens of *Nymphæa hybrida* from Aroostook County, Me. 41297. (See also under Department of Commerce and Labor, Bureau of Fisheries.)
- KENNEDY, DR. HARRIS, Yokohama, Japan: Six bats from Japan. 42808.
- KESSLER, H. H., El Cajon, Cal.: Specimen of orbicular gabbro from San Diego County (41230); orbicular diorite from near San Diego (42113).
- KEW, LONDON, ENGLAND, ROYAL BOTANIC GARDENS: Two hundred and seventy-eight plants from various localities (42381); living plant (42487). Exchange.
- KING, G. B., Lawrence, Mass.: Shell representing the species *Limax maximus*. 41429.
- KINGSTON, JAMAICA, HOPE GARDENS, Botanical Department of Jamaica: Three specimens of ferns (*Asplenium*) from Jamaica. Exchange. 42411.
- KINNEY, MRS. LOUISE CATLIN, Washington, D. C.: Life-sized portrait of George Catlin, in oil, painted by a Royal Academician in 1849. (Loan.) 9419.
- KINRADE, J. J., San Francisco, Cal.: Twelve specimens of minerals from various localities. Purchase. L. P. X. 41636.
- KIRK, W. STOKES, Philadelphia, Pa.: New Hall carbine, .54 caliber. 42467.
- KISHINOUEYÉ, DR. K., Imperial Japanese Fisheries Bureau, Tokyo, Japan: Japanese corals (41407); received through Dr. Hugh M. Smith, 2 specimens of *Salanx ariakensis* and a crab (41430).
- K. K. NATURHISTORISCHES HofMUSEUM. (See under Vienna, Austria.)
- KLAGES, E. A., Crafton, Pa.: Twenty-eight specimens of Scarabæidae (41353); 117 specimens of Scarabæidae (41719); hemipteron representing the species *Scaptocoris castanea* Perty, from Venezuela (41764).
- KNAB, FREDERICK, Washington, D. C.: Six specimens of caddis flies, a may-fly, and a wood-tick. 42725.
- KNOWLTON, DR. F. H., U. S. Geological Survey. Two hundred specimens of Lepidoptera from Needle Mountains and Silverton, Colo. (42386); 128 plants from Colorado (42407). (See also under H. Nehrling.)
- KNY-SCHEERER COMPANY, New York City: Two specimens of batrachians representing the species *Rana macrodactyla* and *Hyla simplex* (purchase) (42028); 7 birds' skins (gift) (42570).
- KOENIG, ADOLF, Pittsburg, Pa.: Two stone hammers and two cupped stones. 42714.

- KÖNIGLIGE FREDERIKS UNIVERSITET. (See under Christiania, Norway.)
- KÖNIGLICHES BOTANISCHES MUSEUM. (See under Berlin, Germany.)
- KÖNIGLICHES MUSEUM FÜR NATURKUNDE. (See under Berlin, Germany.)
- KÖNIGLICHES MUSEUM FÜR VÖLKERKUNDE. (See under Berlin, Germany.)
- KÖNIGLICHES ZOOLOGISCHES UND ANTHROPOLOGISCHES-ETHNOGRAPHISCHES MUSEUM. (See under Dresden, Germany.)
- KOONS, B. F., Brooklyn, N. Y.: Specimen of *Limax maximus* Linnæus. 41521.
- KRANTZ, Dr. F., Bonn, Germany: Two slabs of *Pentacrinus* (purchase) L. P. X. (41349); 204 invertebrate fossils from the Devonian of Germany and the Carboniferous of Belgium (purchase) (41903); 51 specimens of fossil shells, ammonites, crinoids, etc. (purchase) (42144); lunachel, chrysoprase, tridymite, and quartz from Europe (purchase) L. P. X. (42181); specimen of *Stenosaurus bollensis* (Jaeger) from the Lias of Holzmaden, Württemberg, Germany (purchase) L. P. X. (42225); specimen of *Ichthyosaurus* and a fossil palm (purchase) L. P. X. (42676).
- KRAUS, JOSEPH, Llano, Tex.: Three specimens of dolomitic marble (42059); 3 specimens of dendritic limestone (42809).
- KUNZ, G. F., New York City: Specimen of californite from Indian Creek, California. 42332.
- KWIAT, A., Chicago, Ill.: Forty-four specimens of Lepidoptera (42274; 42713).
- LACEY, HOWARD, Kerrville, Tex.: Skin and 2 skulls of *Odocoileus texensis*. 42641.
- LAMB, Dr. D. S., Army Medical Museum, Washington, D. C.: Two cadavers of babies (41610); brain and body of a female baby (42277).
- LANDRUM, LINTON D., Columbus, Miss.: Natural formation. 41487.
- LANE, H. M., International Correspondence Schools, Scranton, Pa.: Received through Dr. David White. Two specimens of *Bothrodendron punctatum*. 41727.
- LANE, T. T., Solomon, Alaska: Received through E. J. Noge. Butterfly representing the species *Parnasius clodius* var. *altairus* Dyar. 41480.
- LANEY, F. B., State Museum, Raleigh, N. C.: Six hundred pounds of leopardite and trap dike from Charlotte, N. C. (purchase) (42060); gangue rock from Gundstaff and Buchanan mica mine, Haywood County, N. C. (42448). (See also under G. P. Merrill.)
- LANG, G. L., superintendent of telegraphs, Chattanooga, Tenn.: Telegraph bracket from General Burnside's wartime telegraph line, Pulaski County, Ky. 41490.
- LARABOLA MINING AND DEVELOPMENT COMPANY, Chicago, Ill.: Received through Frank L. Race, secretary. Samples of copper ore from mines in Madison County, Va. 42242.
- LAUE, F. A., Passaic, N. J.: Specimens of Dog-sucking louse, *Hematopinus piliferus* Burmeister. 41437.
- LAWRENCE, W. H., Pullman, Wash.: Seven slides of parasitic Hymenoptera. 41897.
- LAWRENCE, Dr. W. J., Chicago, Ill.: Section of polished tourmaline. 41478.
- LEE, Dr. S. L., Carson City, Nev.: Obsidian arrowhead and two flaking tools. 42756.
- LEHMAN, J. B., Edwards, Miss.: Specimen of Horntail, *Tremex columba*. 42883.
- LELAND STANFORD JR. UNIVERSITY, Stanford University, Cal.: Types and cotypes of fishes collected in Japan by Dr. David Starr Jordan, Mr. J. O. Snyder, and others (41488); received through Prof. C. H. Gilbert, Japanese fishes collected by Messrs. Jordan and Snyder (42263).
- LEMON, FRANK, New York City: Four busts of American Indians. Purchase. L. P. X. 42731.
- LEPPER, Miss ADELAIDE, Bladensburg, Md.: Luna moth, *Actias luna* Linnæus. 42643.

- LERMOND, N. W., Thomaston, Me.: Fifteen specimens of shells (41893); butterflies from Paraguay (42267).
- LESTER, F. A., Washington, D. C.: Specimens of fossil wood from various localities in the District of Columbia (41961); concretionary limonite and ironstone concretions from the District of Columbia (41974; 42548); 25 specimens of Upper Cretaceous mollusks from a cutting in the Chesapeake Beach Railroad (42717).
- LEVINSEN, Prof. G. M. R. (See under Copenhagen, Denmark.)
- LIMBERG, F., Ladd Lime Company, Cartersville, Ga.: Crab spider, *Aerosoma gracili* Walck (= *Eperia rugosa* Hentz). 41259.
- LITTLE, Dr. G. W., Glens Falls, N. Y.: Specimen of Crimson tragopan (41917); specimen of Impeyan pheasant (42305).
- LOCKHART, HENRY, jr., Barranca del Cobre, Chihuahua, Mexico: Specimen of Mycetophilid, a family allied to the mosquitoes. 41801.
- LOCRAFT, WILLIAM, Washington, D. C.: Large specimen of Small-mouthed Black bass, *Micropterus dolomieu*, from the Potomac River. 41808.
- LOESNER, TH., Berlin, Germany: Five plants from Guatemala. 42008.
- LONDON, ENGLAND, BRITISH MUSEUM (NATURAL HISTORY): Six bats. 42485.
- LOPER, Prof. S. WARD. (See under Interior Department, U. S. Geological Survey.)
- LOVETT, EDWARD, Croydon, England: Specimens of "tribulum," or harrow flint, and other folk-lore objects (exchange) (42021); 3 pieces of Maundy money of Edward VII, of the issue of 1904 (42612).
- LOWE, H. N., Long Beach, Cal.: Twelve specimens of Anomurans (Blepharipoda) (41228); marine shells including types of several new species from Long Beach (42057); 16 specimens of marine shells from California (42166, 42228); crustaceans (42663).
- LOWRIE, E. D., Elyria, Ohio: About one hundred specimens of amphipods from Elyria. 42326.
- LOWRY, LOUIS, Chicago, Ill.: Specimen of copper ore from Milans Gap. Exchange. 42159.
- LUCAS, F. A., U. S. National Museum: Brain of a walrus (41477); skin of Snowy owl, *Egretta candidissima* (41971); crustaceans and worm parasites from Newfoundland (42257).
- LUMHOLTZ, CARL. (See under Mrs. A. P. Henderson.)
- LUSK, R. D., Lansing, Mich.: Four eggs and a nest of *Myiarchus laurencei olivaceus* from Arizona. Purchase. 41781.
- LUTZ, FRANK E., Station for Experimental Evolution, Cold Spring Harbor, Long Island, New York: Eight specimens of Hemiptera. 42850.
- LYON, Dr. M. W., U. S. National Museum: Three specimens of *Nymphaea variagata* (Engelm) Miller (41346); 24 plants from New Jersey (41441); 2 specimens of *Mus musculus* (42055).
- LYWOOD, L. W., Gainsville, Va.: Specimen of Blue-winged teal, *Querquedula discors*. 42503.
- MAC FADDEN, C. K., Beaumont, Tex.: Snake (*Elaps fulvius*) from Hardin County, Tex. 41982.
- MCCALLIE, Dr. S. W., Geological Survey of Georgia, Atlanta, Ga.: New species of *Pentremites* (42792); received through Dr. David White, specimen of *Tregonocarpum ampullaforme* from the Carboniferous of Georgia (42844).
- MCCLENDON, J. F., University of Texas, Austin, Tex.: One hundred and twenty-five specimens of dragon-flies. Purchase. 42155.
- MCCOMB, Maj. Gen. ALEX. (See under Mrs. F. C. d'Hautville.)
- MCCOMB, G. T., Lockport, N. Y.: Specimens of Rochester shales fossils. 41711.
- MCCOY, P. H., Chicago, Ill.: Specimen of *Melanopsis jordanica*. 42515.
- MCCREADY, S. M., Green Lake Station, Seattle, Wash.: Longicorn beetle, *Ergates spiculatus* Le Conte. 42180.
- MCDOWELL, J. A., City of Mexico, Mexico: Plant from Mexico. 42082.

- McELWEE, W., Washington, D. C.: Flicker, or Golden-winged woodpecker, *Colaptes auratus*. 42579.
- McGEE, W. J., Washington, D. C.: Skull of a Nebraska Indian. (Loan.) 8641. (See also under Smithsonian Institution, Bureau of American Ethnology.)
- McGREGOR, Mrs. A. M., Mamaroneck, N. Y.: Two specimens of *Voluta junonia* from Florida. 42541.
- McGREGOR, R. C., Philippine Museum, Manila, P. I.: Specimens of mollusks and myriapods from the Philippine Islands and the United States (42346); butterflies from Calangan Island (42566).
- McGUIRE, J. D. (See under Carnegie Institution.)
- McKAY, C. M., Portland, Oreg.: Three specimens of agate. Purchase. L. P. X. 41634.
- McKIM, C. E. (See under Pennsylvania Railroad Company.)
- McKNEW, C. A. (See under B. A. Bean.)
- McKUSICK, M. N., Calais, Me.: Specimen of molybdenite from Cooper mine, Cooper, Me. 41721.
- McLEAN, D., Rampart, Alaska: Received through Dr. T. W. Wilcox, U. S. A. (retired). Horns of a fossil bison with partial crania. 41710.
- McLEAN, Mrs. J. J., Washington, D. C.: Basket and four beaded collars from California (purchase) (41780); 2 squirrel-skin robes (gift) (42843).
- McLELLAN, Capt. C. H., U. S. Revenue-Cutter Service: Stone arrowhead and wooden spearhead. (Loan.) 9112.
- MADELEY, WILLIAM, Stourbridge, England: Specimens of Wenlock shales bryozoans. Exchange. 42459.
- MAGALHAES, ANTONIO M., Jr., Sao Paulo, Brazil, South America: Received through Dr. Orville A. Derby. Three specimens of fossil wood from Lagoa station, on the Mogyana Railroad near Casa Branca, São Paulo. 42836.
- MAJOR, Dr. C. T. Forsyth, British Museum (Natural History), London, England: Ten skeletons and 2 skulls of mammals. Purchase. 41562.
- MAN, Dr. J. G. de, Ierseke, Zeeland, Holland: Received through Miss M. J. Rathbun. Two specimens of fresh-water crabs (*Potamon concervus*), from Java. 41894.
- MANHATTAN ELECTRICAL SUPPLY COMPANY, New York City: Received through Mr. C. A. Stimpson. Morse telegraph apparatus, consisting of a relay, sounder, and key. 41948.
- MANITOU MINERAL SPRINGS COMPANY, Manitou, Colo.: Received through Mr. W. A. Davis. Specimens of Manitou mineral water. 42543.
- MARSTON, WEIR, Fort Snelling, Minn.: Salamander (*Ambystoma tigrinum*). 41523.
- MARTIN, A. F., Jersey Shore, Pa.: Long-sting, *Megarhysa lunator* Fabr. 41252.
- MARVIN, Dr. M. F., U. S. Army, Manila, P. I.: Reptiles; ferns and insects; 3 specimens of Mole-crickets; insects, spiders, myriapods, and algæ (42119, 41291, 41412, 42276).
- MASON, Prof. O. T., U. S. National Museum: Report of the inaugural ceremonies of President Cleveland and Vice-President Stevenson, 1893. 41716.
- MASON, R. F., Carbondale, Pa.: Whitney revolver. Loan. 42925.
- MASSEY, CHARLES F., Salisbury, N. C.: Specimen of granite from near Salisbury. 42224. (See also under Dr. G. P. Merrill.)
- MATHER, JAMES E., Muskegon, Mich.: Fresh-water shells from Michigan. Exchange. 41668.
- MATSCHIE, Dr. PAUL. (See under Königliches Museum für Naturkunde, Berlin, Germany.)
- MATSUMURA, Dr. S., Sapporo, Japan: Fifty-nine specimens of parasitic Hymenoptera (41762); through Dr. W. H. Ashmead, 267 specimens of Hymenoptera (42475).
- MAXON, W., R., U. S. National Museum: Bat, 40 cryptogams, specimen of *Vespertilio* from Plummers Island (41440, 41466, 41338); 6 plants from the District of Columbia (41323); 2 specimens of *Botrychium* from central New York (42504). (See also under H. D. House.)

- MAYER, Mrs. HARRIET H. (See under Smithsonian Institution.)
- MAYNARD, G. C., U. S. National Museum: Twenty-three electrical instruments. (Loan.) 8914.
- MEADOR, CLINTON W., Corinth, Miss.: Received through Dr. G. P. Merrill. Four flint arrowheads from Cherokee County, N. C. 42146.
- MEARNS, Dr. E. A., U. S. Army: Fourteen mammal skins and skulls, birds and mollusks from Forest Grove, Oreg. (41234); 6 birds' eggs, 3 shells and a spruce cone (41250); 96 plants from Oregon, Idaho, and Washington (41258); tree toad from Oregon and a pine cone from Idaho (41358); 7 specimens of unios from Fort Snelling, Minn. (41596); about 75 specimens of land and fresh-water shells, plant, and a bird from the Philippine Islands (41889); 39 birds' skins from the Philippine Islands (41915, 41953); 62 plants, about 60 specimens of land, fresh-water, and marine shells from Mindanao (41962); about 12 specimens of land shells from Camp Overton, Mindanao (42037); about 170 specimens of mollusks, 3 corals, 6 geological specimens, 2 plants, and a bird from Mindanao (42063); 5 plants from the Philippine Islands (42136); ethnological material, mollusks, mammals, birds, birds' nests, insects, echinoderms, corals, plants, and minerals from the Philippine Islands (42201, 42230); mollusks, mammals, birds, crustaceans, plants, minerals, and ethnological specimens from the Philippine Islands (42403, 42453); Spanish Remington cartridge and a Mauser cartridge (42795).
- MEARNS, LOUIS di Z., Circleville, Ohio: Seventy-seven birds' skins, principally from Fort Snelling, Minn. (deposit) (41292); 113 birds' eggs and 5 birds' nests from Fort Snelling (gift) (41312); rocks and fossils from the Yellowstone National Park and Fort Snelling (gift) (41367).
- MEEKER, Dr. J. W., Brooklyn, N. Y.: Specimens of *Apanteles congregatus*
- MEEKER, Dr. J. W.—Continued.
(Say), belonging to the superfamily Ichneumonidae and family Braconidae. 42320.
- MELANDER, Prof. A. L. (See under New Mexico Agricultural College.)
- MELVILLE, J. C., Brook House, Prestwich, England: Seven species of shells from the Persian Gulf. 41515.
- MEMORIAL MUSEUM, Golden Gate Park, San Francisco, Cal.: Received through Mr. F. Gruber, curator. Fifteen birds' skins from California. Exchange. 42366.
- MENGEL, Prof. L. W., Reading, Pa.: Eight specimens of Lepidoptera from Greenland and Florida. Exchange. 42675.
- MERRIAM, Dr. C. H. (See under Department of Agriculture.)
- MERRICK, H. D. New Brighton, Pa. Received through Dr. H. G. Dyar. Eighty specimens of Lepidoptera. 42174.
- MERRIHEW, Mrs. M. C. W., Long Beach, Cal.: Specimen of *Chiton* from California and a specimen of *Astarte* from Washington. 42648.
- MERRILL, Dr. GEORGE P., U. S. National Museum: Home-made magnifier or burning-glass from Auburn, Me. (41316); rocks from Blue Ridge, southeast of Luray, Va. (41380); specimen of trap rock from Sheepscot River, near Westport, Me. (41386); snake (*Storeria dekayi*) from the Island of Springs, Sheepscot Bay, Maine (41400); specimens of coprolites from Fossil, Wyo. (41616); about 2,000 pounds of jaspers hematite from Ishpening, Mich. (41637); L. P. X.; about 2,000 pounds of rhodochrosite from Butte, Mont. (41638); specimen of fossil wood from Gallatin County, Mont. (41661), L. P. X.; specimen of Horned toad, *Phrynosoma brevirostre*, from Madison Valley, near Logan, Mont. (41688); muscovite granite from the Great Falls of the Potomac, Maryland (41778); geyser tubes from near Opal, Uinta County, Wyo. (collected for L. P. X.) (41827); large mass of

- MERRILL, Dr. GEORGE P.—Continued.
leopardite from Charlotte, N. C. (41922); granite from Lilesville, N. C. (41947); specimen of rough granite from Advance, N. C., collected for the Museum by C. F. Massey (41989); rocks, fresh and weathered, from North Carolina, collected by F. B. Laney (42264); 3 specimens of granite from North Carolina (42702); collection of limonite pseudomorphs and specimens illustrating the origin of iron ore, from the Katahdin Iron Works, Piscataquis County, Me. (42905); mica, apatite, and associated minerals from Perkins, near East Templeton, Canada (42906); Caen stone from Christ Church Cathedral, Montreal, Canada (42920). (See also under A. E. Heighway, George Jackson, C. W. Meador, and A. T. Roos.)
- MERRILL, Dr. G. P. and William Palmer, U. S. National Museum: Rocks and fossils from Mexico. 42455.
- MERRILL, J. F., Orono, Me.: Three specimens of quartz from near Auburn, Me. L. P. X. 41641.
- METCALF, A. B., Mesilla Park, N. Mex.: Plant from New Mexico. 42880.
- METCALF, Prof. M. M., The Woman's College, Baltimore, Md.: One hundred and thirty specimens of Lepidoptera. Exchange. 42778.
- METZ, W. C., Columbus, Ohio: Twenty-five moths. 42342.
- MEXICO, City of Mexico: Seven plants from Mexico collected under the direction of Dr. Fernando Altamirano. 41011. (See also under Instituto Medico Nacional.)
- MEYER, Dr. A. B. (See under Dresden, Germany: Königliches Zoologisches und Anthropologisches-Ethnographisches Museum.)
- MEYER, FRANK N., Orizaba, Mexico: Four plants from Mexico. 42847.
- MEYNCKE, O. M., Belfield, Va.: One hundred and seven plants from Virginia (42744; 42799; 42842).
- MICHIGAN, University of, Ann Arbor, Mich.: Received through C. C. Adams, MICHIGAN, University of—Continued. curator. Ten birds' skins from Paraguay. 42128.
- MICKWITZ, Dr. AUGUST, Ingenieur, Reval, Estland, Russia: Fifty specimens of Cambrian fossils and 250 specimens of Ordovician fossils from England. 41882.
- MILLER, Dr. B. F., Bryn Mawr College, Bryn Mawr, Pa.: About 42 specimens, partly types of new species, of fossil *Cerion*, *Helicina*, and *Cepolis* from the Bahama Islands (Pleistocene). 42865.
- MILLER, Mrs. E. P., Alexandria, Va.: Specimen of Turkey buzzard. 42395.
- MILLER, Miss E. R., Cleveland, Ohio: Oak-gall representing the species *Calirhytis corniger* O. S. (41247); 4 species of galls (41489).
- MILLER, GERRIT S., jr., U. S. National Museum: Reptiles, mollusks, and plants from Stony Man Mountain, Virginia (41256); mollusks and plants from Luray, Va. (41287); 2 specimens of *Brunus* from near Alexandria, Va. (41402); water-lily obtained in Indiana by Mr. Paul Bartsch (41572); frog (*Chorophilus feriarum*) from Cameron Run, Fairfax County, Va. (41664); specimen of *Pieris mariana* from Virginia (41729); salamanders from Stony Man Mountain, Virginia (42718); 57 plants from New York and Virginia (42748; 42783); plant from Virginia (41846); fresh-water and land shells from Stony Man Mountain, Virginia (42862); 22 plants from Virginia and Texas (42300).
- MILLER, Miss VIRGINIA. (See under National Society of the Colonial Dames of America.)
- MILLER, W. S., Pagosa Springs, Colo.: Specimen of soap-weed rope. 42220.
- MILLS, Mrs. MARY E. (See under Mrs. Catherine A. Carter.)
- MILLS, OWEN W., Millberry, Mass.: Soapstone utensils and implements. 42022.
- MILNER, H. K., Birmingham, Ala.: Snake (*Osceola elapsoides*). 41551.
- MINNESOTA, University of, Minneapolis, Minn.: Ten specimens of *Lacinaria scariosa*. 41283.

- MINOR, F. S., U. S. Mint, New Orleans, La.: Specimen of Stinging caterpillar, the larva of *Emprectia stimulea* Clemens. 41576.
- MISENHEIMER, M. A., Roseburg, Oreg.: Tree-frog, *Hyla regilla*. 41614.
- MISSOURI BOTANICAL GARDEN, St. Louis, Mo.: Mexican plant (42589); plant (42872). Exchange.
- MITCHELL, Dr. F. E., Washington Asylum Hospital, Washington, D. C.: Fœtus; brain of a colored woman; skeleton of a negro (41672; 41693) (gift); (purchase). (41904).
- MITCHELL, Mr. HENRY, care Tweedy Trading Company, New York City: Skin of an albatross from the coast of Chile. 41544.
- MITCHELL, Hon. J. D., Victoria, Tex.: White worm, ant (*Lobopelta septentrionalis*), beetle (*Cryptobium lecontei*), earwig (*Libidura riparia* Pall), specimen of nematode (41613); 2 carapaces of *Calinectes sapidus* from Old Indianola, Tex. (41872); insects and reptiles from near Victoria (42036); 12 specimens of *Planorbis obstricta* Mor., from Texas (42328); snake (*Glaucania dubris*) and 2 parasitic worms of the genus *Tenia* (42824).
- MIJAJIMA, Dr. M., Tokio, Japan: Twenty-six adult and four vials containing early stages of Japanese mosquitoes, representing about 14 species. 42727.
- MOHLER, Dr. JOHN R. (See under Department of Agriculture.)
- MOOERS, Mrs. F. H., Elizabeth City, N. C.: Carved oak cane made of wood taken from the old U. S. S. *Hartford* (42711); sword used by Gen. Benjamin Mooers of the Continental Army (42712).
- MOONEY, JAMES. (See under Smithsonian Institution, Bureau of American Ethnology.)
- MOORE, CLARENCE B., Philadelphia, Pa.: Specimen of "Piffer," *Lagocephalus lævigatus*. 41927.
- MOORE, J. H., Washington, D. C.: Zinc ore from North Star mine, Crooked Creek, near Harrison, Ark. 41459.
- MOREIRA, Prof. Carlos. (See under National Museum of Rio de Janeiro, Zoological station.)
- MORGAN, Dr. E. L., Washington, D. C.: White male fœtus. 42611.
- MORRILL, Dr. A. D., received through Dr. H. T. Fernald, Hatch Experiment Station, Amherst, Mass. Three cotypes of bees, *Bombus cooleyi* Morrill and 2 of *Psithyrus latitarsus* Morrill. 41424.
- MORRILL, A. W. (See under Department of Agriculture.)
- MORRIS, E. L., Washington, D. C.: Thirteen plants from Nebraska. Exchange. 42613.
- MORRIS, E. W., Marine Barracks, Washington, D. C.: Silver peso minted in the United States for circulation in the Philippine Islands. (Loan.) 8873.
- MORRIS, G. E., Waltham, Mass.: Brachiopod crustaceans (42664) 12; specimens of *Asellus* (42737).
- MORRISON, Prof. J. H., Luray, Va.: Aphids. 42924.
- MORSE, E. V., Lorain, Ohio: Specimens of *Gyroceras* and *Conocardium* from the Corniferous of Sandusky, Ohio. 42491.
- MORTENSEN, Prof. TH. (See under Copenhagen, Denmark, Zoological Museum.)
- MORTON, ALEXANDER, Curator, Tasmania Museum, Hobart Town, Tasmania: Obsidian "button" from Glenely, Victoria, New South Wales. 41723.
- MOSCOW, RUSSIA; MUSEUM OF THE IMPERIAL UNIVERSITY: Five casts of teeth of *Mastodon borsoni*. 41831.
- MOSELEY, E. L., Sandusky, Ohio: Thirty-six plants from Ohio (exchange) (41887); 8 plants from Ohio (gift) (42553); bat (*Lasiurus borealis*) with 3 young specimens (exchange) (42871).
- MOULTON, Hon. GEORGE H., U. S. consul, Demerara, British Guiana: Thirteen eggs of Hoatzin, *Opisthocomus hoatzin*. (42567; 42669.) Purchase L. P. X.
- MOWBRAY, LOUIS, St. George, Bermuda: Specimen of fish (*Scorpena* sp.), from

MOWBRAY LOUIS—Continued.

Castle Harbor, and 3 specimens of fossil land shells (41907); 12 specimens of *Helix (Eupanypta) pisana* Müll from Bermuda (42165); 33 specimens of mollusks and 3 specimens of crustaceans from Bermuda (42292).

MULLIKEN, EARLE, University of California, Berkeley, Cal.: Plant from California. 42592.

MUNRO, G. C., Molokai, Sandwich Islands: Plant. 41341.

MURGUIONDO, Señor PRUDENCIO DE, consul-general of Paraguay, Baltimore, Md.: Specimen of phosphate rock from South Carolina, representing the Charleston deposit. 42050.

MURRAY, T. P., president North Carolina Corundum Company, Corundum, N. C.: Corundum and associations of rocks and minerals. 41628.

MUSÉE D'HISTOIRE NATURELLE. (See under Paris, France.)

MUSEUM OF COMPARATIVE ZOOLOGY, Cambridge, Mass.: Received through Dr. Walter Faxon. Five specimens of crabs from the Hawaiian Islands. 42868.

MUSEUM OF FINE ARTS, Boston, Mass.: Received through Mr. M. S. Prichard, director. Plaster casts of Aretine molds. L. P. X. 42371.

MUSEUM OF THE IMPERIAL UNIVERSITY. (See under Moscow, Russia.)

MUSEU PAULISTA. (See under Sao Paulo, Brazil.)

NACK, CHARLES, Bahia, Brazil, South America: Crystals of phlogopite from Bahia. 42098.

NATIONAL MUSEUM OF RIO DE JANEIRO, Zoological section, Rio de Janeiro, Brazil, South America: Received through Prof. Carlos Moreira. Four alcoholic specimens (cotypes) of crustaceans from Brazil. 41824.

NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA: Through Miss Virginia Miller. Colonial mold for pewter spoons. (Loan.) 8546.

NATIONAL SOCIETY OF THE DAUGHTERS OF THE AMERICAN REVOLUTION, through Mrs. C. W. Fairbanks, president-general: Six framed photographs and record shield of the society (9279); water-colored sketch of Continental Hall (9395); received through Mrs. J. E. Estey, chairman of Revolutionary relics committee, Brattleboro, Vt., framed facsimile of the agreement of General Lafayette to serve in the Continental Army; framed Martha Washington stamp; cotton patchwork quilt; blue and white patchwork quilt made by the niece of Ethan Allen; 2 blue and white platters from Mrs. Bruce, of Quaker City Chapter, formerly the property of Caleb Cushing; received through Mrs. Fairbanks, 11 Revolutionary relics; also the following publications of the Society: "American Monthly Magazine of the National Society of the D. A. R.;" "Report of the D. A. R. to the Smithsonian Institution;" "Directory of the D. A. R.;" gold souvenir spoon, souvenir porcelain with insignia of the Society, consisting of a large cup and saucer, a small cup and saucer, and a small pitcher; and a framed photograph of three badges conferred by the Society on founders and for special service (9259). (Loan.)

NATTRESS, THOMAS, St. Andrews Manse, Amherstburg, Ontario, Canada: Twenty-one Corniferous fossils from Essex County, Ontario, and 75 Hamilton fossils from Bartletts Mills, Ontario. 41921.

NAVAS, Rev. R. P. L., Colegio del Salvador, Zaragoza, Spain: Twenty-eight south European Neuropteroid insects including an Embiid, 4 specimens of Termitidæ, 2 of *Odonata*, 4 of Myrmeleonidæ, and 17 of Chrysopidæ (42581); 14 Neuropteroid insects (42596); 50 specimens of *Odonata* and 7 of Myrmeleonidæ from Spain (42828). Exchange.

NEEDHAM, Prof. J. G., Lake Forest, Ill.: Eighty-six specimens of dragon-fly nymphs of North America. 41805.

NEHRLING, H., Gotha, Fla. Received through Dr. F. H. Knowlton: Two plants from Florida. 42634.

- NELSON, A., Laramie, Wyo.: One thousand one hundred and two plants from Utah, Nevada, and Wyoming. Purchase. 41415.
- NELSON, E. W., Department of Agriculture, Washington, D. C.: Two hundred and one plants from Mexico (41327; 41328; 41330); primitive spinning wheel and dresses of 2 Maya women (41977); eggs of Mexican birds (42154). Purchase. (See also under Department of Agriculture and Mrs. N. M. Brown.)
- NEWHALL, W. H., U. S. National Museum: Concretions of ferruginous sandstone. 42716.
- NEWMAN, W. O., Meridian, Miss.: Specimen of *Quercus pumila* from Mississippi. 42481.
- NEW MEXICO AGRICULTURAL COLLEGE, Mesilla Park, N. Mex. Received through Prof. A. M. Melander, Univ. of Chicago: Five types of Mutillidæ, comprising *Mutilla hamata* Melander; *M. heber* Mel.; *M. arebus* Mel.; *M. trita* Mel., and *M. grate* Mel. 41674.
- NEWTON, MRS. CHARLES H., Washington, D. C.: Canary bird. 42350.
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: Two plants (exchange) (41267); 4 plants (exchange) (41268); 280 specimens of *Pteridophyta* collected in Jamaica by Dr. L. M. Underwood (exchange) (41269); 3 plants (parts of types) from Texas, Louisiana, and Mexico (exchange) (41336); 148 plants from Colorado (gift) (41703); 4 plants from different localities in the United States (exchange) (41886); plant from Mexico (gift) (41913); 144 plants (exchange) (42014); 2 plants from New York and California (gift) (42088); 82 plants from Martinique, Guadeloupe, Florida, and other localities (exchange) (42089); 2 plants (exchange) (42093); plant (exchange) (42187); 245 plants from Colorado (exchange) (42303); 500 plants from Jamaica (exchange) (42554); 2 plants (exchange) (42813); through Dr. N. L. Britton, 4 plants (exchange) (42904).
- NICHOLS, F. H., Perkinsville, Vt.: Specimen of asbestos from Weathersfield, Vt. 42700.
- NICHOLS, G. E., New Haven, Conn.: One hundred and sixty plants from Jamaica. Purchase. 42286.
- NICHOLS, DR. J. B., Garfield Hospital, Washington, D. C.: Brain of a white American adult male. 41293.
- NOGE, E. J. (See under T. T. Lane.)
- NORTON, Prof. RICHARD, Rome, Italy: Four casts from reliefs from the Arch of Trajan. Purchase. L. P. X. 42866.
- NURSE, Maj. C. G., Thirteenth Bombay Infantry, Quetta, Baluchistan, India: Forty-three species of Indian Cero-palidæ (new to Museum collection) (gift) (41858); 130 species of Hymenoptera from India (exchange) (42496).
- NYLANDER, O. O., Newsweden Station, Me.: Seven specimens of amphipods from Caribou stream, Woodland, Aroostook County, Me. (42011); 20 specimens of Helderbergian fossils from Ashland, Me. (42148); supposed meteoric iron (42233).
- O'REILLY, DR. R. M. (See under War Department.)
- OBERHOLSER, H. C. (See under Department of Agriculture.)
- OGDEN, DR. H. V., Milwaukee, Wis.: Fifteen batrachians. 42123.
- OLDROYD, MRS. T. S., Los Angeles, Cal.: Fifty-four specimens of marine shells from California. (41847; 42152.)
- OLDYS, HENRY, Washington, D. C.: Two plants from the District of Columbia. 42926. (See also under Dr. J. E. Benedict.)
- ORCUTT, C. R., San Diego, Cal.: Plants from California. (Exchange and gift.) (41298; 41597; 42183; 42753.)
- ORD, Maj. JAMES C., U. S. Army, Chevy Chase, Md.: Two buffalo robes. 42860.
- ORD, MRS. J. P., Albany, N. Y.: Glass berry dish presented to Gen. E. O. C. Ord, U. S. Army, by General Diaz, of Mexico, and said to have belonged to Hernando Cortez. Loan. 8948.

- OSBORN, Prof. H. F., American Museum of Natural History, New York City: Eight casts of feet of fossil horses. Exchange. 41655. (See also under American Museum of Natural History.)
- OSBORNE, J. E., Norwalk, Ohio. Received through Smithsonian Institution, Bureau of American Ethnology. Two iron axes of the pioneer period of the Northwest, probably of French origin (42330); Iroquoian antiquities from Georgian Bay (42494).
- OSGOOD, W. H., Washington, D. C.: Plant from Alaska. 42854. (See also under Department of Agriculture.)
- OSLAR, E. J., Alcott, Colo.: One hundred and fifty specimens of Lepidoptera (gift) (42309; 42310; 42317; 42368; 42436); 260 specimens of Orthoptera from Arizona and New Mexico (purchase) (42697).
- OSMUN, A. V., Amherst, Mass.: Specimen of *Equisetum scirpoides* from Connecticut. 42121.
- OUTES, FELIX F., Buenos Aires, Argentina: Aboriginal remains from the province of Catamarca. 42720.
- OWEN, VIRGIL W., Los Angeles, Cal.: Twenty-nine moths (42603); 2 specimens of turtle (*Kinosternon*) from Arizona (42921).
- OWSTON, ALAN, Yokohama, Japan. Received through Dr. David S. Jordan: Specimen of *Mitsukurina owstoni* from Sagami Bay, Japan (purchase) (42120); 2 reptiles from Bonin Island, Japan (gift) (42639).
- OXFORD, MUSEUM OF THE UNIVERSITY OF, Merton College, Oxford, England. Received through W. F. R. Weldon: Three enlarged models of teeth of an embryonic *Ornithorhynchus*. 42186.
- OZIAS, J. W., Lawrence, Kans.: Parts of uniforms, documents, cartridges, shells, etc., obtained in the Philippine Islands. 41609.
- OZIAS, O. O. (See under Computing Scale Company, Dayton, Ohio.)
- PACE, LULU, Temple, Tex.: Eight plants, including *Solidago canadensis scabrius-*
- PACE, LULU—Continued.
cula Porter; *Eryngium leavenworthii* T. and G.; *Euphorbia bicolor* Engelm.; *Andropogon scoparius* Michx.; *Andropogon hallii* Hack., 2 specimens, and *Chrysopogon nutans* (L.) Benth (41595); plant from Texas (42741).
- PACKARD, Mrs. S. A., Brockton, Mass.: Small hand-made cushion. 41549.
- PAGLIUCHI, F. D., Habana, Cuba: Specimen of Pipefish, *Siphostoma louisianæ* (?) from Pablo, Cuba. 41410.
- PAINE, J. H., Catalina Island, Cal.: Two marine shells. 41432.
- PAINTER, J. H., U. S. National Museum: Four plants (41368); Sphinx-moth from Toluca, Mexico (41929); specimen of *Senecio* from Fairfax County, Va. (42001); 167 plants from Pennsylvania and New Jersey (42789).
- PALACHE, Prof. CHARLES. (See under Harriman Alaskan Expedition.)
- PALMER, G. W., Knik, Cooks Inlet, Alaskan: Grizzly bear, *Ursus horribilis*, from the head of Knik Arm. Purchase. L. P. X. 41563.
- PALMER, JOSEPH, U. S. National Museum: Snake (*Ophibolus rhombomaculatus*). 42750.
- PALMER, Dr. T. S., Department of Agriculture: Plaster cast of *Calodontotherium palmeri*, a fossil vertebrate. 42142.
- PALMER, WILLIAM, U. S. National Museum: Three hundred and twenty-eight plants from Newfoundland (41362); frog from St. Johns (41776); 29 specimens of Diptera, 5 specimens of Lepidoptera, and 2 specimens of Coleoptera (42194); 2 specimens of *Succinea*, 26 birds' skins, whale feed, *Rhoda inermis* (Kröyer) from Newfoundland (42226; 42239; 42294); 12 plants from Arizona (42329); reptiles and plants from Mexico (42456; 42472); 41 plants from Missouri (42797); 7 birds' skins from West Mexico (42830); crustaceans and echinoderms from Guaymas, Mexico (42870); 75 specimens of marine shells from La Pas, Lower California (42879).
- PALMER, WILLIAM, and George P. Merrill, U. S. National Museum: Rocks and fossils from Mexico. 42455.

- PANS, A. B., Gaffney, S. C.: Two fossil plants from Lafollette, Tenn. 42167.
- PARET, Mrs. A. E. B., Sweetwater, Tex.: Two plants from Texas. 41608.
- PARIS, FRANCE, Musée d'Histoire Naturelle: Received through Count Robert du Buysson. Twenty-five specimens of wasps belonging to the family Vespidae. Exchange. 42499.
- PARKHURST, Mrs. CLARA, Washington, D. C.: Two cockroaches (*Blatta orientalis* Linnæus) 42840.
- PARKS, Miss M. A., U. S. National Museum: Fossils, crustaceans, and a piece of coral, bird skin, 45 specimens of land, fresh-water, and marine shells, bat, 5 specimens of Labroid fishes, tooth of a fossil shark, from the Azores. 41561.
- PARSONS, Miss M. E., San Rafael, Cal.: Two specimens of *Polypodium* from California (41798; 42116).
- PARTELLO, Maj. J. M. T., U. S. Army, Presidio, San Francisco, Cal.: Syntomid moth (*Syntomis*). 41366.
- PASSMORE GEM COMPANY, Boston, Mass.: Emerald matrix from North Carolina; ruby matrix from North Carolina, and a paste model of a brilliant (gift) (41473); 11 models showing styles of cutting gems (purchase) (41474).
- PATRICK, Prof. D. S., Fort Smith, Ark.: Spider (*Ordgarius cornigerus* Hentz). 41657.
- PATRICK, F. A., Palestine, Tex.: Larva of a Chrysopa-fly. 41281.
- PEABODY MUSEUM, Boston, Mass.: Received through C. C. Willoughby. Casts of Quirigua Dwarf and Sastan-que sculpture. Purchase. L. P. X. 42489.
- PEALE, E. W., through Dr. A. C. Peale, U. S. National Museum: Oil portrait of Prof. S. F. B. Morse, by Schussele. 41919.
- PEARSALL, RICHARD F., Brooklyn, N. Y.: Received through Department of Agriculture. Four galls and 18 specimens of parasitic Hymenoptera. 41851.
- PEARSON, CHARLES H. (See under Chelsea Clock Company.)
- PECKHAM, Prof. G. W., Public Library, Milwaukee, Wis.: Two moths. 42922.
- PELEGRIN, A. L., Nogales, Ariz.: Nugget of native silver. 42449.
- PELLIGRINI, WILHELM, Chemnitz, Germany: Cast of fish (Forrelenbarsch). 42890.
- PENAFIEL, Dr. ANTONIO, Mexico, Mexico: Casts of Mexican antiquities. Purchase. L. P. X. 42584.
- PENNSYLVANIA RAILROAD COMPANY, Pittsburgh, Pa.: Received through C. E. McKim, superintendent of telegraph. Four old telegraph insulators, 3 Morse telegraph keys, and a Morse telegraph relay. 41460.
- PEPOON, H. L., Chicago, Ill.: Twenty-three specimens of violets. Exchange. 41361.
- PERDEW, A. G., Cumberland, Md.: Slab of *Arthropycus harlani* from Wills Creek Gap, near Cumberland. 41942.
- PERGANDE, THEO., Department of Agriculture: Two specimens of dragonflies and three specimens of mayflies from Minneapolis, Minn. 41654.
- PERKINS, R. C. L., Honolulu, Hawaiian Islands: Received through Department of Agriculture. Four cotypes of *Echthrodelpfax fairchildii* Perkins, from Oahu. 41648.
- PETERS, Maj. GEORGE. (See under Smithsonian Institution.)
- PEYSTER, Gen. JOHN WATTS DE. (See under Smithsonian Institution, and War Department.)
- PFFORDTE, O. F., Rutherford, N. J.: Specimens of chalcedony from Mexico and pectolite from West Paterson, N. J. Exchange. 42061.
- PHALEN, W. C., U. S. National Museum: Specimens of manganese and iron ores from Crimora and Elkston, Va.; also mastodon bones from Cave Station, Va. 42715. (See also under Frank W. Wood.)
- PHILIPPINE ISLANDS, MANILA, BUREAU OF AGRICULTURE: Received through U. S. Department of Agriculture. Two thousand four hundred and forty-three plants and specimens of cellular crypto-

- PHILIPPINE ISLANDS, ETC.—Continued.
gams from the Philippine Islands (41279; 41699; 42140); 917 plants from the Botanical Garden of Java (42090). Exchange.
- PHILIPPINE MUSEUM, Manila, P. I.: Received through Hon. Dean C. Worcester. One hundred and ninety-four birds' skins from the Philippine Islands. Exchange. 41856.
- PIERCE, FRANK C., Dallas, Tex.: About 100 plants from Europe. 41883.
- PILSBRY, Dr. H. A., Academy of Natural Sciences, Philadelphia, Pa.: About 60 specimens of land and fresh-water shells from Mexico (41720); 7 specimens of *Holospira* from Cave Creek, Chiricahua Mountains and Fort Bowie, Ariz. (42661).
- PIPER, Prof. C. V., Department of Agriculture: Six hundred and four plants from Washington (41667); received through Department of Agriculture, 54 type specimens of plants principally from Washington, D. C. (41806); 25 specimens of *Decticinae* (42268); large collection of insects, consisting of 2,930 specimens from Washington (State) (42343); 8 plants from Washington (42390; 42636); 48 insects from Washington and Idaho (42668); 96 plants from Washington (42674); 5 plants from California (42812). (See also under Department of Agriculture; Washington Agricultural College, Pullman, Wash.)
- PIPES, S. A., Department of Agriculture, Washington, D. C.: Three plants from Louisiana. 41574.
- PIRET, A., Tournai, Belgium: Three hundred and ninety-four specimens of Lower Carboniferous invertebrates, collected by Mr. Charles Schuchert. Purchase 41839.
- PITTIER, H., San José, Costa Rica: Three hundred and twelve plants from Costa Rica (purchase) (41857; 42279; 42282); 109 plants (purchase) (42281); specimen of *Asplenium* from Costa Rica (gift) (42412).
- PLUMMER, FRED. G. (See under Department of Agriculture.)
- POCATELLO GOLD AND COPPER MINING COMPANY, Pocatello, Idaho: Specimen of copper ore. 41531.
- POHNDORF, A. P., Butte, Mont.: Five specimens of smoky quartz from Montana. 41627.
- POLLARD, C. L., U. S. National Museum: Twenty-five plants from Ohio (41382); 44 plants from Plummers Island, collected principally by Messrs. Pollard and Dowell (41446); plant from the District of Columbia (41535); specimen of *Triphora trianthopora* from Plummers Island (41730).
- POLLOCK, Mrs. J. S., Tuxedo, Mexico: Barred owl, *Syrnium varium*. 42240.
- POLLOCK, Mrs. MARY, Washington, D. C.: Six beetles and an insect from Talklai, Ariz. 41652.
- PRACHT, MAX, Durango, Cal.: Rhodochrosite-manganese carbonate in quartz (41918); specimen of topaz in matrix of rhyolite (42190). (See under J. H. Grimes.)
- PREBLE, E. A. and A. E., Department of Agriculture: Four specimens of dragon flies (*Odonata*) and 3 of Lepidoptera from Athabasca, Canada. 41659.
- PRENTISS, Dr. D. W., Washington, D. C.: Plant from Newfoundland. 42301.
- PRESTON, J. W., Baxter, Iowa: Received through Dr. W. L. Ralph. Specimen of Scarlet tanager, *Piranga erythromelas*, in abnormal plumage. 42723.
- PREVENTION OF CRUELTY TO ANIMALS, SOCIETY OF, Ponce, Porto Rico: Received through the Bureau of American Ethnology, Smithsonian Institution. Twenty-two garouches, garouche handle, metal horse bridles, wadded club, whip handle, and 2 bridles with curbs. 42912.
- PREY, Miss MINA, Porto Rico: Received through the Department of Agriculture. One hundred and thirty-seven plants from Porto Rico. 41303.
- PRICHARD, M. S. (See under Museum of Fine Arts, Boston, Mass.)
- PRINDLE, L. M. (See under Interior Department, U. S. Geological Survey.)

- PRINGLE, C. G., University of Vermont, Burlington, Vt.: Seven hundred and seventy plants from Mexico and Cuba (purchase) (41320); 4 living plants from northern Mexico (gift) (41812); 2 plants (gift) (42188); 94 plants from Mexico (purchase) (42231); 480 plants from Mexico (purchase) (42444; 42506); 2 living plants from Mexico (42653).
- PRITZEL, Dr. E., Botanical Museum, Berlin, Germany: Seven hundred and seventy-three plants from Australia. Purchase. 42285.
- PROKES, JOSEPH N., Jackson, Minn.: Fragments of Indian pottery. 42041.
- PUBLIC MUSEUM, Milwaukee, Wis.: Two skins of weasels representing the species in summer and winter coats. 42248.
- PURPUS, C. A., Zacatecas, Mexico, and Col. George Hochderffer, Flagstaff Ariz.: Small collection of fishes from Mexico. 42032.
- PURPUS, C. A., Zacatecas, Mexico: Insects from Mexico (part of Acc. 42032) (gift); 33 plants from Mexico (purchase) (42184); received through T. S. Brandegee, 30 plants from Mexico (gift) (42679); 322 plants from Mexico (purchase) (42693).
- PURPUS, J. A., Darmstadt, Germany: Two specimens of *Cotyledon purpusi* from Mexico. 41603.
- PUSEY, Mrs. M. J., Callao, Peru: Six hundred and eight specimens of insects from Peru, comprising 534 specimens of Lepidoptera and 74 other insects. 41615.
- PUTNAM, Hon. HERBERT. (See under Congress, Library of.)
- PUTNAM, W. B., Salt Lake City, Utah: Eight specimens of cave calcite and aragonite from Utah. 41629.
- QUATREPAGE, CAMILLE, Coney Island, N. Y.: Silver coin of Louis XV, dated 1757. Purchase. 41385.
- RACE, Frank L. (See under Larabola Mining and Development Company, Chicago, Ill.)
- RALPH, Dr. W. L., U. S. National Museum: Eleven mammals from New
- RALPH, Dr. W. L.—Continued.
York (41695); 2 specimens of deer from the Adirondack Mountains (41774); 2 specimens of *Odocoileus virginianus* from New York (41912); 231 birds' eggs from North America (42040). (See also under J. W. Preston.)
- RAMIREZ, Dr. J., Instituto Medico Nacional, City of Mexico, Mexico: Part of type of a plant from Mexico. 41326.
- RAMSEY, C. E., Riverside, Cal.: Telescope cigar holder. 41696.
- RANDLE, RICHMOND, Memphis, Tenn.: Water bug, *Corixa burmeisteri* Fieb. 41850.
- RAPP, SEVERIN, Sanford, Fla.: Three plants from Florida. 41570.
- RATHBUN, Miss M. J., U. S. National Museum: Specimen of *Hyalaea cumingi* Desh., from the Indian Ocean. 42571. (See also under Dr. J. G. deMan.)
- RAVENEL, W. DeC., U. S. National Museum: Two specimens of deer (*Odocoileus virginianus*). 42078.
- READ, Prof. T. T., University of Wyoming, Laramie, Wyo.: Ten specimens of chalcedony. Exchange. 42048.
- REED, Dr. S. L., Wilsonville, Ky.: Specimen of Horn-tailed saw-fly, *Tremex columba* L. 41581.
- REED, THOMAS T. (See under Adelaide, Australia.)
- REEDER, J. T., Calumet, Mich.: Ten specimens of fungi (gift) (42198); 22 specimens of copper and associations (purchase) L. P. X. (42199); specimens of powellite and whitneyite (gift) (42684). (See also under Tamarack Mining Company.)
- REID, J. L. (See under Department of Agriculture.)
- REID, WILLIAM, Tucson, Ariz.: Sample of volcanic dust. 42124.
- REMENKAMPF, Frau von, Borkholm Schloss, Station Tamsal, Baltiöch Eisenbahn, Russia: Thirty specimens of fossils from the Borkholm formation. 42134.
- REVERCHON, J., Dallas, Tex.: Twenty-three plants from Texas. (41391; 41954; 42087.)

- REYNOLDS, DR. E. R., U. S. Pension Office, Washington, D. C.: Eight negatives of skulls. 42278.
- RHEES, W. J., Smithsonian Institution: Records of underground temperatures and artesian wells. 42578.
- RICE, B. W., Boise, Idaho: Specimen of hyalite (42893); plant from Idaho (42897).
- RICE, D. L., Washington, D. C.: Specimen of garnet. 42667.
- RICHARDSON, MRS. C. W., Washington, D. C.: Painted elk-skin robe from the Shoshones Wind River Reservation at Fort Washakie, Wyo. 42470.
- RICKER, P. L., Department of Agriculture, Washington, D. C.: Specimen of *Myromyctes* from Maryland. 41591.
- RIKER, C. B., New York City: Two moths and 3 cocoons from Mexico. 42522.
- RILEY, J. H., Falls Church, Va.: Four bats and 15 birds' skins from the Bahamas (41601); squirrel (*Sciurus hudsonicus loquax*) (41892); snake (*Natrix leberis*) from Falls Church, Va. (42474); set of 4 eggs of American woodcock, *Philohela minor* (42550). (See also under Bahama Expedition.
- RIS, B. (See under Hungerford Brass and Copper Company.)
- RIVERS, DR. J. J., received through Dr. Ralph Arnold, Oceanpark, Cal.: Specimen of California Pliocene bryozoan. 42145.
- RIVES, COL. W., Washington, D. C.: Deringer rifle. (Loan.) 9509.
- ROBBINS, G. C., Sandon, British Columbia: Forty-eight insects from British Columbia. 41600.
- ROBERTS, HON. G. E., Treasury Department, Washington, D. C.: Bronze mint medal of the late President McKinley. 42510.
- ROBINSON, CAPT. WIRT, U. S. Army, Santiago, Cuba, and Fort Totten, N. Y.: Bats (42178); 132 specimens of insects, principally Lepidoptera (42202); nest of *Sporadinus ricordi* and 4 skins of *Polioptila lembeyi* (42451).
- ROCKHILL, HON. W. W., Director, Bureau of American Republics, Washington, D. C.: Japanese musical instrument (exchange) (42182); photographs of native workmen at Peking (gift) (42324); oriental antiquities, including 2 Chinese lamps, a pair of shoes, leather belt, and 2 wooden canteens of Grecian make (gift) (42380).
- RODENDAHL, C. O., Minneapolis, Minn.: Plant from Minnesota. 41555.
- ROLLE, H., Berlin, Germany: Four hundred and nineteen specimens of oriental and other exotic land shells. Purchase. 42928.
- ROMINGER, PROF. CARL, Ann Arbor, Mich.: Large collection of corals, crinoids, and trilobites from the Paleozoic formation of the Mississippi Valley (Upper Silurian, Devonian, and Carboniferous) (purchase) (L. P. X.) (41332); a large collection of bryozoans and mollusks representing the larger part of the Paleozoic formations of the Mississippi Valley (Upper Silurian, Devonian, and Carboniferous) (purchase) (41538); fossils constituting the remainder of this collection (42170).
- ROONEY, MISS B. M., St. Johnsbury, Vt.: Twenty species of Ophioglossaceæ from Vermont. Exchange. 42505.
- ROOS, A. T., Deadwood, S. Dak.: Specimen of lepidolite from Ingersoll Group of Claims, Harvey Peak Tin Company, South Dakota, collected by Dr. George P. Merrill. 41997.
- ROOSEVELT, HON. THEODORE, President of the United States: Buckskin hunting shirt made for the President by the Delaware Indians (41797); ethnological objects from the Philippine Islands (42858); pair of Willow Ptarmigans, *Lagopus lagopus*, from the vicinity of Valdez, Alaska (42649); 3 ceremonial objects presented by the Zuñi Indians, through the Bureau of American Ethnology (42217); collection of native-made guns, pistols, and bolos from the Philippine Islands (42351).
- ROSE, DR. J. N., U. S. National Museum: Plants from Mexico (41508, 41509, 41533, 41573, 41583, 41594, 41639, 41692, 41742,

ROSE, Dr. J. N.—Continued.

41752, 41779); 3,863 plants from Mexico and about 100 specimens of shells representing the species *Valvata sincera* Say from Mexico (41841); 3 Mexican baskets (42111).

ROSELL, Dr. ANTONIO, San Juan, Porto Rico: Three specimens of fossils from the Oligocene of Yauco, Porto Rico. 42018.

ROSENBERG, W. F. H., London, England: Two specimens of *Lepus*, 2 specimens of *Neris*, 2 of *Hyrax*, and a spotted hyena (41643); 92 specimens of Hymenoptera (41770); pair of petrels, *Oceanodroma castro* from the Madeiras (41793); bat (*Sphæronycteris*) (42130); rat (*Zygodontomys cherriei*) (42349); 18 birds' skins from Chiriqui, also 3 mammals (42398); 1,861 specimens of Hymenoptera and Hemiptera from South America, Queensland, and Ceylon (42699). Purchase.

ROSENDAHL, C. O., Minneapolis, Minn.: Plant from Canada. 41285.

ROTH, Dr., Lands Department, Brisbane, Queensland: Collection of artifacts to illustrate stone-working among the ancient Tasmanians of Blackman Bay. The series include chert nuclei or cores, various forms of flakes struck from these, and roughly worked blades to be used later as special tools. 42352.

ROTHGEB, D. A., Leaksville, Va.: Beetle (*Dynastes tityus* Linnaeus). 42923.

ROYAL BOTANIC GARDEN. (See under Sibpur, Calcutta, India.)

ROYAL BOTANIC GARDENS. (See under Kew, London, England.)

ROYAL GEOGRAPHICAL SOCIETY OF AUSTRALASIA. (See under Adelaide, Australia.)

RUDDOCK, G. T., San Francisco, Cal.: Plant from Oregon. 41334.

RUFFIN, J. N. (See under Department of Agriculture.)

RUHE, LOUIS, New York City: Python representing the species *Preticulatus*

RUHE, LOUIS—Continued.

from the East Indies. Purchase. L. P. X. 41363.

RUMMEL, MRS. FRANZ, Washington, D. C.: Gilt vest buttons, grande cordon, and ribbons of decoration which belonged to the late Prof. S. F. B. Morse. (Loan.) 9217.

RUTH, ALBERT, Knoxville, Tenn.: Plant from Texas. 41748.

RUTTER, CLOUDSLEY. (See under Department of Commerce and Labor, Bureau of Fisheries.)

ST. MARY'S ACADEMY, Monroe, Mich.: Received through Sister Mary Catherine. Two corals (41496); crayfish, reptile, and mollusks (41501).

ST. PETERSBURG, RUSSIA, IMPERIAL ACADEMY OF SCIENCES: Received through Prof. Frederic von Schmidt. One hundred and thirteen specimens of selected fossils from the Reval Provincial Museum. 42393.

SANDERS, J. G., Ohio State University, Columbus, Ohio.: Ten species of scale insects from Ohio, including cotypes of 2 species described by donor. 42874.

SANDERSON, Prof. E. DWIGHT, State Entomologist, Agricultural and Mechanical College, College Station, Tex.: Lizard from Comanche County, collected by R. T. Jaynes (41431); 5 specimens of Lepidoptera (42376).

SANSON, N. B., curator, Rocky Mount Park Museum, Banff, Alta, British Columbia: Plant from Canada (41582) 2 specimens of Hymenoptera, 3 of Odonata and a horse-fly (41651); 2 specimens of wasp (*Vespa maculata* L.), and a beetle (*Dytiscus marginicollis* Leconte) (41852).

SÃO PAULO, BRAZIL, MUSEUM PAULISTA: Received through Dr. H. von Ihering, director. Three bats. 42814.

SARLE, C. J., Rochester, N. Y.: Specimens of Rochester shales. 41565.

SAVERY, J. C., Cable, Mont.: Specimen of native gold in pyrrhotite from Cable mine. Deposit. 41631.

SCHAEFFER, C., Brooklyn, N. Y.: Nine specimens of Orthoptera. 42360.

- SCHALLER, W. T., U. S. Geological Survey, Washington, D. C.: Specimen of palacheite from California (41712); specimen of esmeraldaite from Esmeralda County, Nevada (42007).
- SCHAUS, WILLIAM, Twickenham, England: One hundred and fifty-three miscellaneous insects from Jamaica (41972); 328 specimens of Lepidoptera from Cuba (42359).
- SCHIEFFER, THEODORE, Agricultural College, Manhattan, Kans.: Twelve spiders, cotypes of species described by the donor. 42695.
- SCHLÜTER, WILHELM, Halle a Salle, Germany: Eighty-three mammals from the Old World (41294); monkey (*Presbytes cephalopterus*) (42114); 12 skins of Ruff (*Machetes pugnar*) (42758). Purchase.
- SCHMID, E. S., Washington, D. C.: Three brains of rabbits (41605); 2 guinea pigs, a Belgian hare, and a Cuban parrot (41724); raccoon (41740); 3 specimens of *Sciuropterus volans* (41750); snake (*Coluber guttatus*) from Florida (41870); skull of a fox terrier (42051); head of a rabbit (42073); 3 fox squirrels (42096); python (42255); crab (*Gecarcinus*) (42686).
- SCHMIDT, Prof. FREDERICK VON. (See under St. Petersburg, Russia, Imperial Academy of Sciences.)
- SCHNECK, J., Mount Carmel, Ill.: Jumping-mouse. 42827.
- SCHÖNLAND, Dr. S. (See under Grahamstown, South Africa, Albany Museum.)
- SCHREINER, JACOB, St. Petersburg, Russia: Twenty-four specimens of parasitic Hymenoptera (42139); 23 species of parasitic Hymenoptera (42318).
- SCHUCHERT, CHARLES, U. S. National Museum: About 500 specimens of Cretaceous fossils, principally bryozoans from Maastricht, Holland (41818); 2 specimens of trachyte from Drachenfels, Germany, and one specimen of bitumen from Visé, Belgium (41826); about 300 specimens of Silurian and Lower Devonian fossils collected in Bohemia (41842); specimens of volcanic rocks from the Provinces of Eifel and Nassau, Ger-
- SCHUCHERT, CHARLES—Continued.
many (41875); about 1,000 specimens of Silurian fossils collected on the island of Gotland, Sweden (42002); about 1,000 specimens of Lower Silurian fossils collected at various places in Estland, Russia (42392); 615 specimens of Silurian fossils^a (42701). (See also under A. Piret.)
- SCHUETTE, J. H., Green Bay, Wis.: Two plants from Wisconsin. 41271.
- SCHWARZ, Prof. E. A., Department of Agriculture, Washington, D. C.: One hundred and forty-one specimens of Hemiptera from Cuba (41345); 300 specimens of Lepidoptera, 6,000 specimens of Coleoptera from Victoria and Goliad, Tex. (41817). (See also under Department of Agriculture, and Washington Biologists Field Club.)
- SCOTT, Mrs. M. N., Honolulu, Hawaiian Islands: Specimens of hair; bamboo-Ōhe; hat and basket material; Oloma (fiber); mat pandanes and anklet shells (42164); cocoanut bowl from the Hawaiian Islands (42361); specimens of native Hawaiian work consisting of 2 straw hats, a bone fishhook, and a wooden bowl (42383).
- SCUDDER, S. H. (See under Interior Department, U. S. Geological Survey.)
- SCURLOCK, Dr. H. C., Washington, D. C.: Skeletons of 2 negroes (42289); 2 fœtus (42379); brain of an adult negro (42416); fœtus (42430); skeletons of 2 full-blood negroes (42528).
- SEDGWICK MUSEUM. (See under Cambridge, England.)
- SEEGAR, G. E., U. S. National Museum: Belgian hare. 41568.
- SELDEN, CHARLES, Baltimore, Md.: Telegraphic key manufactured by W. Shock in 1864. 41421.
- SELER, Dr. EDWARD. (See under Berlin, Germany, Königliches Museum für Volkerkunde.)
- SEMPERS, J. FORD, Aiken, Md.: Specimen of *Ionactis linearifolia*. 41706.
- SETON, ERNEST THOMPSON, Cos Cob, Conn.: Skin and skull of a White-tailed fawn from Manitoba. 42760.

^a Purchase.

- SETON-KARR, H. W., Cairo, Egypt: Two hundred and seventy-eight stone implements from the Fayum district, Egypt. 42189.
- SHAW, GEORGE R., Bangor, Mass.: Eight specimens of pines from the Arnold Arboretum, Jamaica Plain, Mass. Exchange. 42171.
- SHAW, Hon. L. M. (See under Treasury Department.)
- SHELDON, Mrs. C. A., Washington, D. C.: Butterfly and 3 beetles from western China and 3 North American insects. 42542.
- SHELDON, E. P., Portland, Oreg.: Three plants from Oregon. 41383. (See also under Department of Agriculture.)
- SHERMAN, F. G. (See under Central Railroad Company of New Jersey.)
- SHERWOOD, W. L., New York City: Two abnormal specimens of tadpole. 42414.
- SHORT, J. W., Liberty, Ind.: Specimen of *Myromyces* from Indiana. 41401.
- SHULL, G. H., University of Chicago, Chicago, Ill.: Two plants from Indiana. 41315.
- SIAS, A. W., Harbor View, Fla.: Received through Department of Agriculture. Plant from Florida. 41715.
- SIBPUR, CALCUTTA, INDIA; ROYAL BOTANIC GARDEN: One hundred and forty-three plants from India. Exchange. 41537.
- SICKLES, F. M., Los Angeles, Cal.: Specimen of pink spodumene. 41436.
- SIMMONS, GEORGE, Manvel, Cal.: Stone implements, pottery, and pieces of turquoise, etc. 41701.
- SIMMS, Mrs. THOMAS, Altamonte Springs, Fla.: Received through Department of Agriculture. Plant from Florida. 42404.
- SIMPSON, C. B., Department of Agriculture, Washington, D. C.: Thirteen larval cases of *Linneophilus indivisus* Walk., from Ithaca, N. Y. 41653.
- SINGER, GEORGE P., Lockhaven, Pa.: Received through Department of Agriculture. Plant from Pennsylvania. 42746.
- SKUES, R. A., Gunnison, Colo.: Moth (*Arachnia atra* N. & D.) 42067.
- SLATER, W. M., president American Rutile Company, Washington, D. C.: Specimen of ferrotitanium. 42072. (See also under American Rutile Company.)
- SLOAN, C. G., & Co., Washington, D. C.: Two antique lamps and an antique salt box. Purchase. 42017.
- SLOSSON, Mrs. A. T., New York City: Eight specimens of Hymenoptera from Biscayne Bay, Florida (41943); moth from Florida belonging to a new genus and species (42703).
- SMITH, EUGENE A., University, Ala.: Specimens of turquoise. 41993.
- SMITH, H. H., Pittsburg, Pa.: One hundred and two plants from South America. Purchase. 41317.
- SMITH, Dr. HUGH M., Bureau of Fisheries, Washington, D. C.: Collection of reptiles and batrachians from Japan (gift) (41419); miscellaneous invertebrates, bats, and mollusks from various localities in Japan (gift) (41439); Iroquois rattle, made from a snapping turtle (exchange) (42889); Japanese teeth-blackening outfit (loan) (9508.) (See also under Dr. K. Kishinouyé.)
- SMITH, Capt. JOHN DONNELL, Baltimore, Md.: Plants from Guatemala, one of them collected by Mr. H. von Turckheim (41935; 42232.)
- SMITH, J. G., Honolulu, Hawaiian Islands: Plant from Honolulu. 42745.
- SMITH, Prof. J. P., Leland Stanford Junior University, Stanford University, Cal.: Hypotype of *Gastrioceras globulosum*, figured in Monograph No. 42 of the U. S. Geological Survey. 41923.
- SMITH, MILTON W., Portland, Oreg.: Three specimens of *Macrorhampus scolopaceus* and *Gallinago delicata*. 42293.
- SMITHSONIAN INSTITUTION, Mr. S. P. Langley, Secretary: Twenty-three flint implements from the Temple of Osiris, Abydos, and 2 gaming dice from Behnesa. 41749. Presented by the Egypt Exploration Fund, London, England, through Mr. James Cotton, secretary. An obsolete barometer, No. 358. 42137.

SMITHSONIAN INSTITUTION—Continued.

Life-sized relief in plaster of Prof. Alpheus Hyatt. 42337. Presented by Mrs. Harriet Hyatt Mayer.

Eleven photographs showing a new method of making casts. 42604. Presented by Maj. George A. Peters, Toronto, Canada, through Mr. O. C. Cullen.

Shells and musket balls from the battlefield of Gettysburg; Chinese hari-kari dagger, bone-handled "couteau du chasse," Siamese double dagger, single-handle East India dagger, Malay bolong, Abyssinian flissa, U. S. artillery sword of Roman pattern, horn, 2 flintlock pistols in a wooden case, 2 horse pistols in a wooden case, 2 Satsuma vases on stands, Russian icon, single-barrel sporting gun, 3-inch Parrott solid shell, and a Dahlgren explosive shell; eight historical specimens (42616; 42730; 43875). Presented by Gen. John Watts de Payster, Tivoli, N. Y.

Fourteen photographs of the mammoth expedition of Beresofka River. 42802.

Bronze medal struck in commemoration of the dedication of the Chamber of Commerce of the State of New York. 42811. Presented by the Chamber of Commerce of the State of New York.

Transferred from the Bureau of American Ethnology, Mr. W. H. Holmes, chief: Bronze medal awarded to the Bureau of American Ethnology by the Louisville Exposition, in 1883; bronze medal with aluminum case awarded to the Bureau by the World's Columbian Exposition, 1893, and a gold medal awarded by the Cotton States and International Exposition, Atlanta, in 1895 (41355); material transferred from the Bureau, consisting of specimens collected by Prof. W. J. McGee in Mexico and also among the Papago and Seri Indians; (41397); pestle of schistose stone collected by Prof. G. K. Gilbert near Redstone, Tulare County, Cal. (41726); ethnological objects from various localities (41802); human skeleton and basket, basket, tule mat, and remains of a net from a cave near Bakersfield, obtained by purchase from James W. Stockton, Bakersfield, Cal.

SMITHSONIAN INSTITUTION—Continued.

(41978); basket and mat of the Haida Indians with figures of Killer whale, collected by John R. Swanton (42216); ethnological material collected among the American Indians by James Mooney (42431); collection of ethnological objects from the northern coast collected by J. R. Swanton (42513); Zuñi blanket, specimen of Tekuna, ceremonial sash, wooden paddle, 2 Zuñi masks, Zuñi shirt, pair of amulets, and Hopi sash (42514); archeological specimens, obtained through Mr. E. H. Jacobs, Bentonville, Ark. (42531); bronze medal awarded to the Bureau of American Ethnology by the Universal Exposition held in Paris in 1889 (42551); 6 ethnological objects collected by John R. Swanton (42610); about 550 specimens illustrating Dr. J. Walter Fewkes's researches in the Caribbean region (42916). (See also under Mr. Bunker; I. C. Harris; S. E. Jackson; J. E. Osborne; Prevention of Cruelty to Animals, Society of, Ponce, Porto Rico; William N. Zoller.)

Transferred from the National Zoological Park, Dr. Frank Baker, superintendent: Spice finch (41238); Valley partridge, *Callipepla californica vallicola* (41239); 3 specimens of deer (*Cariacus macrotis*), and a Brush-tailed rock kangaroo, *Petrogale penicillata* (41240); brain of an alligator (41589); Mud hen, *Gallinule*; finch (*Sporaginus flaviventris*); coyote (*Canis frustror*); Native Australian cat, *Dasyurus*; Java sparrow and bittern (41676); bear (*Ursus japonicus*); Arctic fox, *Vulpes logopus*; bear (*Ursus americanus*); deer (*Cariacus*) (41677); cat (*Felis cyra*); ocelot (*Felis pardalis*); 2 specimens of Jaguar, *Felis onca*; coyote (*Canis frustror*) and Wallaby, *Onychogale frenata* (41678); duck (*Dendrocygna galericulata*); coot (*Fulica americana*); Wood duck (*Aix sponsa*) (41679); alligator (*Alligator mississippiensis*) (41680); Echidna, *Echidna aculeata* (41681); lory, Java sparrow, parrakeet, fishhawk, grass parrakeet, flamingo (*Phoenicopterus antiquorum*) (41682); 2 specimens of Tree duck, *Dendrocyg-*

SMITHSONIAN INSTITUTION—Continued.

na arctuata, and a Brown pelican, *Pelecanus fuscus* (41683); baboon (*Papio hamadryas*), Great horned owl, *Bubo virginianus*, specimen of *Ocyphaps lophotes*, American magpie, *Pica pica hudsonica*, pine snake, *Pty-ophis melanoleucus*, and an European swan, *Cygnus gibbus* (41684); Grass parakeet; Louisiana heron, *Ardea tricolor ruficollis*; Wanga wanga pigeon, *Lencosarcia picata*, 3 specimens; lory, 2 specimens of *Lencosarcia picata* (41685); specimen of *Echidna aculeata* (41686); Dingo, *Canis dingo*; American bison, *Bison americanus*; bear (*Ursus americanus*) (41687); specimen of Tennessee warbler, *Helminthophila peregrina* (41702), pigeon (*Geopelia placida*), and a specimen of *Trichoglossus versicolor* (41744); cockatoo (*Cacatua roseicapilla*); 2 specimens of coot (*Fulica americana*); parrot (*Amazona leucocephala*); Flamingo, *Phaenicopterus ruber*, Snowy owl, *Nyctea nyctea* (41983); Mule deer, *Cariacus macrotis*; deer (*Cervus philippinus*); armadillo (*Tatusia noremeincta*); wallaby (2 specimens) and a sloth (*Cholepus didactylus*) (41984); opossum (*Phalangista fuliginosa*); monkey (*Cebus*); Hutia, *Capromys pilorides*; skull of seal (*Phoca vitulina*) and Echidna, *Echidna aculeata* (41985); tortoise (*Testudo tabulata*) (41986); Gallinule; Wild boar, *Sus scrofa*; swan (*Olor columbianus*); hawk (*Accipiter cooperi*); coot (*Fulica americana*) and Wood duck, *Aix sponsa* (41987); Chuckawalla (41988); 5 birds (42761); Cayman (42762); 2 specimens of Great blue heron, *Ardea herodias* (42763); Swift Fox, *Vulpes velox* (42764); Grizzly bear, *Ursus horribilis* (42765); Cinnamon bear, *Ursus americanus*; American buffalo, *Bison americanus* (42766); moose (*Alces americanus*) (42771); tortoise, snake and an ocelot (42767); owl (*Bubo virginianus*); owl (*Nyctea nyctea*); White stork, *Ciconia alba*; stork (*Leptoptilus crumeniferus*); egret, (*Ardea candidissima*); crane (*Anthropoides virgo*) (42768); Cassowary, *Casuarius australis*; Water turkey,

SMITHSONIAN INSTITUTION—Continued.

Anhinga anhinga; Piping crow, *Gymnorhina tibicen*; pigeon; parakeet (*Melospiza undulatus*); cockatoo (*Cacatua roseicapilla*) (42769); 6 birds (42770); moose (42771); moose (*Alces americanus*); Black wolf, *Canis lupis griseo-albus*; ocelot (*Felis pardalis*); Australian native cat (*Dasyurus*) and raccoon (*Procyon cancrivorus*) (42772); Grass parakeet, *Melospiza undulatus* (42773); Gray wolf, yellow baboon, Java sparrow, Golden eagle and Harbor seal (42774); Amazon (*Amazona leucallanti*) (42779); Sun bear, *Ursus malayanus* (42780); Sparrow hawk, *Falco sparverius*, and a Purple heron, *Ardea purpurea* (42832); Purple heron (42833).

SNYDER, J. O. (See under Leland Stanford Junior University.)

SOOCHOW UNIVERSITY, Soochow, China: Collection of insects. 41236.

SOUNNER, H., Chicago, Ill.: Myriapod representing the species *Cermatia foriceps*. 41505.

SOUTH SIDE SPORTSMEN'S CLUB, Oakdale, Long Island: Received through J. O. Clift, superintendent. Large German brown trout raised in the South Side Club Hatchery. 42806.

SOWERBY AND FULTON, Royal Botanical Gardens, Kew, England: Specimen of *Voluptulchra* Sow. Purchase. 41938.

SPALDING, THOMAS, Stockton, Utah: Six specimens of *Satyris paulus*. 42271.

SPONVILLE, H. J., director of mines at Demidoff, St. Petersburg, Russia: Rocks from Demidoff mines, province of Perm, Russia. 42160.

SPRINGER, REV. RUTER W., U. S. Army, Fort Washington, Md.: Large shell representing the species *Cucullera gigantea* from the Eocene of Fort Washington. 42707.

STANEART, C. W., Forest Hill, La.: Beetle (*Dynastes tityus* L.). 41235.

STANTON, DR. T. W., U. S. Geological Survey: Seven "Medicine sticks" found in Montana. 41970. (See also under A. W. Jones.)

- STANTON, Rev. W. A., Manila, Philippine Islands: Lepidoptera (41671); insects (41958; 42068); 263 specimens of insects (42208; 42558); 19 vials of Hymenoptera (42682); 6 specimens of an *Aleyrodes* and 5 specimens of hymenopterous parasites (42738).
- STATE AGRICULTURAL COLLEGE, Fort Collins, Colo.: Received through S. A. Johnson. Leeches and *Apus*. 41968.
- STATE COLLEGE, Bozeman, Mont.: Received through Prof. F. W. Traphagen. Minerals and ores. Exchange. 41751.
- STATE DEPARTMENT. (See under Hon. H. R. Dietrich.)
- STEARNS, Dr. C. H., U. S. Army, Washington, D. C.: Specimen of sponge (*Euplectella*) 41370.
- STEARNS, Dr. R. E. C., Los Angeles, Cal.: Two hundred and fifty shells representing the species *Helix aspersa* Müll from California (41425); about 125 specimens of *Paphia* from California (41448); about 2,500 specimens of marine shells from California (41761); 8 shells representing the species *Saxidomus nuttallii* from California (41890); 8 specimens of *Pecillozonites* from Bermuda, collected by Mr. A. J. Edwards (42038); 325 specimens of *Crepidula onyx* variety *rugosa* Nutt., from San Pedro, Cal. (42071); 20 specimens of *Lasca rubra* Mort., from Santa Barbara, Cal. (42433).
- STEELE, E. S., Department of Agriculture, Washington, D. C.: Five specimens of *Sedum* from West Virginia. 41542.
- STEELE, Mrs. GRACE A. K., Washington, D. C.: Three hundred and twenty-five plants from Virginia. Purchase. 42357.
- STEJNEGER, Dr. LEONHARD. (See under J. G. Crawford.)
- STEJNEGER, Miss THORA, Bergen, Norway: Fifteen mammals and 42 reptiles. Purchase. 41558.
- STEPHENS, F. (See under Department of Agriculture.)
- STEPHENS, Miss KATE, San Diego, Cal.: One hundred specimens of land and fresh-water shells from California. 42752.
- STERKI, Dr. V., New Philadelphia, Ohio: Four cotypes of *Planorbis rebellus* Sterki. 42878.
- STEVENSON, Mrs. M. C., Bureau of American Ethnology, Washington, D. C.: Nine Zuñi and Navaho blankets. Purchase. L. P. X. 41372.
- STEWART, A. H., Washington, D. C.: Outfit of a Bagobo family from Davao, Philippine Islands. Purchase. 42856.
- STILWELL, L. W., Deadwood, S. Dak.: Rocks and minerals from various localities. Purchase. L. P. X. 42015.
- STIMPSON, C. A. (See under J. H. Bunnell & Co.; Manhattan Electrical Supply Company; Foote, Pierson & Co.)
- STOCKTON, J. W. (See under Smithsonian Institution, Bureau of American Ethnology.)
- STOKES, SUSAN, Salt Lake City, Utah: Three hundred plants from Utah and Nevada. Purchase. 42141.
- STONE, Miss ELLEN A., Washington, D. C.: French plaster medallion of Lafayette. Loan. 9103.
- STROH, JACOB G., Waterloo, Ontario, Canada: Flint arrowhead. 42545.
- STUBBLEFIELD, Mrs. A. W., Cumberland, Md.: Twenty-four specimens of fossils from the Oriskany and Hamilton formations of Pendleton County, W. Va. (41863); specimen of *Halysites* and 4 trilobites from Pendleton County (42042).
- STUDDS, GRANVILLE, Alexandria, Va.: Three snakes from Fairfax County, Va. 41963.
- STURTZ, HERR B., Bonn, Germany: Twenty-four specimens of fossil starfishes, crinoids, and crabs. Purchase. L. P. X. 41837.
- SUBISA, Señor ARTURO, Ponce, P. R.: Received through Dr. J. Walter Fewkes. A Spanish coin. 42732.
- SUTER, HENRY, Auckland, New Zealand: One hundred and eighty-seven specimens of land, fresh-water and marine shells from Auckland. 42434.
- SWAN, Miss ETHELYN, Dallas City, Pa.: Three specimens of *Gordius*. 41241.

- SWANTON, J. R. (See under Smithsonian Institution, Bureau of American Ethnology.)
- SWETLAND, Dr. B. S., Brocton, N. Y.: Four goniatites and two specimens of *Orthoceras*. 42586.
- SWIFT & Co., Kansas City, Kans.: Received through R. H. Frisby, superintendent. Tooth of *Mastodon americanus*. 42855.
- SWIFT, F. W., Alden, N. Y.: Six specimens of bryozoans and corals from the Hamilton formation of Alden (gift) (41231); half of a ceremonial or banner-stone (loan) (8540).
- TABLER, Miss ELIZABETH, U. S. National Museum: Spider (*Epeira insularis*, Hentz), from Buckeystown, Md. 41598.
- TALBERT, FRANK, Soldiers' Home, Richmond, Va.: Specimens of Psyllid galls. 41578.
- TAMARACK MINING COMPANY, Calumet, Mich.: Received through John T. Reeder. Specimens of whitneyite and chalcocite. 42321.
- TAMMEN, H. H., Denver, Colo.: Ten specimens of minerals. Purchase. L. P. X. 41632.
- TASSIN, WIRT, U. S. National Museum: Four mother-of-pearl cat's eyes from China. 41934.
- TAYLOR, EFFIE P., Thomasville, Ga.: Received through Dr. William Trelease. Plant from Georgia. 42900.
- TAYLOR, Rev. G. W., Wellington, British Columbia: Two hundred and seventy-nine specimens of Lepidoptera (gift) (41529); 24 specimens of Geometrid moths from British Columbia (exchange) (42431).
- TERRES, Hon. JOHN B., U. S. vice-consul, Port au Prince, Haiti: Petrified oysters from mountains between Haiti and Santo Domingo, at a height of 1,100 feet; also land shells found in the same mountains. 42523.
- TERRY, WILLIAM A., Bristol, Conn.: Three specimens of diatoms. 42215.
- THOMAS, OLDFIELD, British Museum (Natural History), London, England: THOMAS, OLDFIELD—Continued. Two skeletons of mammals (41559); 3 mice representing the species *Erotomys shouvenensis*, from Wales (42374); 13 mammals (42402).
- THOMPSON, Miss F. L., Washington, D. C.: Patch-work bed quilt (loan). 9312.
- THOMPSON, Dr. J. C., U. S. Navy, Bremerton, Wash.: Fishes collected off the coast of New England (41468); fishes from Santa Rosa, Cal. (41649); 2 specimens of Pipefish, *Siphostoma albivostis*, from the Dry Tortugas, Florida (41843); specimen of *Peromyscus*, fishes and a hermit crab (42016); Coleoptera (42019).
- THOMPSON, Dr. J. FORD, Washington, D. C.: Brain of a white child. 42465.
- THORWORTH, Miss ESTELLA, U. S. National Museum: Specimen of *Rosa bracteata* from Virginia. 41556.
- THURLOW, F. W., Harvester, Tex.: Thirty-five plants from Texas. 41936.
- TINDALL, Dr. D. W., Taylor, Mo.: Specimen of "hard-tack" used in the U. S. Army during the civil war (1861-1865). 41783.
- TITUS, E. S. G., Department of Agriculture: Received through Dr. L. O. Howard. Two hundred specimens of Lepidoptera from Fort Collins, Colo. (41546); specimen of stone-fly from Lawrence, Kans. (41804).
- TONE, WILLIAM, & Bro., New York City: Two musical instruments, serenatta and solophone. 41243.
- TOPPING, D. LE ROY, Manila, P. I.: Seventeen specimens of plants from the Philippine Islands. 41409.
- TORRES, JOSE P., Agaña, GUAM: Plant from Guam. 41306.
- TOWNSEND-BARBER TAXIDERMY AND ZOOLOGICAL COMPANY, El Paso, Tex. Imperial woodpecker, *Campephilus imperialis*, from Mexico. Purchase. L. P. X. 41520.
- TRACY, S. M., Biloxi, Miss.: Fern from Mississippi (41908); 3 plants (41920); specimen of fern representing the species *Trichomanes petersii* from Mississippi (42413); 2 specimens of *Botrychium*

- TRACY, S. M.—Continued.
from the Southern States (42594). (See also under Department of Agriculture.)
- TRAPHAGEN, F. W., Golden, Colo.: Nineteen photographs representing views of Montana. 41618. (See also under State College, Bozeman, Mont.)
- TRASK, Mrs. BLANCHE, Avalon, Cal.: Specimen of *Epiplragmormpha intercisca*, variety *crebristriata* Newc., from San Clemente Island (gift) (41602); 2 plants from California (gift) (42097); 224 plants from California (purchase) (42252); 2 specimens of seaweeds (gift) (42373); 2 specimens of *Lycodina fungina* Gabb. (gift) (42495); specimens of *Cerostoma nuttalli* Conr., specimen of *Calliostoma supragranosa* Spr., from Catalina Island (gift) (42662); 8 plants from California (gift) (42845).
- TREASURY DEPARTMENT: Received through Hon. L. M. Shaw, Secretary. Plaster bust of President Lincoln, taken by F. F. Mills. 42710.
- TRELEASE, Prof. WILLIAM. (See under Effie P. Taylor.)
- TRUE, Dr. F. W., U. S. National Museum: Specimens of marine worms and invertebrates collected at Brooklyn, Hancock County, Me. 41530.
- TSUCHIDA, T., Misaki, Miura, Japan: Seventeen moles and rodents from Japan. Purchase. 42680.
- TULLOCK, A. E., Hawaii, Hawaiian Islands: Received through Department of Agriculture. Plant from the Hawaiian Islands. 42901.
- TURCKHEIM, H. VON. (See under Capt. John Donnell Smith.)
- TURNER, C. S., Atlanta, Ga.: Water-beetle, *Cybister oliveri* Cr. 41743.
- TURNER, GEORGE, U. S. National Museum: Fourteen pearls taken from a shell of *Ostrea virginica*. 42394.
- TURNER, Mrs. S. E., North Chesapeake Beach, Md.: Two spoons made from the horns of Rocky Mountain sheep; spoon made from the horn of a Rocky Mountain goat; carved horn of a cow, and an Eskimo waterproof shirt. Purchase. L. P. X. 41373.
- TUSHOFF, Dr. VLADIMIR, Petropaulovsk, Kamchatka: Five salamanders from Kamchatka. 41405.
- TUTTLE, Miss C. M., University of Virginia, Charlottesville, Va.: Two unfinished coiled baskets in raffia. 41255.
- UHLER, Prof. P. R., Peabody Library, Baltimore, Md.: Two beetles from Jamaica. 41933.
- ULBRICHT, R. E., New York City: Mexican idol carved in serpentine. Purchase. L. P. X. 41871.
- ULRICH, E. O., U. S. Geological Survey: Remainder of Ulrich collection, consisting of mollusks and miscellaneous material represented by about 500 type lots and upward of 15,000 specimens. Purchase. 42804.
- UMBACH, L. M., Northwestern College, Naperville, Ill.: Four specimens of *Lucinaria scariosa*. 43556.
- UNDERWOOD, L. M. (See under New York Botanical Garden.)
- UNGER, C. W., Pottsville, Pa.: Fossil plants from the upper anthracite series of the Carboniferous at various localities near Pottsville. 42672.
- UNITED STATES NATIONAL-MUSEUM: The following models were made in the Anthropological Laboratory: Cast of feathered serpent (41374); cast of coiled feathered serpent (41375); cast of carved slate box (41376); cast of pottery vase from Brazil (41377); cast of bird god (41417); cast of pottery vase (41418); Indian drums and sticks, Indian flutes, horn rattles, notched rattles, and blades for rattles (41427); cast of jade carving, cast of painted vase, cast of jade carving, and cast of wood carving (41548); 3 sets (16 each) of models of oriental seals (41673); plaster cast of Zemé idol (41789); cast of stone pestle, casts of Zemé idols, and cast of a pottery vase (41790); cast of a large painted vase (41853); 4 plaster casts of a carved stool and 8 plaster casts of stone collars (41866); 4 plaster casts of Mexican stone yoke; 8 plaster casts of a stone collar (41869); plaster casts of 15 stone implements (42004); wooden model of a war club (42025); 2 pho-

U. S. NATIONAL MUSEUM—Continued.

- tographic copies of Japanese music (42058); plaster casts of carved stone Zemé, stone pestles, pottery vase, stone Zemé, stone polisher, and stone implement (42079); miniature model of a whale (42080); casts of stone slab, Zemés, sculptured stone, and vase (42162); casts of Indians for collections in physical anthropology (42191); negatives taken for racial measurements (42203); three-tongued jew's-harp (42295); 5 models of Yucatan temples (42311); 2 models of wooden three-pronged jew's-harp (42312); models of implements from Alaska, 2 rattles and 5 small models of fin-back whales (42313); 15 casts of Mexican and Central American pottery (42325); 4 copies of Alaskan religious implements (42375); cast of vase from Central America and cast of a figure from Mexico (42387); cast of pottery vase and 4 casts of pottery bowls (42425); model of Alaskan drum and a model of a Zuñi snake (42432); cast of William Snow, a Seneca Indian (42443); 4 casts of bowls and 3 casts of collars (42457); casts of collar, animals, metate, and bowls (42462); 2 casts of a spearhead from Oatka Island (42469); cast of carved bowl (42479); wooden mask and a carved stone mask (42508); cast of jade pendant and casts of throwing-sticks (42532); model of Haida mask (42535); series of fire-making apparatus (42559); 7 casts of stone pipes (42568); cast of carved stone amulet, cast of dish, and cast of a swallowing stick (42595); 2 models of musical instruments (42615); cast of a spearhead, cast of a flint dagger, cast of drilled ax, casts of flint hatchets, and cast of a flint chisel (42626); cast of stone implement (42644); Sioux cradle and child (42791); 5 arc electric lamps of obsolete pattern (42825).
- URBINA, Dr. MANUEL, National Museum, City of Mexico, Mexico: Two plants from Mexico. 41810.
- VALENTINE, F. B., Ridgely, W. Va.: Seven flint implements. Exchange. 42399.
- VALLETTE, C. D., Chicago, Ill.: Specimen of Lace-winged fly, *Chrysopa tabida* Fitch. 41504.
- VAN INGEN & VAN INGEN, Ootocamund, India: Two Indian ungulates (Axis deer and Sambur stag) (purchase) (L. P. X.) (41644); 4 Indian ungulates (purchase) (42262).
- VASSILIEF, IVAN, Bureau of Entomology, St. Petersburg, Russia: Twelve hymenopterous insects. 41736.
- VAUGHAN, T. WAYLAND. (See under Interior Department, U. S. Geological Survey.)
- VIENNA, AUSTRIA, FIRST ZOOLOGICAL INSTITUTE OF THE IMPERIAL UNIVERSITY: Received through Dr. F. Werner. Fishes and reptiles from North Africa, Asia Minor, and other localities. Exchange. 42685.
- VIENNA, AUSTRIA, K. K. NATURHISTORISCHES HOFMUSEUM, received through Dr. Theodore Fuchs: Unassorted bryozoans and ostracods from 18 localities in Europe, of the Mesozoic and Tertiary age (42118); 107 specimens of fungi from Europe (42853). Exchange.
- VIERECK, H. L., Academy of Natural Sciences, Philadelphia, Pa.: Specimen of *Odontophopsis exogyrus* Viereck (paratype). Exchange. 41663.
- VROMAN, A. C., Pasadena, Cal.: One hundred and sixteen photographs of California missions, and a book of "Mission memories." 42577.
- WALCOTT, BENJAMIN S., Washington, D. C.: Received through Hon. C. D. Walcott: Specimens of Devonian fossils from near Canandaigua, N. Y. Exchange. 41691.
- WALCOTT, Hon. CHARLES D. (See under Benjamin S. Walcott.)
- WALKER, B. E., Canadian Bank of Commerce, Toronto, Ontario, Canada: Seven specimens of *Callocystites*, 19 specimens of *Caryocrinus ornatus*, and 1 specimen of *Calocystis*. Exchange. 42729.
- WALKER, BRYANT, Detroit, Mich.: Twenty specimens of fresh-water shells, including 3 cotypes of *Lioplax pilsbryi* Walker. 42754.

- WALKER, G., Furman, S. C.: Pedipalp, or Pseudoscorpion, *Chelifer muricius* Say. 41670.
- WALPOLE, W. A., Gorda, Cal.: Ten specimens of living plants from California. 42473.
- WAR DEPARTMENT: Received through Brig. Gen. William Crozier, Chief of Ordnance Department: Large and comprehensive collection of muskets, rifles, pistols, bayonets, and parts of small arms, various implements used in the U. S. Army for entrenching purposes, relics of the civil war, swords used by European and American armies, and Indian objects (41356); received through the Bureau of Insular Affairs, 358 scarf pins, 3 Philippine flags, 154 buttons with head of Aguinaldo, 5 medallions, 3 pairs of cuff buttons, 2 scarf pins, and 2 breastpins for ladies (41398); received through the Office of the Adjutant-General, section of the original Fort Sumter flagstaff (41807); received through Surg. Gen. R. M. O'Reilly, collection of articulated skeletons, skulls, pelvis bones, brains, and instruments of measurement (42109); through the Bureau of Ordnance, collection of small arms and parts of same, models of projectiles, arms, etc., hand and leg shackles, keys, and bags (42272); received through Capt. G. W. Baird, U. S. Navy, Krupp gun and carriage captured at Peking, China, and a mahogany gun carriage captured in Cuba (42298); through Army Medical Museum, Dr. R. M. O'Reilly, small antique vase, 2 fragments of antique vases, gold seal ring, small pottery ring, and a Roman bronze coin (42423); through Gen. A. W. Greely, Ferguson breech-loading rifle with bayonet, belonging to Gen. John Watts de Peyster (loan and returned) (42810). Deposit. (See also under Brig. Gen. W. H. Carter.)
- WARD, H. A., Rochester, N. Y.: Large mass of amethystine quartz (42254); large slab of meteoric iron from Mukerop, Africa (41880). Purchase. L. P. X.
- WARD, Prof. LESTER F., U. S. Geological Survey, Washington, D. C.: Three plants. 42100.
- WARD, ROWLAND, London, England. Hippopotamus (42639); skin and skull of *Connochaetes gnu* (42719). Purchase. L. P. X.
- WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: Three hundred gram section of Franceville meteorite (purchase) L. P. X. (41472); monkey skin and skull (purchase) (41906); specimen of agate from Brazil (purchase) L. P. X. (42026); skin of White egret, skins of Magpie lark, nest of Gnacharo bird and nest of Magpie lark (purchase) L. P. X. (42177); skins of Brush turkey, *Leipoa ocellata* (purchase) (42196); specimen of pyromorphite and 5 specimens of alexandrite (purchase) L. P. X. (42095); skeleton of a monkey (purchase) (42524); 44 specimens consisting principally of Indo-Pacific marine shells (purchase) (42929).
- WARFIELD, Dr. W. A., Washington, D. C.: Fetus. 41689.
- WARNER, W. V., U. S. National Museum. Six sulphur matches manufactured at Cuyahoga Falls, Ohio, in 1835 (42237); 120 specimens of miscellaneous insects from the District of Columbia and vicinity (42619). (See also under Washington Biologists' Field Club).
- WASHINGTON AGRICULTURAL COLLEGE, Pullman, Wash. Received through Prof. C. V. Piper. Thirty-eight types and 36 cotypes: also 29 specimens of Tipulidæ. 41765.
- WASHINGTON ASYLUM HOSPITAL, Washington, D. C.: Brain of a colored woman. 41639.
- WASHINGTON BIOLOGISTS FIELD CLUB (through E. A. Schwarz, H. S. Barber, August Busck, Rolla P. Currie, H. G. Dyar, and W. V. Warner): Three thousand four hundred and three insects of all orders from Plummers Island, Maryland, captured during the season of 1903. 42620.
- WASHINGTON, CHARLES, U. S. National Museum: Snake (*Diadophis punctatus*, from Berwyn, Md. (41482); shrew (*Blarina brevicauda*) (41739).

- WATKINS, Estate of J. E. Received through Mrs. J. E. Watkins, Washington, D. C.: United States flag used on the locomotive "John Bull." 41697.
- WEBB, J. C., Esprey, Fla.: Snake (*Diodophis punctatus*) from Florida. 41469.
- WEBBER, H. J. (See under Mrs. T. A. Williams.)
- WEEDON, W. C., U. S. National Museum: Specimen of Black-throated blue warbler, *Dendroica ceruleseens*. 42817.
- WEINBERG, FRANK, Woodside, L. I.: Eight plants. 42902.
- WELDON, W. F. R. (See under Oxford, Museum of the University of.)
- WELLAUER, EMIL, Washington, D. C.: Model of the Morse telegraph instrument of 1844 (41567); 5 models of propellers (42362); model of John Stevens' propeller of 1804 (42363). Purchase.
- WELLER, Prof. STUART, University of Chicago, Ill.: Twenty species of fossils from the Decker Ferry and other formations of New Jersey. Exchange. 42580.
- WELLMAN, E. S., Naples, Me.: Specimen of garnetiferous mica schist from Cumberland County, Me. 41619.
- WELLS, WILLIAM, Las Vegas, N. Mex.: Three specimens of sandstone. 42447.
- WERNER, Dr. FRANZ, First Zoological Institute, Imperial University, Vienna, Austria: Two lizards from Europe. Exchange. 41590. (See also under Vienna, Austria.)
- WESTERN NEW YORK INSTITUTION FOR DEAF MUTES, Rochester, N. Y.: Specimens of Rochester shales bryozoans. Loan. 42460.
- WHARTON, J. R., Butte, Mont.: Large crystal of smoky quartz. 41625.
- WHEATON, Mrs. M. B., Washington, D. C.: Photograph of oil painting of Gen. Alex. Macomb, U. S. Army; framed photographs of Maj. Gen. John Sedgwick, U. S. Army, and a sash worn by him during the civil war. Loan. 8887. (See also under Mrs. F. C. d'Hautville.)
- WHEELER, C. F., Department of Agriculture, Washington, D. C.: Specimen of *Quercus heterophylla* from the District of Columbia (41569); plant (41666); plants from the District of Columbia (41733, 41845).
- WHEELER, J., Washington, D. C.: Plant from Maryland collected by F. H. Hillman. 41758.
- WHITE, DAVID, U. S. Geological Survey. Received through the Survey: Two plants from Virginia (41541); specimen of fire clay from Clay mine, Hammond, W. Va. (41768). (See also under Frederic Brown; James Campbell; H. M. Lane; S. W. McCallie.)
- WICKHAM, Prof. H. F., Iowa City, Iowa: Specimens of parasitic Hymenoptera. 41898
- WILCOX, Dr. G. B., Fort Stanton, N. Mex. Received through Department of Agriculture: Plant from New Mexico. 42784.
- WILCOX, Brig. Gen. T. E., U. S. Army (Retired). Received through Department of Agriculture: Two specimens of *Asarum caudatum* from Vancouver, Wash. (41769). (See also under D. McLean.)
- WILLIAMS, A., Berryville, Va.: Tower musket. (Loan.) 9475 (Returned).
- WILLIAMS, GARDNER F. (See under De Beers Consolidated Mines, Kimberly, South Africa.)
- WILLIAMS, R. W., jr., Biological Survey, Department of Agriculture, Washington, D. C.: Specimen of Vermilion flycatcher, *Pyrocephalus rubineus mexicanus*, from Florida. 41795.
- WILLIAMS, Mrs. T. A. Received through H. J. Webber, Department of Agriculture: Fifteen thousand plants belonging to the late T. A. Williams. 41337.
- WILLIAMSON, Prof. E. B., Bluffton, Ind.: Three specimens of insects (41755); received through Rolla P. Currie, 70 specimens of North American dragonflies (42210). (See also under Homer Kapp.)

- WILLIMOTT, C. W., Ottawa, Canada: Specimens of Canadian minerals. 42859.
- WILLIS, RICHARD, Olga, Wash.: Crabs, shrimps, and a nudibranch mollusk. 41969.
- WILLISTON, Prof. S. W., and E. B. Bronson, University of Chicago, Chicago, Ill.: Large specimen of *Inoceramus* sp. from the chalk formation near Monument Rocks, Logan County, Kans. 41940.
- WILLOUGHBY, Prof. C. C. (See under Peabody Museum, Boston, Mass.)
- WILMER, Col. L. WORTHINGTON, Ryde, Isle of Wight, England: Specimens of miscellaneous shells from various localities and Cretaceous fossils from the "Perma bed" at Ryde (41965); 50 specimens of Mesozoic fossils from the Isle of Wight (42796).
- WILSON, F. H., Brunswick, Me.: Specimen of glassy quartz from a quarry at Topsham, Me. L. P. X. 41995.
- WILSON, Miss G. R., Fort George, Fla.: Holothurian representing the species *Thyone briareus*. 42519.
- WILSON, J. FRANK, U. S. National Museum: Archeological collections of the late Thomas Wilson, numbering 19,334 specimens. Purchase. 42207.
- WINDLE, FRANCIS, Westchester, Pa.: Plants from Pennsylvania (42555; 42742).
- WISE, ISADORE, Green River, Utah: Received through Prof. F. W. Clarke. Specimen of dark sandstone with carnotite from San Rafael swell, Utah. 42490.
- WITT, GEORGE C., Austin, Tex.: Two specimens of *Nyctinomus*. 42344.
- WOOD, FRANK W., Crimora, Va.: Received through W. C. Phalen. Stalactitic psilomelane from Virginia. 42575.
- WOOD, N. R., U. S. National Museum: Specimens of *Mus musculus* (41926; 42102; 42077); 6 eggs of *Gallus gallus* (42347).
- WOODEND CURIO COMPANY, Denver, Colo.: Ten specimens of minerals. Purchase. L. P. X. 41633.
- WOODGATE, JOHN, Fort Wingate, N. Mex.: Two plants from New Mexico. 41270.
- WOOTON, Prof. E. O., Mesilla Park, N. Mex.: Bat (*Euderma*) from Mesilla Park (41592); 4 plants from New Mexico (42085).
- WORCESTER, Prof. DEAN C. (See under Philippine Museum, Manila, P. I.)
- WORTH, S. G. (See under Department of Commerce and Labor, Bureau of Fisheries.)
- WORTHEN, C. K., Warsaw, Ill.: Eleven birds' skins, principally Birds of Paradise (purchase) (41310); skin of *Astrapia splendidissima* (purchase) L. P. X. (41311); Florida crocodile (purchase) (41364); 3 birds' skins (purchase) L. P. X. (42105); skin of *Lycocorax obiensis* (purchase) (42127).
- WREN, CHRISTOPHER, Plymouth, Pa.: Six sandstone disks from Luzerne County, Pa. 41994.
- YAKOVLEFF, HEIT NIKOLAI, Institute of Mines, St. Petersburg, Russia: Two wax casts of the hinge of a supposed new genus of Crassatellitidae from Russia. 41967.
- YALE UNIVERSITY MUSEUM, New Haven, Conn.: Received through Dr. C. E. Beecher. Specimen of hypotype and ten fragments of *Romingeria umbellifera*; 5 opercula of *Maclurea lozani*, and 580 specimens of Hamilton formation brachiopods from Canandaigua Lake, New York. 42129.
- YOUNG, R. T. (no address given): Cone from France. 42302.
- ZELEDON, JOSÉ ANTONIO, Washington, D. C.: Bow and 12 arrows from Costa Rica. 42721.
- ZELEDON, JOSÉ C., San José, Costa Rica: Specimen of salamander (*Oedipina uniformis*), and a leech (*Bipalium kewense* (?) Mos). 41718.
- ZELL, LUCIAN M. (See under American Gem and Pearl Company.)
- ZOLLER, WILLIAM NORRIS, Aquiree, Central Porto Rico: Received through Smithsonian Institution, Bureau of American Ethnology. Two stone idols and a broken bowl. 42914.

ZOLLIKOFER, E. H., St. Gallen, Switzerland: Small mammals from Switzerland. 42642.

ZOOLOGICAL MUSEUM OF THE UNIVERSITY OF COPENHAGEN. (See under Copenhagen, Denmark.)

ZUCK, Dr. F. M., Holbrook, Ariz.: Received through Dr. Walter Hough. Breech-loading Springfield rifle and bayonet, issued by order of General Miles to arm the settlers of Arizona during the Geronimo outbreak, and three cartridges. 42497.

APPENDIX III.

BIBLIOGRAPHY, 1903-04.

PUBLICATIONS OF THE MUSEUM.

ANNUAL REPORT.

Annual Report | of the | Board of Regents | of the | Smithsonian Institution, | showing the operations, expenditures, and condition of | the Institution | for the | year ending June 30, 1901. | Report | of the | U. S. National Museum. [Seal] Washington: | Government Printing Office. | 1903.

8vo., pp. 1-XVI, 1-452, pls. 208, text figs. 23.

Annual Report | of the | Board of Regents | of the | Smithsonian Institution, | showing the operations, expenditures, and condition of | the Institution | for the | year ending June 30, 1902. | Report | of the | U. S. National Museum. [Seal] Washington: | Government Printing Office. | 1904.

8vo., pp. 1-XXIV, 1-784, pls. 261, text figs. 409.

PROCEEDINGS.

Smithsonian Institution. | United States National Museum. | — | Proceedings | of the | United States National Museum. | — | Volume XXV. | — | Published under the direction of the Smithsonian Institution. [Seal] Washington: Government Printing Office. | 1903. |

8vo., pp. 1-XIV, 1-1021, pls. 1-32, text figs. 144.

Smithsonian Institution. | United States National Museum. | — | Proceedings | of the | United States National Museum. | — | Volume XXVI. | — | Published

under the direction of the Smithsonian Institution. [Seal] Washington: Government Printing Office. | 1903. |

8vo., pp. 1-XV, 1-1058, pls. 1-69, text figs. 194.

Smithsonian Institution. | United States National Museum. | — | Proceedings | of the | United States National Museum. | — | Volume XXVII. | — | Published under the direction of the Smithsonian Institution. [Seal] Washington: Government Printing Office. | 1904. |

8vo., pp. 1-XVII, 1-998, pls. 1-50, text figs. 279.

SPECIAL BULLETIN.

Smithsonian Institution. | United States National Museum. | — | Special Bulletin. | — | American Hydroids. | — | Part II. | The Sertulariadae, | with forty-one plates. | By | Charles Cleveland

Nutting, | Professor of Zoology, University of Iowa. | — | Washington: | Government Printing Office. | 1904.

Special Bulletin U. S. Nat. Mus., No. 4 (Part II), ito., pp. 1, II, 1-325, pls. 1-41. 139 figs.

PAPERS PUBLISHED IN SEPARATE FORM.

FROM THE REPORT FOR 1901.

Report upon the condition and progress of the U. S. National Museum during the year ending June 30, 1901. By Richard Rathbun. pp. 1-174.

Report on the Department of Anthropology for the year 1900-1901. By William H. Holmes. pp. 51-61.

Report on the Department of Biology for the year 1900-1901. By Frederick W. True. pp. 63-80.

Report on the Department of Geology for the year 1900-1901. By George P. Merrill. pp. 81-91.

Report on the exhibit of the United

- States National Museum at the Pan-American Exposition, Buffalo, New York, 1901. By Frederick W. True, William H. Holmes, and George P. Merrill. pp. 177-231, pls. 1-72.
- Flint implements and fossil remains from a sulphur spring at Afton, Indian Territory. By William Henry Holmes. pp. 233-252, pls. 1-26.
- Classification and arrangement of the exhibits of an anthropological museum. By William Henry Holmes. pp. 253-278, pl. 1.
- Archeological field work in northeastern Arizona. The Museum-Gates Expedition of 1901. By Walter Hough. pp. 279-358, pls. 1-101.
- Narrative of a visit to the Indian tribes of the Purus River, Brazil. By Joseph Beal Steere. pp. 359-393, pls. 1-9.

FROM THE REPORT FOR 1902.

- Report upon the condition and progress of the U. S. National Museum during the year ending June 30, 1902. By Richard Rathbun. pp. 1-168.
- Report on the Department of Anthropology for the year 1901-1902. By William H. Holmes. pp. 53-58.
- Report on the Department of Biology for the year 1901-1902. By Frederick W. True. pp. 59-76.
- Report on the Department of Geology for the year 1901-1902. By George P. Merrill. pp. 77-84.
- Aboriginal American Basketry: Studies in a textile art without machinery. By Otis Tufton Mason. pp. 171-548, pls. 1-248.
- The Herpetology of Porto Rico. By Leonhard Stejneger. pp. 549-724, figs. 1-197.
- Wokas: A primitive food of the Klamath Indians. By Frederick Vernon Coville. pp. 725-739, pls. 1-13.

FROM VOLUME 26, PROCEEDINGS OF THE U. S. NATIONAL MUSEUM.

- No. 1333. Notes on Orthoptera from Colorado, New Mexico, Arizona, and Texas, with descriptions of new species. By Andrew Nelson Caudell. pp. 775-809, pl. LV.
- No. 1334. A review of the Cyprinoid fishes of Japan. By David Starr Jordan and Henry W. Fowler. pp. 811-862, figs. 1-8.
- No. 1335. The Phasmidae, or Walking-sticks of the United States. By Andrew Nelson Caudell. pp. 863-885, pls. LVI-LIX.
- No. 1336. Description of an extinct mink from the shell heaps of the Maine coast. By Daniel Webster Prentiss. pp. 887, 888, fig. 1.
- No. 1337. Revision of the Crustacea of the genus *Lepidopa*. By James E. Benedict. pp. 889-895, figs. 1-8.
- No. 1338. A review of the Siluroid fishes or catfishes of Japan. By David Starr Jordan and Henry W. Fowler. pp. 897-911, figs. 1, 2.
- No. 1339. Notice of a collection of fishes made by H. H. Brimley in Cane River and Bollings Creek, North Carolina, with a description of a new species of *Notropis* (*N. brimleyi*). pp. 913, 914.
- No. 1340. On the relations of the fishes of the family Lamprididae or Ophas. By Theodore Gill. pp. 915-924, figs. 1-3.
- No. 1341. Amphipoda from Costa Rica. By Rev. Thomas R. R. Stebbing. pp. 925-931, pls. LX, LXI.
- No. 1342. Synopsis of the family Astartidae, with a review of the American species. By William H. Dall. pp. 933-951, pls. LXII, LXIII.

- No. 1343. An Alaskan Corymorpha-like hydroid. By Samuel Fessenden Clarke. pp. 953-958, figs. 1-7.
- No. 1344. On some neglected genera of fishes. By Theodore Gill. pp. 959-962.
- No. 1345. Notice of a small collection of fishes, including a rare eel, recently received from H. Maxwell Lefroy, Bridgetown, Barbados, West Indies. By Barton A. Bean. pp. 963, 964, fig. 1.
- No. 1346. On some fish genera of the first edition of Cuvier's Règne Animal and Oken's Names. By Theodore Gill. pp. 965-967.
- No. 1347. Report on the fresh-water Ostracoda of the United States National Museum, including a revision of the subfamilies and genera of the family Cyprididae. By Richard W. Sharpe. pp. 969-1001, pls. LXIV-LXIX.
- No. 1348. A review of the fishes of Japan belonging to the family Hexagrammidae. By David Starr Jordan and Edwin Chapin Starks. pp. 1003-1013, figs. 1-3.
- No. 1349. Notes on the fish genera named *Macrodon*. By Theodore Gill. pp. 1015, 1016.

FROM VOLUME 27, PROCEEDINGS OF THE U. S. NATIONAL MUSEUM.

- No. 1350. Contributions to the Natural History of the Isopoda. By Harriet Richardson. pp. 1-89, figs. 1-92.
- No. 1351. A review of the Scorpaenoid fishes of Japan. By David Starr Jordan and Edwin Chapin Starks. pp. 91-175, pls. i, ii, figs. 1-21.
- No. 1352. A revision of the American Great Horned Owls. By Harry C. Oberholser. pp. 177-192.
- No. 1353. A new batrachian and a new reptile from the Trias of Arizona. By Frederic A. Lucas. pp. 193-195, pls. iii, iv.
- No. 1354. A review of the wrens of the genus *Troglodytes*. By Harry C. Oberholser. pp. 197-210, pl. v.
- No. 1355. Report on the fresh-water Bryozoa of the United States. By Charles B. Davenport. pp. 211-221, pl. vi.
- No. 1356. On the species of White Chimæra from Japan. By David Starr Jordan and John Otterbein Snyder. pp. 223-226, figs. 1, 2.
- No. 1357. Notes on a Killer Whale (genus *Orcinus*) from the coast of Maine. By Frederick W. True. pp. 227-230, pls. vii, viii.
- No. 1358. A review of the Cottidae or sculpins found in the waters of Japan. By David Starr Jordan and Edwin Chapin Starks. pp. 231-335, figs. 1-43.
- No. 1359. Notes on the bats collected by William Palmer in Cuba. By Gerrit S. Miller, jr. pp. 337-348, pl. ix.
- No. 1360. List of Hemiptera-Heteroptera of Las Vegas Hot Springs, New Mexico, collected by Messrs. E. A. Schwarz and Herbert S. Barber. By Philip R. Uhler. pp. 349-364.
- No. 1361. A revision of American Siphonaptera, or fleas, together with a complete list and bibliography of the group. By Carl F. Baker. pp. 365-469, pls. x-xxvi.

- No. 1362. The Aleyrodids, or Mealy-winged flies, of California, with references to other American species. By Florence E. Bemis. pp. 471-537, pls. xxvii-xxxvii.
- No. 1363. Studies in Old World forficulids or earwigs, and blattids or cockroaches. By James A. G. Rehn. pp. 539-560.
- No. 1364. Studies in American mantids or soothsayers. By James A. G. Rehn. pp. 561-574.
- No. 1365. A review of the Japanese fishes of the family of Agonidae. By David Starr Jordan and Edwin Chapin Starks. pp. 575-599, figs. 1-13.
- No. 1366. The osteology of some Berycoid fishes. By Edwin Chapin Starks. pp. 601-619, figs. 1-10.
- No. 1367. A new genus and two new species of crustaceans of the family Albuneidae from the Pacific Ocean; with remarks on the probable use of the antennule in *Albunea* and *Lepidopa*. By James E. Benedict. pp. 621-625, figs. 1-5.
- No. 1368. A new species of *Argulus*, with a more complete account of two species already described. By Charles Branch Wilson. pp. 627-655, figs. 1-38.
- No. 1369. Contributions to the natural history of the Isopoda. V.—Isopod crustaceans of the northwest coast of North America. By Harriet Richardson. pp. 657-681, figs. 1-39.
- No. 1370. Description of a new African Weaver-bird. By Harry C. Oberholser. p. 683.
- No. 1371. New Dragon-fly nymphs in the United States National Museum. By James G. Needham. pp. 685-720, pls. xxxviii-xliv, figs. 1-11.
- No. 1372. New molluscan genera from the Carboniferous. By George H. Girty. pp. 721-736, pls. xlv-xlvii.
- No. 1373. Descriptions of two new birds from Somali Land. By Harry C. Oberholser. pp. 737-739.
- No. 1374. Two new ferns of the genus *Polypodium*, from Jamaica. By William R. Maxon. pp. 741-744.
- No. 1375. Tineid moths from British Columbia, with descriptions of new species. By August Busck. pp. 745-778.
- No. 1376. The Lepidoptera of the Kootenay District of British Columbia. By Harrison G. Dyar. pp. 779-938.
- No. 1377. Notes on collections of fishes from Oahu Island and Laysan Island, Hawaii, with descriptions of four new species. By David Starr Jordan and John Otterbein Snyder. pp. 939-948.
- No. 1378. Two Orthoptera, hitherto unrecorded, from the United States. By Andrew Nelson Caudell. pp. 949-952, figs. 1-3.
- No. 1379. A new fern, *Goniophlebium pringlei*, from Mexico. By William R. Maxon. pp. 953-954, pl. xlviii, fig. 1.
- No. 1380. The Persimmon Creek meteorite. By Wirt Tassin. pp. 955-959, pls. xlix, l, fig. 1.
- No. 1381. *Schmidtina*, a genus of Japanese sculpins. By David Starr Jordan and Edwin Chapin Starks. p. 961.

PAPERS BY OFFICERS OF THE NATIONAL MUSEUM AND OTHERS, BASED WHOLLY OR IN PART UPON THE NATIONAL COLLECTIONS.

AMERICAN ORNITHOLOGISTS' UNION. (Committee on Nomenclature.) Twelfth Supplement to the American Ornithologists' Union Check List of North American Birds.

Ibid., xx, No. 3, July, 1903, pp. 331-368.

The Twelfth Supplement to the American Ornithologists' Union Check List gives the rulings of the committee on 83 cases. A list of deferred cases is also given.

ARNOLD, RALPH. The Paleontology and stratigraphy of the marine Pliocene and Pleistocene of San Pedro, California.

Memoirs Cal. Acad. Sci., III, 1903, pp. 1-420, pls. 1-XXXVII.

A review of the paleontology and geology of the beds in the vicinity of San Pedro, with descriptions, figures, sections, and views of the locality and a bibliography. Four hundred and eight species are considered, of which many are new. The types of new species were given to the National Museum, so far as they were controlled by Mr. Arnold, and now form part of the collection. The Pyramidellidae and corals of this volume were worked up by Dall and Bartsch, and Vaughan, respectively (q. v.). The new species described by Mr. Arnold are as follows, in zoological order:

Terebratalia smithi, *Leda minuta* Fabr. var. *præcursor*, *Pecten* (*Chlamys*) *jordanii*, *Pecten* (*Chlamys*) *latiauritus* Con., var. *fragilis*, *Pecten* (*Plagiocentium*) *newsoni*, *Crassinella branneri*, *Alicia cerritensis*, *Callista subtraphanu* Cpr. var. *pedroana*, *Senecle pulchra* Sby, var. *monte-reyi*, *Pleurotoma* (*Borsonia*) *bartschi*, *Pleurotoma* (*Borsonia*) *dalli*, *Pleurotoma* (*Borsonia*) *hooveri*, *Pleurotoma* (*Leucosyrinx*) *pedroana*, *Pleurotoma* (*Genota*) *cooperi*, *Drillia johnsoni*, *Drillia merriami*, *Drillia renaudi*, *Beta sanctamonica*, *Mangilia* (*Cythara*) *branneri*, *Mangilia* (*Mangilia*) *hooveri*, *Mangilia* (*Mangilia*) *interfossa* var. *pedroana*, *Mangilia* (*Mangilia*) *oldroydi*, *Mangilia* (*Mangilia*) *pinnae*, *Mangilia* (*Taranis*) *strongi*, *Mangilia* (*Sparotropsis*) *smithi*, *Mitra* (*Mitromorpha*) *intermedia*, *Nassa cerritensis*, *Nassa versicolor* C. B. Ad., var. *hooveri*, *Columbella solutula* Rve., var. *præcursor*, *Columbella* (*Anachis*) *minima*, *Columbella* (*Esopus*) *oldroydi*, *Columbella* (*Amphissa*) *ventricosa*, *Euphyra muriceformis* Brod., var. *curta*, *Trophon* (*Borcotrophon*) *cerritensis*, *Trophon* (*Borcotrophon*) *pedroana*, *Trophon* (*Borcotrophon*) *orphens*, var. *præcursor*, *Ocenebra keepei*, *Ocenebra lurida* Midd., var. *cerritensis*, *Bitium williamsoni*, *Paludetrina curta*, *Paludetrina stokesi*, *Delphinoides coronadocensis*, *Margarita oplabilis* Cpr. vars. *knichti*, *nodosa*, and *pedroana*.

NAT MUS 1904—11

ASHMEAD, WILLIAM H. Classification of the fossorial, predaceous, and parasitic wasps, or the superfamily Vespoidea. Paper No. 15.

Can. Ent., xxxv, July, 1903, pp. 199-205.

Treats of the family Myrmosidae, which is divided into three subfamilies: (1) Lobosbaeninae, (2) Myrmosinae, and (3) Apterogyninae. The Myrmosinae are again divided into two tribes, (1) Myrmosini and (2) Chyphotini. In all nine genera are tabulated.

— Two new phytophagous Hymenoptera.

Can. Ent., xxxv, August, 1903, p. 233.

Describes *Xiphydria erythrogaster* and *Calamita johnsoni* from New Jersey.

— Classification of the gall-wasps and the parasitic Cynipoides, or the superfamily Cynipoidea. III.

Psyche, x, August, 1903, pp. 140-155.

Treats of the subfamily Xystinae and part of the family Cynipidae. The subfamily Xystinae is divided into two tribes: (1) Loboscelidiini and (2) Xystini. Eleven genera are tabulated. The family Cynipidae is divided into three subfamilies: (1) Synerginae, (2) Cynipinae, and (3) Ibalinae. In the Synerginae 8 genera are tabulated, one, *Synophromorpha*, being new. Doctor Ashmead subdivides the Cynipinae, or the true gall-makers, into 5 tribes: (1) Cynipini, (2) Rhoditini, (3) Pediapidini, (4) Aulacini, and (5) Eschatocerini. In the tribe Cynipini 32 genera are tabulated.

— A new *Paranomia* from British Columbia.

Can. Ent. xxxv, Sept., 1903, p. 243.

Describes *Paranomia venabesii*.

— Two new hymenopterous parasites.

Journ. N. Y. Ent. Soc., xi, Sept., 1903, No. 3, p. 144.

Describes *Orgilus kearforthi* and *Protapanteles recurvaria*.

— Classification of the gall-wasps and the parasitic Cynipoides, or the superfamily Cynipoidea. IV.

Psyche, x, Oct., 1903, pp. 210-216.

Treats of the tribes Rhoditini, Pediapidini, Aulacini, and Eschatocerini; also of the subfamily Ibalinae. In all 21 genera are tabulated, one, *Pseudaulax* being new. In an addenda a revised generic table of the Onychinae is given, in order to include two new genera described by Abbé Kieffer.

— Classification of the fossorial, predaceous, and parasitic wasps, or the superfamily Vespoidea. (Paper No. 16).

ASHMEAD, WILLIAM H.—Continued.

Can. Ent., xxxv, Nov., 1903, pp. 303-310.

Treats of the family Mutillidae, which is divided into two subfamilies, (1) Mutillini and (2) Ephutini. The first subfamily is divided into two tribes, (1) Photopsidini and (2) Mutillini. A generic table of the Photopsidini is then given in which 17 genera are tabulated, four of which are new, namely, *Tetraphotopsis*, *Neophotopsis*, *Bruesia*, and *Leucospilomutilla*.

— A new *Ammoplanus*.

Ent. News, xiv, Nov., 1903, p. 295.

Describes *Ammoplanus cockerelli* from New Mexico.

— Classification of the fossorial, predaceous, and parasitic wasps, or the superfamily Vespoidea. (Paper No. 17.)

Can. Ent., xxxv, Dec., 1903, pp. 323-332.

Treats of the tribe Mutillini. In this paper 31 genera are tabulated, 11 being described as new, viz: *Spilomutilla*, *Viereckia*, *Aptromutilla*, *Dimorphomutilla*, *Euspinolia*, *Radoskowskians*, *Blakeins*, *Myrmecomutilla*, *Peringueya*, *Pristomutilla*, and *Xenomutilla*.

— A new joint-worm parasite from Russia.

Can. Ent., xxxv, Dec., 1903, pp. 332, 333.

Describes *Homoporus vassiliefi*.

— Classification of the fossorial, predaceous and parasitic wasps, or the superfamily Vespoidea. (Paper No. 18—conclusion.)

Can. Ent., xxxvi, Jan., 1904, pp. 5-9.

Treats of the subfamily Ephutinae, which is divided into two tribes: (1) Ephutini and (2) Sphærophthalmini. 13 genera are tabulated, of which *Ephutopsis*, *Pycnomutilla* and *Reedia* are new.

— Description of the type of the genus *Curriea* Ashmead.

Ent. News, xv, Jan., 1904, p. 18.

Describes and figures *Curriea fasciatipennis* from Africa.

— Descriptions of four new horn-tails.

Can. Ent., xxxvi, Mar., 1904, pp. 63, 64.

Describes *Sirex taxodii*, *S. fiskei*, *Paururus californicus* and *P. hopkinsi*; also the male of *P. pinicola* Ashm.

— A list of the Hymenoptera of the Philippine Islands, with descriptions of new species.

Journ. N. Y. Ent. Soc., xii, Mar., 1904, pp. 1-22.

Records 183 species of Hymenoptera from the Philippines, two genera and 31 species being described as new.

— A new Alysiiid from Ceylon.

Ent. News, xv, Apr., 1904, p. 113.

Describes *Asphitota ceylonica*.

ASHMEAD, WILLIAM H. Descriptions of new Hymenoptera from Japan. I.

Journ. N. Y. Ent. Soc., xii, June, 1904, pp. 65-84.

44 new species are described.

— Classification of the Chalcid flies, or the superfamily Chalcidoidea, with descriptions of new species in the Carnegie Museum, collected in South America by Herbert H. Smith.

Memoirs Carnegie Museum, I, 1903-4, No. 4, pp. 221-551.

This forms a large quarto volume of 326 pages, with 9 plates, containing 51 figures. It is devoted to the classification of the Chalcid flies, or the superfamily Chalcidoidea, and to describing the new genera and species in the Carnegie Museum, Pittsburg, Pa. It is based principally upon the extensive collection of these insects made by Mr. Herbert H. Smith in South America, although others in the U. S. National Museum are also included. The work is divided into two parts; the first part is devoted to the classification of the Chalcid flies of the world; the second part deals with the South American Chalcidoidea, and contains, besides the descriptions of the new genera and species, a full bibliographical catalogue of all the known species. Dr. Ashmead has been studying these insects for over 25 years and he now recognizes and defines 14 families, namely, Agaonidae, Torymidae, Chalcididae, Eurytomidae, Perilampidae, Eucharidae, Miscogasteridae, Cleonymidae, Eneurytidae, Pteromalidae, Elasmidae, Eulophidae, Trichogrammatidae, and Mymaridae. Each of these families is taken up in order, fully defined and discussed and separated into subfamilies, tribes, and genera. Full tables for the recognition of the families, subfamilies, tribes, and genera are given, and with the aid of these tables the student should have no difficulty in classifying his material in this great complex. In all 621 genera are recognized as valid and tabulated. In the second part over 300 new species are described from South America. A full bibliography of the genera terminates part first, in which the type of each genus is specified. The last ten pages (pp. 522-532) are devoted to the literature on the subject, arranged in alphabetical order. This is the first complete work ever published on these minute and obscure Hymenoptera, and it is hoped that Dr. Ashmead's work will stimulate and facilitate their study.

— Three new Ichneumon flies from Russia.

Can. Ent., xxxvi, 1904.

Describes *Pristomerus schreineri*, *Tenelucha pulchella* and *Epiura carpocapse*.

— New generic names in the Chalcidoidea.

ASHMEAD, WILLIAM H.—Continued.

Proc. Ent. Soc. Wash., vi, 1904, p. 126.

Gives six new names to genera preoccupied in other departments of zoology.

— Remarks on honey bees.

Proc. Ent. Soc. Wash., vi, 1904, pp. 120, 121.

In this paper Dr. Ashmead describes two new genera, *Megapis* and *Micrapis*, and arranges the genuine honey bees under three genera.

BAKER, CARL F. A revision of American Siphonaptera, or fleas, together with a complete list and bibliography of the group.

Proc. U. S. Nat. Mus., xxvii, No. 1361, Feb. 16, 1904, pp. 365-469, pls. 10-26.

BANGS, OUTRAM. Birds and mammals from Honduras.

Bull. Mus. Comp. Zool., xxxix, No. 6, July, 1903, pp. 141-159.

Notes on a collection of birds and mammals collected by W. W. Brown, jr., at Ceiba and Yareca, Honduras. One hundred and six species of birds are enumerated, of which the following are described as new: *Chloroncrpes simplex allophycus* (p. 145), *Picumnus dimotus* (p. 146), *Dendrorhina nana confinis* (p. 150), and *Arremonops centrostris ccutratus* (p. 156). Notes are offered on eleven species of mammals, one of which is described as new, viz: *Sigmodon hispidus furens* (p. 158).

BANKS, NATHAN. A list of Arachnida from Haiti, with descriptions of new species.

Proc. Acad. Nat. Sci. Phila., July, 1903, pp. 340-345, 1 plate.

A list of 66 species from the island, 7 of which are described as new.

— A new species of *Habrophlebia*.

Ent. News, xiv, Sept., 1903, p. 235, 1 fig.

Description of *H. americana*.

— Concerning *Gastrophilus epilepsalis* French.

Can. Ent., xxxv, Dec., 1903, p. 333.

Questioning the position of this maggot.

— Additions to the list of New York Pentatomidae.

Journ. N. Y. Ent. Soc., Dec., 1903, p. 227.

Eight species added to New York list.

— Some new Neuropteroid insects.

Journ. N. Y. Ent. Soc., Dec., 1903, pp. 236-243, 2 figs.

Descriptions of 19 new species and 1 new genus.

— New species of *Heterobius*.

Can. Ent., xxxvi, Mar., 1904, pp. 61-63.

Descriptions of 5 new species.

— The Arachnida of Florida.

Proc. Acad. Nat. Sci. Phila., Mar., 1904, pp. 120-147, 2 plates.

A list of 279 species, 13 of which are described as new.

BANKS, NATHAN. Four new species of injurious mites.

Journ. N. Y. Ent. Soc., Mar., 1904, pp. 53-56, 1 plate.

Describes 2 species injurious to the orange. 1 to cotton, and 1 to the mango.

— Notes on entomology.

Science (new series), xix, Mar. 18, 1904, pp. 470-472.

Reviews of several recent papers.

— Two new species of Hydroptilidae.

Ent. News, xv, Apr., 1904, p. 116, 2 figs.

Descriptions of 2 new species from near Washington.

— Neuropteroid insects from New Mexico.

Trans. Am. Ent. Soc., xxx, Apr., 1904, pp. 97-110, 1 plate.

A list of 97 species, from the territory, 12 of them being described as new.

— Two rare Neuropteroid insects.

Ent. News, xv, May, 1904, p. 171.

Note on *Panorpa rufa* and *Mantissa viridis*.

— Curious habit of two Ortalid flies.

Ent. News, xv, May, 1904, pp. 171, 172.

Elevation of wings in *Callopietria annulipes*, and *Pseudotelephritis vau*.

— New genera and species of nearctic spiders.

Journ. N. Y. Ent. Soc., June, 1904, pp. 109-119, 2 plates.

Descriptions of 4 new genera, and 22 new species.

BARTSCH, PAUL. A new *Scissurella* from Patagonia.

Nautilus, xvii, 1903, pp. 90, 91.

Scissurella dalli Bartsch is described as new.

— A new landshell from California.

Proc. Biol. Soc. Wash., xvi, June 25, 1903, pp. 103, 104.

Sonorella wolcottiana Bartsch is described as new.

— Notes on the herons of the District of Columbia.

Smithsonian Misc. Colls., xlv, Quar. issue, 1, pts. 1, 2, Dec. 9, 1903, pp. 104-111, pls. xxxii-xxxviii.

This paper deals with the herons found in the District of Columbia, the breeding habits of the Black-crowned Night heron and Green heron. It also announces a scheme for marking young birds with aluminum bands and gives the results of a season's returns.

— *Limax maximus* L. in California.

Nautilus, xviii, p. 12, 1904.

The above slug is here recorded from San Bernardino, California.

— (See also under WILLIAM H. DALL.)

BASSLER, R. S. (See under E. G. ULRICH.)

- BEAN, BARTON A. Notice of a collection of fishes made by H. H. Brimley in Cane River and Bollings Creek, North Carolina, with a description of a new species of *Notropis* (*N. brimleyi*).
Proc. U. S. Nat. Mus., xxvi, No. 1339, July 6, 1903, pp. 913, 914.
- Notice of a small collection of fishes, including a rare eel, recently received from H. Maxwell Lefroy, Bridgetown, Barbados, West Indies.
Proc. U. S. Nat. Mus., xxvi, No. 1345, July 10, 1903, pp. 963, 964, 1 fig.
- A new pelican fish from the Pacific.
Smithsonian Misc. Colls., xlv, Quar. issue, 1, pts. 3, 4, Apr. 11, 1904, p. 254.
- BEMIS, FLORENCE E. The Aleyrodid, or Mealy-winged flies of California, with references to other American species.
Proc. U. S. Nat. Mus., xxvii, No. 1362, Feb. 16, 1904, pp. 471-537, pls. 27-37.
- BENEDICT, JAMES E. Revision of the Crustacea of the genus *Lepidopa*.
Proc. U. S. Nat. Mus., xxvi, No. 1337, July 6, 1903, pp. 889-895, text figs. 1-8.
 Seven species are included in the genus, of which four are described as new. Six species are represented in the collection of the U. S. National Museum.
- A new genus and two new species of crustaceans of the family Albuneidae from the Pacific Ocean; with remarks on the probable use of the antennule in *Albunea* and *Lepidopa*.
Proc. U. S. Nat. Mus., xxvii, No. 1367, Feb. 16, 1904, pp. 621-625, text figs. 1-5.
Loptomastix diomedea, new genus and species; *Albunea clioti*, new species.
- BENJAMIN, MARCUS. John Elfreth Watkins. [A biographical sketch.]
Science (new series), xviii, No. 453, Sept. 4, 1903, pp. 300, 301.
- BOWDISH, B. S. An abnormal bill of *Melanerpes portoricensis*.
Auk, xxi, Jan., 1904, pp. 53-55, pl. xi.
 Note on a Porto Rican woodpecker with an abnormal bill.
- BRITTON, N. L. (See under JOSEPH N. ROSE.)
- BUSCK, AUGUST. Tineid Moths from British Columbia, with descriptions of new species.
Proc. U. S. Nat. Mus., xxvii, No. 1375, May 25, 1904, pp. 745-778.
- CASANOWICZ, I. M. Oriental and classical Archeology in the United States National Museum.
Records of the Past, II, No. 12, Dec., 1903, pp. 355-361, 7 illustrations.
 A description of the Divisions of Historic Archeology and Historic Religions, their contents, arrangement, and significance.
- CAUDELL, ANDREW NELSON. Notes on Orthoptera from Colorado, New Mexico, Arizona, and Texas, with description of new species.
Proc. U. S. Nat. Mus., xxvi, No. 1333, July 6, 1903, pp. 775-801, pl. 55.
 New species: *Illestastus guanieri*, *Melanoplus coloradus*, *M. latifercula*, *Psinidia sulcifrons* var. *amplicornus*.
- The Phasmidae, or Walkingsticks, of the United States.
Proc. U. S. Nat. Mus., xxvi, No. 1335, July 9, 1903, pp. 863-885, pls. 56-59.
 New subfamily: Timeminae; new genera: *Parabacillus*, *Pseudosermyle*, *Megaphasma*; new species: *Pseudosermyle truncata*, *P. banksii*, *Diapromra arizonensis*, *Timema californica*.
- On the systematic position of the Orthopterous genus *Aulocara* Scudder.
Can. Ent., xxxv, 1903, p. 302.
 Shows this genus to belong in the subfamily Ordipodinae.
- Notes on the Orthoptera of Bermuda with a description of a new species, *Gryllus bermudensis*.
Proc. Ent. Soc. Wash., v, 1903, pp. 329-331.
- Notes on Phasmidae.
Ent. News, 1903, pp. 314, 315.
 Compares *Parabacillus* Cand. with *Septymia* Pant. Describes immaturity of *Diapturomera arizonensis* Cand. Note on *Timema californica* found on evergreens in California.
- Two Orthoptera, hitherto unrecorded, from the United States.
Proc. U. S. Nat. Mus., xxvii, No. 1378, June 2, 1904, pp. 949-952, figs. 1-3.
 New variety, *Heliastus sumichrasti* var. *subrosca*. This species is recorded from Texas, and a Phasmid, *Haplopus evadne* Westw., from Florida.
- Orthoptera of the Expedition.
Harriman Alaska Expedition, pp. 117, 118, 1904.
Melanoplus borealis Fieb. recorded.
- The genus *Cyphoderris*.
Journ. N. Y. Ent. Soc., xii, 1904, pp. 47-53.
 New variety: *Cyphoderris monstrosa* var. *pi-peri*.

- CAUDELL, ANDREW NELSON. A new Forficulid from the Philippines.
Journ. N. Y. Ent. Soc., xii, 1904, p. 108.
New species: *Auchenomus minor*.
- Notes on some Orthoptera from British Columbia.
Ent. News, 1904, pp. 62, 63.
Report on species collected in 1903, by Messrs. Dyar, Currie, and Caudell. No new species.
- Branched hairs of Hymenoptera.
Proc. Ent. Soc. Wash., vi, 1904, pp. 5, 6.
- An Orthopterous leaf-roller.
Proc. Ent. Soc. Wash., vi, 1904, pp. 46-49.
- The synonymy of *Edipoda cincta* Thom.
Proc. Ent. Soc. Wash., vi, 1904, p. 125.
New species, *Mestabregma thomasi*.
- Injury by a cricket in the South.
Bull. Div. Ent., U. S. Dept. Agric., No. 44, 1904, pp. 88, 89.
Anurogryllus antillarum Louss, recorded from southern United States.
- (See also under HARRISON G. DYAR.)
- CHAPMAN, FRANK M. A new grouse from California.
Bull. Am. Mus. Nat. Hist., xx, Apr. 25, 1904, pp. 159-162.
Dendragapus obscurus sierræ (p. 159) is described as new, and its affinities with *D. obscurus* and *D. obscurus fuliginosus* are discussed at some length. A table of measurements of the three forms is given at the end of the paper.
- CLARK, AUSTIN H. The black-winged Palm Tanager.
Auk, xx, No. 4, Oct., 1903, pp. 398-402.
Notes on variations of size and color in *Tanagra palmarum melanoptera*.
- CLARKE, SAMUEL FESSENDEN. An Alaskan Corymorpha-like hydroid.
Proc. U. S. Nat. Mus., xxvi, No. 1343, July 11, 1903, pp. 953-958, text figs. 1-7.
Redescription of an Alaskan so-called *Rhizonema*, which now seems to belong either to *Corymorpha* or *Lampra*.
- COLE, LEON J. Pycnogonida of the west coast of North America.
Harriman Alaska Expedition, x, April, 1904, pp. 249-298, plates xi-xxvi.
The author includes material from the Harriman Expedition, and certain forms from California. Thirteen species are reported upon. A table of distribution is given, also a table of terms used by various authors in describing Pycnogonida. Some of the duplicates will come to the U. S. National Museum.
- COQUILLET, D. W. A new Culicid genus related to *Corethra*.
Can. Ent., xxxv, July, 1903, pp. 189, 190.
The author erects the genus *Sayomyia*, named in honor of Thomas Say, and describes as new *Corethra cinctipes*.
- *Culex consobrinus* again.
Can. Ent., xxxv, Aug., 1903, p. 218.
Shows that the original description does not apply to any species of *Culex* occurring in this country other than the species identified by Mr. Coquillett as *Consobrinus*.
- Four new species of *Culex*.
Can. Ent., xxxv, Sept., 1903, pp. 255-257.
Describes as new *Culex cantator*, *C. aurifer*, *C. natus*, and *C. discolor*.
- Notes on *Culex kelloggii* Theobald.
Can. Ent., xxxv, Sept., 1903, p. 261.
Cites the above name, *Culex willistoni* Giles and *Culex affinis* Adams as synonyms of *Culex tarsalis* Coquillett.
- *Eucorethra*, a genus of Ulmidae.
Can. Ent., xxxv, Oct., 1903, p. 272.
Gives a detailed description of this genus and of the species *Eucorethra underwoodi*, both of which had been described a few months earlier, by Prof. W. L. Underwood, from the early stages only.
- A new *Anopheles* with unspotted wings.
Can. Ent., xxxv, Nov., 1903, p. 310.
Describes *Anopheles barberi* from specimens collected a short distance from Washington, by Mr. H. S. Barber.
- Several new diptera from North America.
Can. Ent., xxxvi, Jan. 12, 1904, pp. 10-12.
Gives descriptions of five new species.
- Reports on Californian and Nevada diptera, by C. F. Baker. (The descriptions of the new genus and species are by D. W. Coquillett.)
Invertebrata Pacifica Diptera, 1, Feb. 10, 1904, pp. 17-40.
Describes 1 new genus and 31 new species.
- The genera of the dipterous family Empididae. Addenda.
Proc. Ent. Soc. Wash., vi, Feb. 13, 1904, pp. 51, 52.
Gives several corrections to a paper on this subject, published on pages 245-272 of the preceding volume of the Proceedings.
- A brief history of North American dipterology.
Proc. Ent. Soc. Wash., vi, Feb. 13, 1904, pp. 53-58.
Forms the annual address of the president of the Entomological Society of Washington and gives a short history of this science in North America.

COQUILLET, D. W. Notes on *Culex nigrifolius*.

Ent. News, xv, Feb., 1904, p. 73.

Shows that the form occurring in this country and heretofore referred to this European species is evidently distinct, and proposes the name *Culex salinarius* for our species.

— Diptera from southern Texas, with descriptions of new species.

Journ. N. Y. Ent. Soc., xii, Mar., 1904, pp. 31-35.

Gives a list of 8 previously described species collected by Mr. Charles Schaeffer at Brownsville, Tex., not before reported as occurring in the United States, and describes 9 new species from the same region and obtained by the same collector.

— A new *Ceratopogon* from Brazil.

Journ. N. Y. Ent. Soc., xii, Mar., 1904, pp. 35, 36.

Describes as new *Ceratopogon guttatus*.

— New diptera from Central America.

Proc. Ent. Soc. Wash., vi, May 18, 1904, pp. 90-98.

Describes 2 new genera and 18 new species.

— New diptera from India and Australia.

Proc. Ent. Soc. Wash., vi, 1904, pp. 137-140. Describes 5 species as new.

COVILLE, FREDERICK VERNON. [Plants used in Basketry.]

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1904), pp. 199-214, pls. iv, v, vii-x.

This paper is embraced in a larger work on Basketry by Prof. O. T. Mason.

— Wokas: a primitive food of the Klamath Indians.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1904), pp. 725-739, pls. i-xiii.

COVILLE, FREDERICK VERNON, and McDOUGAL, D. T. Desert botanical laboratory of the Carnegie Institution.

Pub. Carnegie Inst., No. 6, Wash., 1903, pp. 1-45, pls. i-xxviii.

CURRIE, ROLLA PATTESON. An insect-collecting trip to British Columbia.

Proc. Ent. Soc. Wash., vi, No. 1, Jan., 1904, pp. 24-37.

An account of the expedition of Dr. H. G. Dyar, Mr. A. N. Caudell, and the author to the Kootenay District of British Columbia in the summer of 1903, with a general description of the region and of the particular localities where collections were made. The paper is intended as a preface to subsequent detailed reports, by different specialists, upon the various groups of insects represented in the collections.

CURRIE, ROLLA PATTESON. Notes on some Hemerobiidae from Arizona and California.

Proc. Ent. Soc. Wash., vi, No. 2, Apr., 1904, pp. 79-81.

Treats of a small collection of Hemerobiidae made by Mr. H. S. Barber during the spring and summer of 1903. Two new species are described, viz, *Hemerobius bistriatus*, from Little River, Humboldt County, California, and *H. pallescens*, from Fieldbrook, Humboldt County, California.

— Hemerobiidae from the Kootenay District of British Columbia.

Proc. Ent. Soc. Wash., vi, No. 2, Apr., 1904, pp. 81-90.

Lists twelve species, collected by Messrs. H. G. Dyar, A. N. Caudell, the author, and others during the summer of 1903. Of these, five are described as new, viz, *Hemerobius dyari*, *H. kokaneeanus*, *H. caudelli*, *H. glacialis*, and *H. kootenayensis*. A key, for aid in determining the British Columbia species of *Hemerobius*, is included.

DALL, WILLIAM HEALEY. Synopsis of the family Astartidae, with a review of the American species.

Proc. U. S. Nat. Mus., xxxvi, No. 1342, July 10, 1903, pp. 933-951, plates LXII, LXIII.

A synopsis, on the lines of the synopsis of the Carditacea, reviewing the classification of the family and the nomenclature of the species found on the Atlantic and Pacific coasts of America.

The following new species are named and figured: *Astarte polaris*, *A. alaskensis*, *A. benetti*, *A. soror*, *A. subacquilatera* var. *whiteavesii*, *A. liogona* and *A. vernicosa*, all from the boreal regions; *Venericardia crassidens* Broderip and Sowerby, is reinstated and figured for the first time. Some new species of *Carditacea*, etc., described in the review of that group are for the first time figured, as follows: *Venericardia armilla*, *V. moniliata*, *V. gouldii*, *V. incisa*, *V. alaskana*, and *V. ventricosa*. The following species are for the first time figured: *Crania patagonica*, *Crassatellites brasiliensis*, *Crenella negus*, *Echinochama californica*, *Limopsis panamensis*, *Cytoconcha scapha*, of Dall, *Astarte compacta* Carpenter, and *Astarte esquamali* Baird.

In a footnote attention is called to the fact that the name *Miodon* Carpenter, preoccupied by Duméril for a fish, has been replaced by *Miodontiscus* Dall; and for *Acus*, a subgenus of *Terebra*, also preoccupied, the name *Ozmeris* Dall is now proposed.

— The Grand Gulf formation.

Science (new series), xviii, No. 446, July 17, 1903, pp. 83-85.

A discussion of the proper application of this name to a geological formation of the Southern States.

DALL, WILLIAM HEALEY. Reports of the Princeton University expeditions to Patagonia, 1896-1899. I.—Narrative and Geography.

Science (new series), xviii, July 31, 1903, pp. 146, 147.

A review of the volume cited, giving a summary of the results obtained by Mr. J. B. Hatcher in his explorations of Patagonia.

— Two new mollusks from the west coast of America.

Nautilus, xvii, No. 4, Aug., 1903, pp. 37, 38.

Sigaretus noyesii from Gorgona Islands, Gulf of Panama, and *Tonicia arnheimi* from Narborough Island, Galapagos, are described. The types were donated by Mr. Arnhem to the U. S. National Museum.

— A new species of *Metzgeria*.

Nautilus, xvii, No. 5, Sept., 1903, pp. 51, 52.

Metzgeria californica is described from the Santa Barbara Channel, California, the only other species known being Norwegian.

— Note on the family Septidæ.

Nautilus, xvii, No. 5, Sept., 1903, pp. 55, 56.

Discussion of the proper family name for the group formerly called Tritonidæ.

— A new genus of Trochidæ.

Nautilus, xvii, No. 6, Oct., 1903, pp. 61, 62.

The genus *Stylobates*, founded on the abyssal species *S. æneus* Dall, is described from deep water in the Hawaiian group.

— Contributions to the Tertiary fauna of Florida, with especial reference to the silex beds of Tampa and the pliocene beds of the Caloosahatchie River, including in many cases a complete revision of the generic groups treated of, and their American Tertiary species. Part VI, concluding the work.

Trans. Wagner Free Inst. Sci. Phila., III, part VI, Oct., 1903, pp. i-xiv, 1219-1654, pl. XLVIII-LX, 4to.

This volume forms the concluding part of the monograph of the Floridian Tertiary begun in 1885 by the author. It comprises not only the description of species, the types of which are preserved in the U. S. National Museum, and of which three or four thousand are enumerated, and eight hundred and sixty new forms described, among mollusks and Brachiopods, but also a general discussion (pp. 1541 to 1620, with two tables showing numerically and graphically the relations of the fauna, which discussion was also issued as a separate pamphlet, with title and covers) of the Tertiary geology of southeastern North America, with notes on each separately recognized formation, including lists of the species known from each horizon. In the course of the work a thorough discussion of many of the families or genera and their no-

DALL, WILLIAM HEALEY—Continued.

menclature is given, bringing the latter up to date as far as practicable; while the general classification of the bivalves is reviewed and amended. A geological map of Florida from the reconnaissance work of the author and others who have assisted in the work is included, while all the new and many doubtful or unfigured species have been illustrated.

The following groups, of the value of genera, subgenera, or sections, appear as new in the present part of the work: *Allogramma*, *Aporema*, *Bowdenia*, *Chlidonophora*, *Climacia*, *Heteroclidus*, *Parmullina*, *Pomphotigina*, *Profischeria*, *Samarangia*.

The following species are described as new and figured in the present part of the work: *Anomalocardia bowdeniana*, *A. caloosana*, *A. chipotana*, *A. dupliniana*, *Arca millifita*, *Argyrotheca schucherti*, *Aspella senex*, *Astarte americana*, *A. calligypta*, *A. floridana*, *A. obesa*, *A. opulentera*, *A. parma*, *A. ruginulata*, *A. wagneri*, *Callocardia gatunensis*, *C. multiflora*, *C. sinerea*, *Cardita catharica*, *C. guppyi*, *C. prestoni*, *C. tegea*, *C. raughani*, *Carditopsis bernardi*, *Chama caloosana*, *C. chipotana*, *C. draconis*, *C. lyelli*, *C. tampanensis*, *Chione ballista*, *C. chipotana*, *C. craspedonia*, *C. erosa*, *C. glyptocyma*, *C. hendersonii*, *C. rhodia*, *C. spada*, *C. ulocyma*, *C. victoria*, *C. zesta*, *Chiton burnsii*, *Clementia grayi*, *Colakia chipotana*, *C. erosa*, *C. magnoliana*, *C. pertenera*, *C. spinulosa*, *C. vandykesi*, *Columbella cosmia*, *Coralliophaga elegantula*, *Corbis clabornensis*, *Crassatellites acutus*, *C. bowdenensis*, *C. chipotanus*, *C. cyclopterus*, *C. duplinianus*, *C. jamaicensis*, *C. meridionalis*, *C. lanicus*, *C. triangulatus*, *Crepidula æsop*, *Crepidularia craspedonia*, *C. distira*, *Cyathodonta guadalupensis*, *C. spenceri*, *C. vicksburgiana*, *Cyclinella gatunensis*, *Cyrcna dupliniana*, *Cytherea metria*, *C. micromeris*, *Cytherea cesarina*, *C. glyptoconcha*, *C. shepardii*, *C. tarquinia*, *C. ucullana*, *C. wilcoxi*, *Cytheriopsis alimensis*, *Dosinia chipotana*, *D. liogona*, *Echinochama antiquata*, *E. californica*, *Erycinella bernardi*, *Gafrarium altum*, *G. erosum*, *Genina magna*, *G. trigona*, *G. virginiana*, *Glyphostoma scoptes*, *Goodallia americana*, *Lirodiscus waitesii*, *Lucina corpulenta*, *L. janus*, *L. santarosana*, *Lyonia acuta*, *Macrocallista acuminata*, *Myrtea curta*, *M. furcata*, *M. limoniana*, *M. verruculata*, *Neritina meridra*, *Neritina coensis*, *Oliva liodes*, *O. martensi*, *Olivella eutaeta*, *Pandora arctica*, *P. dodona*, *P. lata*, *Phacoides actinus*, *P. calhouanensis*, *P. caloosensis*, *P. caloosana*, *P. chipotanus*, *P. dominicensis*, *P. glenni*, *P. hamatus*, *P. heracleus*, *P. intensus*, *P. oceanus*, *P. pituliformis*, *P. plesiophilus*, *P. podagrinus*, *P. prunus*, *P. quadricostatus*, *P. recurrens*, *P. sphaeriolus*, *P. tithonis*, *P. tuomeyi*, *P. vaccauwensis*, *P. vaccauanus*, *P. whitfieldi*, *Pitarium calcanca*, *P. fillosina*, *P. floridana*, *P. hillii*, *P. opisthogrammata*, *P. planivicta*, *Platidia marylandica*, *Pleuradesma floridana*, *Poromya jamaicensis*, *Pterorbhitis fluriana*, *Rhynchonella holmesii*, *R. satpina*, *Soteosteira raughani*, *Spheniopsis americana*, *Submarginata reti-*

DALL, WILLIAM HEALEY—Continued.

porosa, *Teinostoma calliglyptum*, *Thracia harisi*, *Tivela jamaicensis*, *Transunella caloosana*, *T. carolinensis*, *T. chipolana*, *T. santarosana*, *T. utica*, *Vetorita floridana*, *Venericardia abbreviata*, *V. acaris*, *V. bulla*, *V. californica*, *V. carsonensis*, *V. greggiana*, *V. hadra*, *V. himerta*, *V. nasuta*, *V. precisa*, *V. scitula*, *V. simplex*, *V. tellia*, *V. tripla*, *V. ricksburgiana*, *V. willcoxensis*, *Venus alba*, *V. langdoni*, *V. nucua*, *V. quadrata*, *V. radiata*, *V. texana*, *Verticordia bowdenensis*, *V. cosmanui*, *V. jamaicensis*.

— Mrs. Henrietta H. T. Wolcott.

Nautilus, xvii, No. 7, Nov., 1903, pp. 83, 84.

Obituary notice of an excellent field naturalist, friend and generous contributor to the U. S. National Museum for many years.

— Diagnoses of new species of mollusks from the Santa Barbara channel, California.

Proc. Biol. Soc. Wash., xvi, Dec. 31, 1903, pp. 171-176.

Acteona painei, *Clathurella lovei*, *Mangilia fenelere*, *Mitra lovei*, *M. dolosa*, *Murex painei*, *Lunatia draconis*, *Macromphalinus californica*, *Scutu sawina*, and *Ichnochiton biarcuatus* are described as new. The types are in the U. S. National Museum.

— Rectifications et questions de nomenclature.

Revue critique de Paléozoologie, vii, p. 180, Juillet, 1903.

Reclamation for the name of *Dimya*, which had been rejected for insufficient reason.

— *Gundlachia* and *Ancylus*.

Nautilus, xvii, No. 9, Jan., 1904, pp. 97, 98.

A discussion as to the relations between the two genera.

— Marcus Baker.

Nat. Geograph. Mag., xv, No. 1, Jan., 1904, pp. 41-43, with portrait.

Obituary notice of Mr. Baker, who for a long time was associated with Dr. Dall in Alaska, and who, in the intervals of other work, found time to collect material, anthropological and biological, for the U. S. National Museum.

— Notes on the nomenclature of the Pupacea and associated forms.

Nautilus, xvii, No. 10, Feb., 1904, pp. 114-116.

Corrections to current usage in the nomenclature of this group are pointed out.

— On the geology of the Hawaiian Islands.

Am. Journ. Sci. (fourth series), xvii, No. 98, Feb., 1903, p. 177.

Notes on the geology of Diamond Head, Oahu, based on material a portion of which is in the U. S. National Museum.

DALL, WILLIAM HEALEY. Charles Emerson Beecher.

Science (new series), xix, Mar., 18, 1904, pp. 453-455.

Obituary notice of the late Dr. Beecher.

— Neozoic invertebrate fossils, a report on collections made by the expedition.

Harriman Alaska Expedition, iv, Mar., 1904, pp. 99-122, pls. ix, x.

A report on fossils collected by the expedition in Alaska: 1st, Eocene fossils from Alaska Peninsula and vicinity, chiefly by Mr. Chas. Palache; 2d, Miocene fossils from the Shumagin Islands; 3d, Pleistocene fossils from Douglas Island. The types are in the U. S. National Museum. The Eocene species are the first Eocene fossils described from Alaska. The following are described and figured as new: *Cliona alaskana*, *Yoldia palachei*, *Y. emersonii*, *Y. breweri*, *Modiolus harrimani*, *M. alaskanus*, *Macrocallista gilberti*, *Spisula callistaformis*, *Mesodonta alaskensis*, *Crepidula precursor*, *Margarites peninsularis*; and from the Miocene: *Poppyrdea harrimani*, *Saxidomus poppianus*, *Collocardia kincaidii*, *Dosinia alaskana*, *Protolhaca grewingkii*, *Macoma grewingkii*, *Trochita alaskana*, and *Crepidula ugana*.

— Reports of the Belgian Antarctic Expedition.

Science (new series), xix, No. 486, Apr. 22, 1904, pp. 656-659.

Summary of the results obtained on the expedition on the *Belgica* in the antarctic regions.

— A singular Eocene Turbinella.

Nautilus, xviii, No. 1, May, 1904, pp. 9, 10.

The subgenus *Psitocochlis* is proposed for a new species *Turbinella McCallie* from the Eocene of Georgia. The types are in the U. S. National Museum.

— Namatogean or Epigean.

Science (new series), xix, No. 494, June 17, 1904, p. 926.

Suggestions for a term to take the place of the phrase "land and fresh water" in ecological discussions of animal and plant distribution.

DALL, WILLIAM HEALEY, and BARTSCH, PAUL. Pyramidellidæ.

Memoirs Cal. Acad. Sci. iii, 1903, pp. 269-285, pl. 1-11, and iv, fig. 14.

This is a contribution to the volume on the Paleontology of San Pedro by Ralph Arnold (q. v.). The specimens upon which it is based are in the collection of the U. S. National Museum. *Ivava*, subgenus of *Odostomia*, is described. The following new species are described and figured:

DALL, WILLIAM HEALEY, and BARTSCH, PAUL.—Continued.

Turbonilla stearnsii, *T. pentalopha*, *T. auricomata*, *T. latefundia*, *T. towci*, and var. *pedroana*, *T. arnoldi*, *T. adleri*; *Odotostomia stearnsii*, *O. diegensis*, *O. grammatospira*; and *O. (Ivora) terricola*, and a number of other old species are rediagnosed and figured.

— Synopsis of the genera, subgenera, and sections of the family Pyramidellidae.

Proc. Biol. Soc. Wash., XVII, Feb. 5, 1904, pp. 1-16.

A synopsis of the revised classification due to several years' investigation into the character and history of the groups comprising this family.

Under *Pyramidella* the following new names are proposed: Subg. *Milda*, subg. *Voluspa*, subg. *Callolongchæus*, subg. *Ufta*, subg. *Tropeas*, subg. *Vagna*, sect. *Cossmannica*, subg. *Orinella*, subg. *Salcorinella*, subg. *Iphiana*, subg. *Syrnolina*. Under *Turbonilla* come, as new, *Saccoina*, *Visma*, *Lancella*, *Asmunda*, and *Baldra*, subgenera. Under *Odotostomia*: *Vilia*, *Folincilla*, *Besta*, *Egila*, *Hadræ*, *Icidiu*, *Evalina*, *Heida*, and *Lysacme*, subgenera, and *Stomoga*, new section. *Pyramidella dodona*, *Turbonilla archeri*, *Odotostomia pilsbryi*, and *O. americana* are species described as new.

— Notes on the genus *Ampullaria*.

Journ. Conchology, XI, No. 2, Feb., 1904, pp. 50-55.

History of the names applied to this shell and a revision of the classification of the whole group to which it belongs. The sectional name *Limnopomus* is proposed for *Ampullaria cotumettaris* Gould, the type of which is in the National Museum.

— A new species of *Periploma* from California.

Nautilus, XVII, No. 11, Mar., 1904, pp. 122, 123.

Periploma subcata from San Pedro is described and the sectional name *Halistricta* proposed for it.

DAVENPORT, CHARLES B. Report on the fresh-water bryozoa of the United States.

Proc. U. S. Nat. Mus., XXVII, No. 1355, Jan. 22, 1904, pp. 211-221, pl. vi.

Based chiefly on material collected in 1898 and 1899 by the laboratory of the U. S. Fish Commission at Put-in-Bay, Ohio. The author gives a synoptic key to species, a chapter on ecology and one on methods of preserving, followed by a list of all species found in the United States.

Part of the material is in the U. S. National Museum.

DYAR, HARRISON G. Lepidoptera in British Columbia.

Can. Ent., xxxv, 1903, p. 175.

— The life history of *Mamestra lantabialis*, Guin.

Can. Ent., xxxv, 1903, pp. 273, 274.

— Book Notice: Smith's check list of the Lepidoptera of Boreal America.

Can. Ent., xxxv, 1903, pp. 321, 322.

— Life histories of North American Geometridæ. XLII.

Psyche, x, 1903, pp. 168, 169.

— Life histories of the North American Geometridæ. XLIII-LII.

Psyche, x, 1903, pp. 190-200.

— The Lepidoptera of the Kootenay District of British Columbia.

Proc. U. S. Nat. Mus., XXVII, No. 1376, June 7, 1904, pp. 779-938.

— New Noctuidæ from British Columbia.

Can. Ent., xxxvi, 1904, pp. 29-33.

— *Taxiocalpa communis*.

Can. Ent., xxxvi, 1904, p. 60.

— Correction of name.

Can. Ent., xxxvi, 1904, p. 102.

— New North American species of Lepidoptera and a new Limacodid larva.

Journ. N. Y. Ent. Soc., XII, 1904, pp. 39-44.

— New Lepidoptera from the United States.

Journ. N. Y. Ent. Soc., XII, 1904, pp. 105-108.

— Life histories of North American Geometridæ. LIII.

Psyche, XI, 1904, p. 29.

— Life histories of North American Geometridæ. LIV.

Psyche, XI, 1904, p. 64.

— Description of the larva of *Ethuria zelleriella* Chambers.

Proc. Ent. Soc. Wash., VI, 1904, p. 3.

— Description of the larva of *Litodonta hydromeli* Harvey.

Proc. Ent. Soc. Wash., VI, 1904, p. 3.

— Note on the distribution of the red forms of *Diacrisia*.

Proc. Ent. Soc. Wash., VI, 1904, p. 18.

— A lepidopteron parasitic upon Fulgoroidea in Japan.

Proc. Ent. Soc. Wash., VI, 1904, p. 19.

New species, *Epipyrops nawai*.

- DYAR, HARRISON G. *Halesidota maculata* HARRIS and its varieties.
Proc. Ent. Soc. Wash., VI, 1904, p. 19.
- The larvæ of the mosquitoes *Mega-
rhinus retilus* Coquillett and *M. portori-
censis* Roeder.
Proc. Ent. Soc. Wash., VI, 1904, p. 20.
- Notes on the mosquitoes of British
Columbia.
Proc. Ent. Soc. Wash., VI, 1904, p. 27.
- A new variety of the Noctuid
Exyra semicrocea Guenée (*Exyra semi-
crocea*, variety *hubbardiana*, n. var.).
Proc. Ent. Soc. Wash., VI, 1904, pp. 59, 60.
- A new genus and species of Tor-
triciidæ.
Proc. Ent. Soc. Wash., VI, 1904, p. 60.
- Additions to the list of North
American Lepidoptera, No. 1.
Proc. Ent. Soc. Wash., VI, 1904, pp. 62-65.
- Note on the larva of an Hawaiian
Pyralid (*Emiodes accepta* Butler).
Proc. Ent. Soc. Wash., VI, 1904, p. 65.
- Note on the larva of *Therina som-
isiaria* Hulst.
Proc. Ent. Soc. Wash., VI, 1904, p. 76.
- Note on the larva of *Melauchroia
geometroides* Walker.
Proc. Ent. Soc. Wash., VI, 1904, p. 77.
- Note on the genus *Leusophobeton*
Dyar.
Proc. Ent. Soc. Wash., VI, 1904, p. 77.
- Additions to the list of North
American Lepidoptera, No. 2.
Proc. Ent. Soc. Wash., VI, 1904, p. 103.
- New North American species of
Scoparia Haworth.
Ent. News, xv, 1904, p. 71.
- Life history of *Culex cantans* Mei-
gen.
Journ. N. Y. Ent. Soc., XII, 1904, pp. 36-38.
- Life history of *Culex varipalpus*.
Journ. N. Y. Ent. Soc., XII, 1904, pp. 90-92.
- DYAR, HARRISON G., and CAUPELL,
ANDREW N. The types of genera.
Journ. N. Y. Ent. Soc., XII, 1904, pp. 120-122.
A discussion of the first species as the type
of a genus.
- EIGENMANN, CARL H. New genera of
South American fresh-water fishes and
new names for some old genera.
Smithsonian Misc. Colls., XLV, Quar. issue,
I, pts. 1, 2, Dec. 9, 1903, pp. 144-148.
- FEWKES, J. WALTER. Precolumbian
West Indian amulets.
Am. Anthropologist (new series), v, No. 4
Oct.-Dec., 1903, pp. 679-691, pl. LII-LIV.
A paper devoted to the description and
illustration of small images carved from stone,
shell, and bone, and perforated for suspension
from the person. The author's notes are de-
rived from a study of the subject on the spot.
- Preliminary report on an archeo-
logical trip to the West Indies.
Smithsonian Misc. Colls., XLV, Quar.
issue, pts. 1, 2, Dec. 9, 1903, pp. 112-133,
pls. XXXIX-XLVIII.
The archeological results of a former visit
to Porto Rico were so promising that in No-
vember Doctor Fewkes returned to the island
and continued his survey until the close of
May, 1903. The present paper gives the results
of this winter's exploration.
- FISHER, WALTER K. Birds of Laysan
and the Leeward Islands, Hawaiian
group.
Bull. U. S. Fish Com. for 1903, pp. 1-39
pls. 1-10, 4 text figs., 1 diagram.
An excellent account of the birds (27 spe-
cies) met with on these islands during the
cruise of the *Albatross* in 1902. The plates ac-
companying the paper illustrate many inter-
esting phases of bird-life as seen on Laysan.
- FLINT, JAMES M. Chinese medicine.
Smithsonian Misc. Colls., XLV, Quar. issue,
I, pts. 1, 2, Jan. 7, 1904, pp. 180-182.
Doctor Flint in this paper traces the origin
of Chinese medicine to the year 2700 B. C.,
under the Emperor Shen-nung. The theories
of disease and the method of treatment are
set forth.
- FOWLER, HENRY W. (See under D. S.
JORDAN.)
- GILBERT, CHARLES H., and STARKS,
EDWIN CHAPIN. Memoirs of the
California Academy of Sciences | Vol-
ume IV | The Fishes of Panama Bay |
By | Charles H. Gilbert and Edwin C.
Starks | Issued February 6, 1904 | San
Francisco | Published by the Acad-
emy | 1904. |
4to, pp. 1-304, pls. I-XXXIII.
- GILL, THEODORE. Note on the fish
genera named *Macrodon*.
Proc. U. S. Nat. Mus., XXVI, No. 1349, July
6, 1903, pp. 1015, 1016.
The name *Macrodon* can not be used for the
Trahiras of the South American rivers, as has
been done since 1842, inasmuch as it had been
taken in 1822 by H. R. Schinz for the genus
called *Ancylostodon* by Cuvier. *Macrodon* Schinz
must be adopted in place of *Ancylostodon* Cuvier
(not Illiger 1811), and a new name (*Hoplías*)
is proposed as a substitute for the fish genus
of Müller.

GILL, THEODORE. On the relations of the fishes of the family Lamprididae or Opahs.

Proc. U. S. Nat. Mus., XXVI, No. 1340, July 7, 1903, pp. 915-924, figs. 1-3.

The genus *Lampris* had been associated with various fishes, mostly Scombroidean, but in 1903 Boulenger, having homologized some of the bones of the shoulder girdle in a peculiar way, considered it as the representative of an independent group (Selenichthyces) of a new suborder (Catosteomi) which further included the Hemibranchii and Lophobranchii. The reasons given for this classification are traversed, the bones called coracoid and infraclavicle being homologized with the fourth actinost and hypocoracoid, and the existence of an independent infraclavicle is denied. There is consequently no reason for the association of *Lampris* with the Hemibranchii and Lophobranchii. The affinities are rather with the Scombroideans, as formerly claimed, but the family is isolated as the representative of an independent superfamily—Lampridoidea. A diagnosis of the superfamily and synonyms of the family name are added.

— On some neglected genera of fishes.

Proc. U. S. Nat. Mus., XXVI, No. 1344, July 11, 1903, pp. 959-962.

An analysis of an article published in 1790 by H. F. Linck (Versuch einer Eintheilung der Fische nach den Zähnen) is given, and it is shown that "of the nine new generic names proposed by Linck, three are well entitled to adoption from him—*Mustelus*, *Pristis*, and *Mola*. The others do not seem to be presented in such form as to demand recognition."

— On some fish genera of the first edition of Cuvier's Règne Animal and Oken's Names.

Proc. U. S. Nat. Mus., XXVI, No. 1346, July 11, 1903, pp. 965-967.

It is remarked that "in the first edition of the Règne Animal (1817) Cuvier introduced many new genera or subgenera, but most of them were named only in French guise. Consequently many naturalists have refused to accept them." In an entirely overlooked summary, also published in 1817, L. Oken gave Latin or Latinized names and many (18) date from his commentary.

— O-words in the "New English Dictionary." [I.]

Notes and Queries (9), XII, Aug. 29, 1903, pp. 165, 166.

Comments on the section *On-Out* of the dictionary, suggesting that quotations for words "should be brought up more nearly to date," some in daily use being "illustrated by quotations twenty to forty or more years behind time." A number such are named, *Oolakan*, *Ophidia*, *Orator*, *Orbitolite*, *Ornithodelphia*, and *Ortolan*, words imperfectly treated in

GILL, THEODORE—Continued.

the dictionary, are elucidated. It is suggested that "surely the word (ornithology) must have been used before [1678]."

— The fishes of the African family Kneriidae.

Science (new series), XVIII, No. 454, Sept. 11, 1903, pp. 338, 339.

Attention is called to the agreement in many respects between the descriptions of two African genera—*Kneria*, described by Steindachner in 1866, and *Cromeria*, described by Boulenger in 1901. The discrepancies, which are marked, it is suggested, may perhaps be due to age, and possibly *Cromeria* (known only from specimens about thirty millimeters long) may be the young of *Kneria*. The affinity of the family is doubtful, and it appears to be entitled to distinction as a peculiar superfamily, Kneriordea. It may be referred to the group Haplomi or perhaps the Inimi.

— A little-known Devil-fish.

Science (new series), XVIII, No. 458, Oct. 9, 1903, p. 473.

Attention is directed to "Description of a new Ceratopterygine Eagle-ray from Jamaica," published by Richard Hill in 1802, and the suggestion is made that the species (*Cephaloptera massenoides*) is the same as the *Ceratobatis robertsii* described by Boulenger in 1897.

— American fishes | A popular treatise | upon the | game and food fishes of North | America | with especial reference to habits and | methods of capture | By | G. Brown Goode, Ph. D., LL. D. | [List of titles] New edition | completely revised and largely extended by | Theodore Gill, A. M., M. D., Ph. D., LL. D. | [List of titles] With numerous illustrations, including a series | of new color plates. | Boston | Dana Estes & Company | Publishers |

Svo., pp. 1-LXVIII, 1-562, 6 colored pls. and portrait. (Published Oct. 16, 1903.)

— O-words in the "New English Dictionary." [II.]

Notes and Queries (9), XII Oct. 24, 1903, pp. 330, 331.

An answer to Doctor Murray's defense of the dictionary (o. c., 209, 210) and claim that it "does indeed give the earliest quotation (known to us at the time) for every word and sense," etc., and that when the writer "can cite an earlier instance of the word ornithology than can be given in the 'dictionary,' it will be time to write about it."

Improper usage of the word *Oology* is shown, and earlier instances of the use of the words *Ophidia* (1802), *Ophidian*, a. (1813), *Ophidian*, n. (1813), and *Ophiology* (1817) are adduced. As

GILL, THEODORE—Continued.

examples of words "erroneously defined and illustrations [that] do not illustrate," *Ophidium* and *Ophidioid* are noted and *Ophidioid* redefined.

"Eulachon" and its variants.

Notes and Queries (9), XII, Dec. 5, 1903, pp. 444, 445.

In answer to a request for information, the variants of the name of the Candle-fish of Washington and British Columbia (*Thaleichthys pacificus*) are enumerated and in some instances commented on. "In chronological sequence of publication they are Ulken (Gass, 1807), Olthen (Lewis and Clark, 1814), Uthlecan (Irving, 1836), Oulachan (Richardson, 1836), Eulachon (Lord, 1866), Oulacon (Scammon, 1874), Hoolakin (J. and G., 1881), Oolachan (Nature, 1881), Oolackan (Baillie-Grohman, 1886), Oulachon (Century Dict., 1890), Oolakan (N. E. D. 1903).

— A remarkable genus of fishes—the Umbras.

Smithsonian Misc. Colls. XLV, Quar. issue, I, pts. 3, 4, Apr. 11, 1904, pp. 295-305, with 5 figs.

A summary is given of (1) the bibliographical history of the genus, followed by (2) a notice of its place in the system; (3) an account of the habits of the species is the most prominent feature; (4) the distinctive characters of the three species, and (5) a notice of the desiderata to complete the biographies.

— The Encyclopædia Americana on Ichthyology.

Science (new series), XIX, No. 486, Apr. 22, 1904, pp. 675, 676.

Attention is called to the careless editorial handling of an article on "Ichthyology" by Dr. D. S. Jordan, and the misnaming of many (twelve) figures. The act is declared to be a wrong to the public as well as author of the article; the latter should be relieved of responsibility for the errors noted.

— Vernacular names of animals. [A notice of Nemnich's "Allgemeines Polyglotten Lexicon der Naturgeschichte."]

Am. Naturalist (XXXVIII), No. 447, March, 1904 (published May 3, 1904), pp. 241, 242.

— "Horses" not horses.

Science (new series), XIX, No. 488, May 6, 1904, pp. 737, 738.

A notice of a number of errors in a little book entitled "The Tree Dwellers," in which the assumption is made that the ancestors of the horses had five toes and lived partly in trees. The error of such an assumption is pointed out and protest is made against the use of the word horse for the ancient forms, which really belonged to a different family from the recent horses. It should certainly

GILL, THEODORE—Continued.

not be used for the cocene many toed form named *Hyracotherium*, which is differentiated "as the representative of a peculiar family—the Hyracotheriids." Objection is also made "to the assumption that the early representatives of the equine phylum were striped like a zebra. * * * The evidence, such as it is, is against the assumption."

— Non-education of the young by parents.

Science (new series), XIX, No. 492, June 3, 1904, pp. 861, 862.

In connection with pending discussions, attention is called to the "annual fishes" of the family of Gobies known as *Aphya pcellucida* and *Crystalllogobius nilssonii*. The parents die when the breeding season is over, and consequently the young have no care takers or exemplars. An analogous instance is furnished by the salmon of the genus *Oncorhynchus*, the parents dying soon after their procreative duties have been discharged. As all the parents die, "the young can not have the benefit of parental instruction or of learning through association with their elders."

— The name mammal and the idea expressed.

Rep. Smithsonian Inst., 1903 (1904), pp. 537-544.

The main portion of "The story of a name—mammals," published by the author in the *Popular Science Monthly* for September, 1902, are embodied in the present article, but much additional matter and literary illustrations are intercalated and added.

GIRTY, GEORGE H. *Triticites*, a new genus of Carboniferous foraminifers.

Am. Journ. Sci., XVII, Mar., 1904, pp. 231-240, text figures.

Calls attention to the American so-called *Fusulina*, that they have not the interior structure of the Russian genus, and therefore proposes *Triticites* for the American form passing as *Fusulina cylindrica*. This should be called *Triticites scaldensis* Say.

— New molluscan genera from the Carboniferous.

Proc. U. S. Nat. Mus., XXVII, No. 1372, June 1, 1904, pp. 721-736, pls. 45-47.

This paper defines the new genera *Limipecten*, *Pleurophorella*, and *Clavulites*. Also the new species *L. texanus*, *L. texanus grandicostatus*, *P. papillosa*, and *C. howardensis*. The genus *Orthothetes* Fischer de Waldheim proves to be the same structurally as Waagen's later proposed *Derbya*, and the latter is, therefore, a synonym. For Waagen's redefinition and misinterpretation of *Orthothetes*, the present author proposes the new name *Schuchertella*, using as his genotype *Streptorhynchus lens* White.

GRABAU, AMADEUS W. Phylogeny of *Fusus* and its allies.

Smithsonian Misc. Colls., XLIV, 1904, pp. 1-192, pls. 1-XVIII, and text figs.

As the title indicates, this important work treats of the phylogeny of *Fusus* and its allies. New genera described: *Falsifusus*, *Fulgurafusus*, *Helprinia*, *Clavellofusus*, *Rhopalithes*, and *Cosmolithes*. Of new species and new varieties, many are described.

HOLMES, WILLIAM H. Fossil human remains found near Lansing, Kansas.^a

Am. Anthropologist (new series), IV, No. 4, Oct.-Dec., 1902, pp. 743-752, 2 pls., 2 text figs.

Traces of aboriginal operations in an iron mine near Leslie, Missouri.

Am. Anthropologist (new series), V, No. 3, July-Sept., 1903, pp. 503-507, 1 pl., 2 text figs.

Shell ornaments from Kentucky and Mexico.

Smithsonian Misc. Colls., XLV, Quar. issue, 1, pts. 1, 2, Dec. 9, 1903, pp. 97-99, pls. XXIX, XXX, 1 text fig.

Report on the Department of Anthropology for the year 1900-1901.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 51-61.

Flint implements and fossil remains from a sulphur spring at Afton, Indian Territory.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 233-252, pls. 1-26.

Classification and arrangement of the exhibits of an anthropological museum.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 253-278, pl. 1.

Report on the Department of Anthropology for the year 1901-1902.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1903), pp. 53-58.

Aboriginal pottery of the Eastern United States.

20th Ann. Rep. Bureau Am. Ethnology, 1898-99 (1903), pp. 1-201, 177 pls., 79 text figs.

(See also under FREDERICK W. TRUE.)

HOUGH, WALTER. Archeological field work in northeastern Arizona. The Museum-Gates Expedition of 1901.

Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 279-358, pls. 1-101.

HOUGH, WALTER—Continued.

A report on the extensive excavation made in the ancient pueblo ruins of northeastern Arizona during the summer of 1901, with descriptions and discussion of the artefacts collected.

HOWARD, LELAND O. The shade trees of Washington.

The Capital, Oct. 10, 1903, pp. 14, 15. Portrait.

An account of Washington shade trees and their management, with suggested improvements, mainly from the standpoint of insect damage

Yellow fever and mosquitoes.

Century Magazine, LXVI, No. 6, Oct., 1903, pp. 851-857, 10 figs., 1 map.

Hydrocyanic acid gas against household insects.

Public Health Reports, Public Health and Marine-Hospital Service, XVIII, No. 46, Washington, Nov. 13, 1903, pp. 1977-1982.

The Mexican cotton boll weevil.

Science (new series), XVIII, No. 465, Nov. 27, 1903, p. 693.

Concerning the geographic distribution of the yellow-fever mosquito.

Public Health Reports, Public Health and Marine-Hospital Service, XVIII, No. 46, Nov., 1903, pp. 1-7, 1 map.

The Moth Book. Review of W. J. Holland's work of this title.

Science (new series), XIX, No. 474, Jan. 29, 1904, pp. 188, 189.

Sending insects through the mails.

Ent. News, xv, No. 1, Jan., 1904, pp. 25, 26. An account of a revision of the U. S. Postal Regulations.

The Mexican cotton boll weevil.

Am. Review of Reviews, XXIX, No. 169, Feb. 1, 1904, pp. 188-191, 4 figs.

The Mexican cotton boll weevil.

Youths' Companion, Feb. 4, 1904, pp. 55, 56, 5 figs.

A monograph of the Culicidæ of the world. A review of Volume III of F. V. Theobald's work of this title.

Science (new series), XIX, No. 478, Feb. 26, 1904, pp. 333, 334.

[Review of] Monograph of the British Coccidæ, by Robert Newstead.

Am. Journ. Sci., XVII, Feb., 1904, pp. 81, 82.

The transmission of yellow fever by mosquitoes.

34th Ann. Rep. Ent. Soc. Ontario, Mar. 10, 1904, pp. 26-30.

^aThis title was not received in time to permit of its insertion in the Bibliography for the preceding year.

- HOWARD, LELAND O. Recent work in American economic entomology. *34th Ann. Rep. Ent. Soc. Ontario*, Mar. 10, 1904, pp. 38-40.
- Some miscellaneous results of the work of the Division of Entomology. *Bull. Div. Ent., U. S. Dept. Agric.*, No. 44, Apr. 15, 1904.
- These are all unsigned notes and articles.
- [Review of] Monograph of the British Tyroglyphidae, by A. D. Michael. *Am. Journ. Sci.*, xvii, May, 1904, pp. 407, 408.
- The United States Department of Agriculture and Silk Culture. *Yearbook U. S. Dept. Agric.*, 1903, pp. 137-148, 5 plates. (Author's extras published June 9, 1904.)
- HRDLÍČKA, ALEŠ. Anomalous articulation and fusion of the atlas with the occipital bone. Abstract. *Washington Medical Annals*, 111, No. 1, Mar., 1904, pp. [1], [2].
- Further instances of parietal division. *Am. Naturalist*, xxxviii, No. 448, Apr., 1904, pp. 301-309, 4 figs.
- Further instances of molar division. *Am. Naturalist*, xxxviii, No. 449, May, 1904, pp. 361-366, 5 figs.
- HYATT, ALPHEUS. Pseudoceratites of the Cretaceous. *Monograph U. S. Geol. Surv.*, XLIV, 1903, pp. 1-351, pls. 1-47.
- This important monograph treats of a large group of ammonites, the Pseudoceratites, from all parts of the world. Quite a number of the species described and figured are now in the U. S. National Museum collection.
- JENINGS, FOSTER H. Korean head-dresses in the National Museum. *Smithsonian Misc. Colls.*, XLV, Quar. issue, 1, pts. 1, 2, Jan. 7, 1904, pp. 149-167, figs. 3-28.
- This young author, whose premature death is greatly deplored, finding that the hat is connected with rank and custom to a large extent in Korea, brought together in a series of drawings the various types of headgear, showing their significance and varieties.
- JORDAN, DAVID STARR, and FOWLER, HENRY W. A review of the Cyprinoid fishes of Japan. *Proc. U. S. Nat. Mus.*, xxvi, No. 1334, July 6, 1903, pp. 811-862, figs. 1-8.
- JORDAN, DAVID STARR, and FOWLER, HENRY W. A review of the Siluroid fishes or catfishes of Japan. *Proc. U. S. Nat. Mus.*, xxvi, No. 1338, July 7, 1903, pp. 897-911, figs. 1, 2.
- JORDAN, DAVID S., and SNYDER, JOHN O. On the species of White Chimæra from Japan. *Proc. U. S. Nat. Mus.*, xxvii, No. 1356, Jan. 23, 1904, pp. 223-226, figs. 1, 2.
- On a collection of fishes made by Mr. Alan Owston in the deep waters of Japan. *Smithsonian Misc. Colls.*, XLV, Quar. issue, 1, pts. 3, 4, Apr. 11, 1904, pp. 230-240.
- Notes on collections of fishes from Oahu Island and Laysan Island, Hawaii, with descriptions of four new species. *Proc. U. S. Nat. Mus.*, xxvii, No. 1377, June 2, 1904, pp. 939-948.
- JORDAN, DAVID S., and STARKS, EDWIN CHAPIN. A review of the fishes of Japan belonging to the family of Hexagrammidae. *Proc. U. S. Nat. Mus.*, xxvi, No. 1348, July 15, 1903, pp. 1003, 1013, figs. 1-3.
- A review of the Scorpenoid fishes of Japan. *Proc. U. S. Nat. Mus.*, xxvii, No. 1351, Jan. 22, 1904, pp. 91-175, pls. 1, 2, text figs. 1-21.
- A review of the Cottidae or Sculpins found in the waters of Japan. *Proc. U. S. Nat. Mus.*, xxvii, No. 1358, Jan. 28, 1904, pp. 231-335, figs. 1-43.
- A review of the Japanese fishes of the family of Agonidae. *Proc. U. S. Nat. Mus.*, xxvii, No. 1365, Feb. 23, 1904, pp. 575-599, figs. 1-13.
- Description of a new Cyprinoid fish, *Hemibarbus joëni*, from the Pei Ho, Tientsin, China. *Smithsonian Misc. Colls.*, XLV, Quar. issue, 1, pts. 3, 4, Apr. 11, 1904, pp. 241, 242.
- *Schmidtina*, a genus of Japanese sculpins. *Proc. U. S. Nat. Mus.*, xxvii, No. 1381, June 27, 1904, p. 961.
- LUCAS, FREDERIC A. A new batrachian and a new reptile from the Trias of Arizona. *Proc. U. S. Nat. Mus.*, xxvii, No. 1353, Jan. 22, 1904, pp. 193-195, pls. 3, 4.
- Describes *Mctoposaurus fraasi*, a new species of labyrinthodont, and *Placerias hesternus*, a new genus and species of large cotylosaurian reptiles.

LUCAS, FREDERIC A. The Dinosaur
Trachodon annectens.

Smithsonian Misc. Colls., XLV, Quar. issue,
I, pts. 3, 4, Apr. 11, 1904, pp. 317-320,
pls. LXXII-LXXIII, figs. 40-43.

A somewhat popular account of this dinosaur, its relationships and habits, and of the skeleton on exhibition in the U. S. National Museum.

LYON, MARCUS WARD, JR. Classification
of the hares and their allies.

Smithsonian Misc. Colls. XLV, Quar. issue,
I, pts. 3, 4, June 15, 1904, pp. 321-447,
pls. LXXIV-c.

A revision of the genera and subgenera of the families Leporidae and Ochotonidae, based on their osteological and dental characters. New genera; *Pronotagus* (p. 416) and *Pentalagus* (p. 428); new subgenera, *Paccolotagus* (p. 395), new subgenus of *Lepus*, and *Conothoa* (p. 438), new subgenus of *Ochotona*.

McDOUGAL, D. T. (See under Fred-
erick Vernon Coville.)

McGREGOR, RICHARD C. Birds from
Benguet province, Luzon, and from the
islands of Lubang, Mindoro, Cuyo, and
Cagayancillo.

Bull. Philippine Museum, No. 3, Jan. 30,
1904, pp. 1-16.

Notes on birds collected on the above-named islands for the Philippine Museum. The notes are arranged under the following headings: Introductory note; Zoographical notes; Undescribed plumages and notes on the rarer species; New localities for known species; and species from Irisan, Benguet Province, Luzon.

— The birds of Calayan and Fuga,
Babuyan group.

Bull. Philippine Museum, No. 4, May 15,
1904, pp. 1-34, pls. 1-5.

An annotated list of the species collected on the islands of Calayan and Fuga for the Philippine Museum. The following are described as new: *Turnix worcesteri* (p. 8), *Macropygia phœa* (p. 9), *Otus cuyensis* (p. 17), *Otus catayensis* (p. 18), *Eudynamis frater* (p. 21), *Zosterops flavissima* (p. 26), and *Hyloterpe fallax* (p. 27).

MARSHALL, WILLIAM B. James Smith-
son.

Am. Journ. Pharmacy, LXXVI, No. 4, Apr.,
1904, pp. 162-171.

A sketch of the life of the founder of the Smithsonian Institution.

MASON, OTIS TUFTON. Aboriginal Amer-
ican Basketry: Studies in a textile art
without machinery.

Rep. Smithsonian Inst. (U. S. Nat. Mus.),
1902 (1904), pp. 171-548, pls. 1-248.

MASON, OTIS TUFTON—Continued.

The design of this work is to study out the processes of weaving and other forms of textile work done by hand in America by the aboriginal tribes. These processes antedate machinery, and some of the primitive devices connected with the Indian handwork led up to the first looms. The materials for basket work are enumerated, the processes of manufacture described and illustrated, and the subject of ornamentation, in form and design, discussed. Symbolism is shown to have followed the other arts in motives, but to have taken on special details by reason of technic. The many uses of basketry occupy a large part of the work, which closes with a discussion of the subject in its ethnic relationship.

MAXON, WILLIAM R. Notes on the
birds of Madison County, New York,
with especial reference to Embody's
recent list.

Auk, XX, No. 3, July, 1903, pp. 262-266.

Notes on 36 species, intended to supplement the "Birds of Madison County, New York," by G. C. Embody.

— A fern new to the United States.

Torreya, III, Dec. 22, 1903, pp. 184, 185.

Records the occurrence of *Asplenium auritum* Sw. in Florida.

— Two new ferns of the genus *Poly-
podium*, from Jamaica.

Proc. U. S. Nat. Mus., XXVII, No. 1374,
May 21, 1904, pp. 741-744.

P. rigens and *P. aromaticum* are described as new.

— A new fern, *Goniophlebium pringlei*,
from Mexico.

Proc. U. S. Nat. Mus., XXVII, No. 1379,
June 27, 1904, pp. 953-954, pl. 48, 1 text
fig.

MAYNARD, GEORGE C. Notes on the
manufacture of small arms for the
United States Army in Government
arsenals and by private makers.

Sporting Goods Dealer, St. Louis, Mo., Jan.,
1904, IX, No. 4, pp. 36-39.

MERRILL, GEORGE P. On the glacial
pothole in the National Museum.

Smithsonian Misc. Colls., XLV, Quar. issue
I, pts. 1 and 2, Dec. 9, 1903, pp. 100-103,
1 pl.

The above describes briefly the mode of occurrence and the method of extraction of a large glacial pothole found at Georgetown, Maine, and obtained in 1893 for the U. S. National Museum.

— Report on the Department of Geol-
ogy for the year 1900-1901.

Rep. Smithsonian Inst. (U. S. Nat. Mus.),
1901 (1903), pp. 81-91.

MERRILL, GEORGE P. Report on the Department of Geology for the year 1901-1902.

Rep. Smithsonian Inst. (U. S. Nat. Mus.),
1902 (1903), pp. 77-84.

— The | Nonmetallic minerals. | Their occurrence and uses | By | George P. Merrill, | Head Curator of Geology in the U. S. National Museum, and Professor of Geology in the Corcoran Scientific School of Columbian University, | Washington, D. C., Author of "Stones for Building and Decoration," | "Rocks, Rock-weathering, and Soils," etc. | First edition | First thousand | New York: | John Wiley & Sons. | London: Chapman & Hall, Limited. | 1904.

8vo., pp. 1-11, 1-414, pls. 1-xxx, text figs. 1-28.

This work, as its title suggests, is practically a revised edition of the handbook and catalogue of the nonmetallic minerals, published by the National Museum.

— (See also under FREDERICK W. TRUE.)

MILLER, GERRIT S., JR. A new Nataline bat from the Bahamas.

Proc. Biol. Soc. Wash., xvi, Sept. 30, 1903,
pp. 119, 120.

Chilonatalus tumidifrons, p. 119.

— Seventy new Malayan mammals.

Smithsonian Misc. Colls., xlv, Quar. issue
1, pts. 1, 2, Nov. 6, 1903, pp. 1-73, pls. 1-xix.

Tragulus batuanus (p. 2), *Tragulus russulus* (p. 3), *Ratufa insignis* (p. 4), *Ratufa conspicua* (p. 5), *Ratufa balu* (p. 6), *Ratufa masse* (p. 7), *Ratufa piniensis* (p. 8), *Sciurus bilimitatus* (p. 8), *Sciurus pemangilensis* (p. 9), *Sciurus aoris* (p. 10), *Sciurus peninsularis* (p. 10), *Sciurus pamorianus* (p. 11), *Sciurus ictericus* (p. 12), *Sciurus atratus* (p. 13), *Sciurus piniensis* (p. 14), *Sciurus balu* (p. 14), *Sciurus pumilus* (p. 15), *Sciurus lancavensis* (p. 16), *Sciurus atangensis* (p. 17), *Sciurus sullivanus* (p. 17), *Sciurus domesticus* (p. 18), *Sciurus benticanus* (p. 19), *Sciurus mathaeus* (p. 19), *Sciurus lucas* (p. 20), *Sciurus casensis* (p. 20), *Sciurus altinsularis* (p. 21), *Sciurus rubeculus* (p. 22), *Funambulus obscurus* (p. 23), *Funambulus rostratus* (p. 24), *Funambulus peninsule* (p. 25), *Sciuropterus mærens* (p. 26), *Petawrista batwana* (p. 27), *Mus stridens* (p. 28), *Mus mathaeus* (p. 29), *Mus stridulus* (p. 29), *Mus lucas* (p. 30), *Mus soccalus* (p. 30), *Mus masse* (p. 32), *Mus balu* (p. 33), *Mus longus* (p. 33), *Mus julianus* (p. 34), *Mus gilbiventer* (p. 35), *Mus luteolus* (p. 36), *Mus umbrilatorum* (p. 37), *Mus casensis* (p. 38), *Mus domesticus* (p. 39), *Mus pagensis* (p. 39), *Chiropodomys niadis* (p. 40), *Atherura zygomatica*

MILLER, GERRIT S., JR.—Continued.

(p. 42), *Hemigale minor* (p. 43), *Paradozurus lignicolor* (p. 44), *Galeopithecus pumilus* (p. 46), *Galeopithecus aoris* (p. 47), *Galeopithecus gracilis* (p. 49), *Galeopithecus natunæ* (p. 50), *Galeopithecus saturatus* (p. 51), *Galeopithecus natunæ* (p. 53), *Tupaia castanea* (p. 54), *Tupaia pulonis* (p. 56), *Tupaia tephrua* (p. 57), *Tupaia chrysogaster* (p. 58), *Tupaia cervicalis* (p. 59), *Pteropus geminorum* (p. 60), *Macacus pagensis* (p. 61), *Macacus phœura* (p. 63), *Presbytes rhionis* (p. 64), *Presbytes batuanus* (p. 65), *Simias* gen. nov. (p. 66), *Simias concolor* (p. 67), *Symphalangus klossii* (p. 70).

— A new hare from Greece.

Proc. Biol. Soc. Wash., xvi, Nov. 12, 1903,
pp. 145, 146.

Lepus parnassius (p. 145).

— A new squirrel from Lower Siam.

Proc. Biol. Soc. Wash., xvi, Nov. 12, 1903,
pp. 147, 148.

Sciurus noveemlineatus (p. 147).

— Descriptions of two new Mole Rats.

Proc. Biol. Soc. Wash., xvi, Nov. 30, 1903,
pp. 161-164.

Spalax dobrogæ (p. 161); *Spalax berytensis* (p. 162).

— A second specimen of *Euderma maculatum*.

Proc. Biol. Soc. Wash., xvi, Nov. 30, 1903,
pp. 165, 166, fig. 1.

Records the second specimen of this bat, from Mesilla Park, New Mexico, September, 1903.

— Notes on the bats collected by William Palmer in Cuba.

Proc. U. S. Nat. Mus., xxvii, No. 1159,
Jan. 23, 1904, pp. 337-348, Plate IX.

An annotated list of fifteen species.

— The species of *Geom* occurring near Washington.

Proc. Biol. Soc. Wash., xvii, Apr. 9, 1904,
pp. 191, 192.

MILLER, GERRIT S., JR., and REHN, JAMES A. G. Systematic results of the study of North American land mammals during the years of 1901 and 1902.

Proc. Boston Soc. Nat. Hist., xxxi, Aug. 27,
1903, pp. 61-145.

List of additions and alterations made during the two preceding years.

MOORE, CLARENCE B. The so-called "hoe-shaped implement."

Am. Anthropologist (new series), v, No. 3,
July-Sept., 1903, pp. 498-502, 6 text figs.

A discussion of an aboriginal hoe-shaped implement found in the United States, in which a ceremonial adz from Cook Islands, belonging to the U. S. National Museum, is figured and described.

NEEDHAM, JAMES G. New Dragon-fly nymphs in the United States National Museum.

Proc. U. S. Nat. Mus., xxvii, No. 1371, May 20, 1904, pp. 685-720, text figs. 1-11; pls. xxxviii-xliv.

NELSON, E. W. Descriptions of new birds from southern Mexico.

Proc. Biol. Soc. Wash., xvi, Nov. 30, 1903, pp. 151-159.

New birds are described as follows: *Geotrygon albifacies rubida* (p. 151), *Diactylortyx thoracicus sharpei* (p. 152), *Syrnium ocellatulum lucidum* (p. 152), *Xiphocolaptes emigrans omltemensis* (p. 153), *Cyanolyca mirabilis* (p. 154), *Aphelocoma guerrecensis* (p. 154), *Vireolanus meltophrys goldmani* (p. 155), *Geothlypis chapaleusis* (p. 156), *Thryophilus sinitola russicus* (p. 157), *Troglodytes brunnicollis nitidus* (p. 158), *Heinicorhina leucophrys festiva* (p. 158), *Hemipura leucogastra musica* (p. 159), and *Sialia mexicana australis* (p. 159).

— A revision of the North American mainland species of *Myiarchus*.

Proc. Biol. Soc. Wash., xvii, Mar. 10, 1904, pp. 21-50, fig. 1.

Two subgenera (*Myiarchus* and *Onychopterus*) with nineteen species and subspecies are here recognized. All are minutely described, and three subspecies are named for the first time, viz: *Myiarchus lawrencei bangsi* (p. 45), *m. l. querulus* (p. 47), and *m. l. tresmariae* (p. 49).

NORTON, C. A. Q. The lights and lamps of early New England.

Connecticut Magazine, viii, 1903, No. 1, pp. 95-100, 5 figs.; No. 2, pp. 248-255, 6 figs.

A series of articles appearing at intervals since Feb.-Mar., 1903, based on the collections of the U. S. National Museum and the private collections of Doctor Norton.

NUTTING, CHARLES CLEVELAND. Smithsonian Institution. | United States National Museum. — [Special Bulletin,]— American Hydroids. |— [Part II. | The Sertulariæ, | with forty-one plates. | By | Charles Cleveland Nutting, | Professor of Zoology, University of Iowa. |— Washington: | Government Printing Office. | 1904.

Special Bulletin, U. S. Nat. Mus. No. 4 (Part II), June 24, 1904, 4 to pp. 1-325, pls. 1-41, text figs. 1-139.

A continuation of the monograph of American hydroids, the first part of which, the Plumulariæ, appeared in 1900. Under the heading "Morphology," the Trophosome, Gonosome, Gonangium, and the Development of the Sertulariæ are separately treated. Un-

NUTTING, CHARLES CLEVELAND—CON.

der the Systematic Discussion keys are given to the genera and species. One hundred and thirty-one species representing 10 genera are described; many species are new.

— OBERHOLSER, HARRY C. The North American forms of *Astragalinus psaltria* (Say).

Proc. Biol. Soc. Wash., xvi, Sept. 30, 1903, pp. 113-116.

Two forms only of this species are recognized from North America, true *A. psaltria* and *A. p. hesperophilus*, the latter new. *A. p. arizonæ* and *A. p. mexicana* are shown to be equivalent to true *A. psaltria*.

— Description of a new *Telmatodytes*.

Proc. Biol. Soc. Wash., xvi, Nov. 12, 1903, pp. 149, 150.

Telmatodytes palustris thryophilus (p. 149), is described as new, from the coast region of Louisiana and eastern Texas.

— A revision of the American Great Horned Owls.

Proc. U. S. Nat. Mus., xxvii, No. 1352, Jan. 22, 1904, pp. 177-192.

A study of over 200 specimens of *Asio* (*Bubo* of recent authors), from various parts of America, has enabled the author to recognize sixteen forms, all subspecies of *A. magellanicus* (Gmelin). The following are described as new: *Asio magellanicus mesembrinus* (p. 179), *A. m. melancurus* (p. 180), *A. m. icetus* (p. 185), *A. m. lagophonus* (p. 185), *A. m. heterocnemis* (p. 187), and *A. m. algistus* (p. 190).

— A review of the wrens of the genus *Troglodytes*.

Proc. U. S. Nat. Mus., xxvii, No. 1354, Jan. 23, 1904, pp. 197-210, pl. v.

Thirty-seven species and subspecies of *Troglodytes* are here recognized, of which the following are described as new: *Troglodytes musculus acosmus*, p. 204, *T. m. atopus*, p. 207, and *T. m. enochrus*, p. 207. A new generic name, *Thryorchilus*, p. 198, is proposed for *Troglodytes browni* Bangs.

— Description of a new African weaver-bird.

Proc. U. S. Nat. Mus., xxvii, No. 1370, Apr. 13, 1904, p. 653.

Phlætaurus cabanisi enchorus, collected in Somali Land by Dr. A. Donaldson Smith, is described as a new subspecies.

— Description of two new birds from Somali Land.

Proc. U. S. Nat. Mus., xxvii, No. 1373, May 21, 1904, pp. 737-739.

Merops superciliosus donaldsoni, p. 737, and *Poliherax semitorquatus homopterus*, p. 738, are described as new.

- ORTMANN, A. E. [Review of] The cosmopolitan character of the deep-sea fauna.
Science (new series), xix, No. 491, May 27, 1904, pp. 827, 828.
 A review of a paper with the above title read before the Academy of Science and Art of Pittsburg, Feb. 2, 1904. The paper is based on a small collection of deep-sea schizopoda from the Hawaiian Islands, collected by the U. S. Bureau of Fisheries steamer *Albatross*, and now belonging to the U. S. National Museum.
- PHALEN, WILLIAM C. Notes on the rocks of Nugsuaks Peninsula and its environs, Greenland.
Smithsonian Misc. Colls., xlv, Quar. issue, 1, pts. 1, 2, Jan. 7, 1904, pp. 183-212, 3 pls.
 Describes the rocks of the peninsula, their mineral composition, microscopic structure, and chemical composition. An attempt is also made to classify them by the method suggested by Messrs. Cross, Iddings, Washington, and Pirsson.
- A new occurrence of unakite.
Smithsonian Misc. Colls., xlv, Quar. issue, 1, pts. 3, 4, Apr. 11, 1904, pp. 306-316, 3 pls.
 The paper describes an interesting occurrence of the epidotic granite, such as was first named unakite by Bradley, and which here occurs as a contact rock in connection with more basic eruptives.
- PRENTISS, DANIEL WEBSTER. Description of an extinct mink from the shell heaps of the Maine coast.
Proc. U. S. Nat. Mus., xxvi, No. 1336, July 6, 1903, pp. 887, 888, 1 text fig.
Luticola macrotou (p. 888).
- RATHBUN, MARY J. A preoccupied crab name.
Proc. Biol. Soc. Wash., xvii, Apr. 9, 1904, p. 102.
Mella Latreille, in common use, should be superseded by *Lybia* Milne-Edwards.
- Decapod crustaceans of the Northwest coast of North America.
Harriman Alaska Expedition, x, Apr. 18, 1904, pp. 1-190, pls. 1-X, text figs. 1-95.
 Based on material collected by the Harriman Expedition, and by the U. S. Bureau of Fisheries, Dr. W. H. Dall and others. Descriptions and figures of all the little-known species are given, and also a check list of all the species of the region. One species, *Betous harrimani*, is described as new.
- RATHBUN, RICHARD. Report upon the condition and progress of the U. S. National Museum during the year ending June 30, 1901.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 1-174.
- Report upon the condition and progress of the U. S. National Museum during the year ending June 30, 1902.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1903), pp. 1-168.
- RAVENEL, W. DE C. The United States Commission of Fish and Fisheries, and its exhibit at the Louisiana Purchase Exposition, St. Louis, Mo., 1904.
 8vo., pp. 1-54, frontispiece. (Press of Gibson Brothers, Washington, D. C.)
- REHN, JAMES A. G. Studies in American mantids or soothsayers.
Proc. U. S. Nat. Mus., xxvii, No. 1361, Feb. 6, 1904, pp. 561-574.
- Studies in old world forficulids or earwigs, and blattids or cockroaches.
Proc. U. S. Nat. Mus., xxvii, No. 1363, Feb. 16, 1904, pp. 539-560.
- (See also under GERRIT S. MILLER, Jr.)
- RICHARDSON, HARRIET. Isopods collected at the Hawaiian Islands by the United States Fish Commission steamer *Albatross*.
Bull. U. S. Fish Com. for 1903, Sept. 17, 1903, pp. 47-54, text figs. 1-8.
 Nine species were collected, of which four are described as new and two represent new genera.
- Contributions to the natural history of the Isopoda.
Proc. U. S. Nat. Mus., xxvii, No. 1350, Jan. 19, 1904, pp. 1-89, text figs. 1-92; No. 1369, Apr. 18, 1904, pp. 657-684, text figs. 1-39.
 No. 1350 includes the following: An introduction dealing with the classification, anatomy, development, habits, distribution, etc., of the Isopoda; and four systematic papers bearing the subtitles:
 I. Isopoda collected in Japan in the year 1900 by the U. S. Fish Commission steamer *Albatross*, and in the year 1881 by the U. S. *Palos*.
 II. Isopoda collected in Japan by Jordan and Snyder.
 III. Two new Cymothoids from the west coast of Central America.
 IV. American Epicaridea.

RICHARDSON, HARRIET—Continued.

No. 1369 comprises two papers reprinted respectively from the Harriman Alaska Expedition, Vol. x, and from the Bulletin of the U. S. Fish Commission for 1903. (See above.)

The whole was reprinted as a separate with pagination 1-IX, 1-113, and presented as a thesis for the Doctorate of Philosophy at Columbian University, Washington, D. C., 1903.

— Isopod crustaceans of the Northwest coast of North America.

Harriman Alaska Expedition, x, April 18, 1904, pp. 213-230, text figs. 96-117.

Besides the Isopoda of the Harriman Expedition a number of Californian species are included. Five new species and two little known are described and figured.

RICHMOND, CHARLES W. Earliest name for the American crow.

Proc. Biol. Soc. Wash., xv, Sept. 30, 1903, p. 125.

Note directing attention to the name *Corvus brachyrhynchos* Brehm as antedating Audubon's *Corvus americanus*.

— *Scolecophagus* preoccupied.

Proc. Biol. Soc. Wash., xvi, Sept. 30, 1903, p. 128.

Scolecophagus Swainson is shown to be preoccupied, and *Euphagus* Cassin is suggested for use in its stead.

— On the name *Enicometta*.

Proc. Biol. Soc. Wash., xvi, Sept. 30, 1903, p. 128.

Polysticta Eyton is suggested as the proper name for the genus currently known as *Enicometta*.

— [Review of] Sherborn's "Index Animalium."

Auk, xx, No. 4, Oct., 1903, pp. 448-450.

— [Review of] "Index Zoologicus."

Auk, xx, No. 4, Oct., 1903, pp. 450, 451.

RIDGWAY, ROBERT. *Lophophanes* vs. *Baeolophus*.

Auk, xx, No. 3, July, 1903, p. 308.

Note showing the name *Lophophanes* to refer to the old-world Crested Tits. The American species should be included in the genus *Baeolophus*.

— Description of new genera, species and subspecies of American birds.

Proc. Biol. Soc. Wash., xvi, Sept. 30, 1903, pp. 105-111.

The following birds are here briefly diagnosed: *Budytes flavus alascensis* (p. 105), *Atopochelidon* (type, *Hirundo fucata* Temminck) (p. 106), *Orochelidon* (type, *Petrochelidon murina* Cassin) (p. 106), *Diplochelidon* (type, *Hirundo melanoleuca* Wied) (p. 106), *Lamprochelidon* (type, *Hirundo euchrysa* Gosse) (p.

RIDGWAY, ROBERT—Continued.

106), *Stelgidopteryx salweeni* (p. 107), *Vireosylva gilva brewsteri* (p. 107), *V. josepha costaricensis* (p. 107), *Vireo huttoni cognatus* (p. 107), *V. huttoni mexicanus* (p. 107), *V. bellii arizonae* (p. 108), *Pachysylvia ochraceiceps pallidipectus* (p. 108), *Vireolanus pulchellus viridiceps* (p. 108), *Lanius ludovicianus mearnsii* (p. 108), *Aphelocoma unicolor calceatus* (p. 108), *Baeolophus inornatus restrictus* (p. 109), *B. i. murinus* (p. 109), *Psaltriparus minimus saturatus* (p. 109), *Chamaea fasciata rufula* (p. 109), *Polioptila nelsoni* (p. 109), *P. bairdi* (p. 110), *P. superciliosus magna*, (p. 110), *Telmadolytes palustris itiacus*, (p. 110) and *Helcolytes nelsoni* (p. 111).

— Diagnoses of nine new forms of American birds.

Proc. Biol. Soc. Wash., xvi, Nov. 30, 1903, pp. 167-169.

Brief descriptions are given of the following new species and subspecies: *Thryophilus pleurostictus rarus* (p. 167), *T. modestus pullus* (p. 167), *Salpinctes obsoletus notius* (p. 168), *Henicorhina leucophrys castanea* (p. 168), *H. l. berlepschi* (p. 168), *H. hilaris bangsi* (p. 168), *Cistothorus polyglottus luvitus* (p. 169), *Salpinctes obsoletus exsul*, (p. 169), and *S. maculatus* (p. 169).

RILEY, J. H. A new subspecies of night hawk from the Bahama Islands.

Auk, xx, No. 4, Oct., 1903, pp. 431-433.

Chordeiles virginianus vicinus (p. 432), is described as new, and comparisons are made with nearly related forms.

— The Snowy Plover in the Bahamas.

Auk, xx, No. 4, Oct., 1903, p. 433.

Note on the capture of *Egialitis nivosus* on Long Island, Bahamas.

— The second known specimen of *Centurus nycanus* Ridgway.

Auk, xx, No. 4, Oct., 1903, p. 434.

Record of a second specimen of Nye's Woodpecker, from Watlings Island, Bahamas.

ROSE, JOSEPH N. [*Begonia unifolia* sp. nov.]

Rep. Mo. Bot. Garden, vol. 15, 1904, pp. 80, 81: pls. 28, 29.

ROSE, J. N., and BRITTON, N. L. New or noteworthy North American Crassulaceae.

Bull. N. Y. Bot. Garden, 3, Sept., 1903, pp. 1-15.

This paper is a preliminary treatment of the Crassulaceae for North America, and will soon be followed by an exhaustive monograph of the family. A large number of new species are described and the following genera: *Dudleya*, *Haascanthus*, *Scedella*, *Urbinia*, *Altamiranota*, *Villadia*, *Stylophyllum*, *Gormania*, *Oliverella*, *Clementia* and *Tillacastrum*.

- SCHUCHERT, CHARLES. On the faunal provinces of the Middle Devonian of America and the Devonian Coral sub-provinces of Russia, with two paleographic maps.
Am. Geologist, xxxii, Sept., 1903, pp. 137-162, and 2 maps.
 This paper points out some of the salient differences between the Devonian faunas of the Dakota Sea having Euro-asiatic characteristics and those of the Mississippian Sea, which is of the "American Province." The probable lands separating these seas are described and mapped.
- On new Silurian Cystoidea, and a new *Camarocrinus*.
Am. Geologist, xxxii, Oct., 1903, pp. 230-240.
 Describes two new genera, *Jactelocystis* and *Catocystis*, and the following seven new species: *Jactelocystis hartleyi*, *Sphaerocystites globularis*, *Pseudocrinites gordonii*, *P. stellatus*, *P. clarkei*, *P. perduei*, and *Camarocrinus ulrichi*.
 All the material is in the national collection.
- SHARPE, RICHARD W. Report on the fresh-water Ostracoda of the United States National Museum, including a revision of the subfamilies and genera of the family Cyprididae.
Proc. U. S. Nat. Mus., xxvi, No. 1347, July 15, 1903, pp. 969-1001, pls. LXIV-LXIX.
 Includes keys to the subdivisions of the family Cyprididae, keys to North American species, revised descriptions of genera. One genus and two species are described as new.
- SMITH, HUGH M. Description of a new species of blind eel, of the genus *Inguilla*.
Proc. Biol. Soc. Wash., xvii, June 9, 1904, pp. 121, 122.
- SNYDER, JOHN OTTERBEIN. (See under DAVID STARR JORDAN.)
- STARKS, EDWIN CHAPIN. The osteology of some Berycoid fishes.
Proc. U. S. Nat. Mus., xxvii, No. 1366, Feb. 18, 1904, pp. 601-619, figs. 1-10.
 — (See also under CHARLES H. GILBERT and DAVID STARR JORDAN.)
- STEARNS, R. E. C. Eucalypts in the Philippines.
Science (new series), xviii, No. 457, Oct. 2, 1903, pp. 439, 440.
- STEBBING, THOMAS R. R. Amphipoda from Costa Rica.
Proc. U. S. Nat. Mus., xxvi, No. 1341, July 9, 1903, pp. 925-931, pls. LX, LXI.
 Two new species collected by Prof. P. Billeby, of the National Museum of Costa Rica—*Talorchestia fritzi* and *Hyalella fazoni*.
- STEERE, JOSEPH BEAL. Narrative of a visit to Indian tribes of the Purus River, Brazil.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 359-393, pls. 1-9.
- STEJNEGER, LEONHARD. Report of the delegate to the Fifth International Zoological Congress, Berlin, Aug. 12-16, 1901.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1903), pp. 167, 168.
- A new hognose snake from Florida.
Proc. Biol. Soc. Wash., xvi, Sept. 30, 1903, pp. 123, 124.
 Described as new species, *Heterodon browni*, type No. 32089, U.S.N.M.
- A new species of large iguana from the Bahama Islands.
Proc. Biol. Soc. Wash., xvi, Nov. 12, 1903, pp. 129-132.
 Described as new species, *Cyclura rileyi*, type No. 31969, U.S.N.M.
- A new lizard from the Rio Grande Valley, Texas.
Proc. Biol. Soc. Wash., xvii, Feb. 5, 1904, pp. 17-20.
 Described as new species, *Sceloporus merriami*, type No. 33039, U.S.N.M.
- A reply to recent strictures on American biologists.
Science (new series) xix, Mar. 4, 1904, pp. 371-376.
 Written principally in order to show the necessity of the American museums acquiring more biological material from the palearctic region.
- The Herpetology of Porto Rico.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1904), pp. 549-724, pl. 1, figs. 1-197.
 A full account of all the reptiles and batrachians found in Porto Rico, including detailed descriptions accompanied by numerous text figures of all the species, as well as general chapters on their origin and distribution. The following species are described as new: *Eleutherodactylus richmondii*, *Eleutherodactylus unicolor*, *Sphaerodactylus grandisquamis*, *Anolis monensis*, *Anolis evermanni*, *Anolis poncensis*, *Amphispurna bakcri*, *Typhlops rostellatus*, *Typhlops dominicanus*, *Leimadophis stabli*.
- STEVENSON, MATILDA COXE. Zuñi games.
Am. Anthropologist (new series), v, No. 3, July-Sept., 1903, pp. 468-497, pls. XLVIII, XLIX, 11 text figs.
 A paper devoted to the study and illustration of all the important games (seventeen in number) of the Zuñi Indians. These do not include children's games.

- STILES, CHARLES WARDELL. Clinical diagnosis of intestinal parasites.
Journ. Am. Med. Assoc., XLI, No. 3, July 18, 1903, pp. 172, 173.
- The dwarf tapeworm (*Hymenolepis nana*), a newly recognized and probably rather common American parasite.
New York Med. Journ., LXXVIII, No. 19, Nov. 7, 1903, pp. 877-881, figs. 1-5.
- STILES, CHARLES WARDELL, and HASSELL, ALBERT. Index catalogue of medical and veterinary zoology.
Bull. Bureau Animal Industry, U. S. Dept. Agric., No. 39, Part 4, Authors, D-Dziembowski, pp. 325-403 (issued, July, 1903); Part 5, Authors, E-Eyssel, pp. 405-435 (issued, Sept., 1903); Part 6, Authors, F-Fynney, pp. 437-510 (issued, Feb., 1904).
- TASSIN, WIRT. The Persimmon Creek meteorite.
Proc. U. S. Nat. Mus., XXVII, No. 1380, June 27, 1904, pp. 955-959, pls. 49, 50.
A description and analysis of a meteoric iron found on Persimmon Creek, Cherokee Co., N. C. The iron is described "as a granular octahedrite, containing numerous troilite and some silicate areas." Analyses of the mass and of the nickel-iron alloys and the silicate are given.
- TRUE, FREDERICK W. First record of the Pollack whale (*Balaenoptera borealis*) in the western North Atlantic.^a
Science (new series), XVII, No. 421, Jan. 23, 1903, p. 150.
- A note on the common Bottlenosed Porpoise of the North Atlantic, *Tursiops truncatus* (Montagu).
Proc. Acad. Nat. Sci. Phila., March, 1903 (issued July 3, 1903), pp. 313, 314.
- On species of South American Delphinidae described by Dr. R. A. Philpp in 1893 and 1896.
Proc. Biol. Soc. Wash., XVI, 1903 (issued Nov. 12, 1903), pp. 133-144.
- On some photographs of living finback whales from Newfoundland.
Smithsonian Misc. Colls., XLV, Quar. issue, No. 1423, Dec. 9, 1903, pp. 91-94, pls. 24-26.
- Notes on a porpoise of the genus *Prodelphinus* from the Hawaiian Islands.
U. S. Fish Com. Bull. for 1903, pp. 41-45, pls. 1, 2.
- TRUE, FREDERICK W. Report on the Department of Biology for the year 1900-1901.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 63-80.
- Report on the Department of Biology for the year 1901-1902.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1902 (1903), pp. 59-76.
- Notes on a Killer Whale (genus *Orcinus*) from the coast of Maine.
Proc. U. S. Nat. Mus., XXVII, No. 1357, Jan. 27, 1904, pp. 227-230, pls. 7, 8.
- A summary of general observations on the sports and movements of whales. By Emile G. Racovitza. (Translation.)
Rept. Smithsonian Inst. 1903 (1904), pp. 627-645.
- [Articles prepared on the following subjects:] *Mammals, grampus, killer, narwhal, porpoise, roqual, spermuceti, whale, whalebone, whaling.*
Encyclopaedia Americana, 1904.
- TRUE, FREDERICK W., HOLMES, WILLIAM H., and MERRILL, GEORGE P. Report on the exhibit of the United States National Museum at the Pan-American Exposition, Buffalo, New York, 1901.
Rep. Smithsonian Inst. (U. S. Nat. Mus.), 1901 (1903), pp. 177-231, pls. 1-72.
- UHLER, PHILIP R. List of Hemiptera-Heteroptera of Las Vegas Hot Springs, New Mexico, collected by Messrs. E. A. Schwarz and Herbert S. Barber.
Proc. U. S. Nat. Mus., XXVII, No. 1360, Jan. 27, 1904, pp. 349-364.
- ULRICH, E. O., and BASSLER, R. S. A revision of the Paleozoic Bryozoa. Part I.—On the genera and species of Ctenostomata.
Smithsonian Misc. Colls., XLV, Quar. Issue, I, pts. 3 and 4, Apr. 11, 1904, pp. 256-294, pls. 65-68, 2 text figs.
As the title indicates, this is a revision of the Paleozoic ctenostomatous bryozoa. All the old species and genera of the order are defined, besides the new ones, as follows: *Heteronema* (*H. capillare*, *H. carbonarium*, and *H. ? contextum*), *Allonema* (*A. botelloides*, *A. waldronense*, *A. suffusiforme*, and *A. moniliforme-aggregatum*), and *Ptychocladia* (*P. aggl-*

^aThis title was not received in time to permit of its insertion in the Bibliography for the preceding year.

ULRICH, E. O., and BASSLER, R. S.—
Continued.

Other new species are *Rhopalonia attenuata*, *R. robusta*, *R. tenuis*, *R. medialis*, *R. keokukensis*, *Yinella?* *multiradiata*, *Ascodictyon florale*, *A. parvulum*, and *A. sparsum*.

VAUGHAN, T. WAYLAND. [Anthozoa.]

Memoirs Cal. Acad. Sci., III, 1903, pp. 86-89, pl. iii, figs. 1-4a.

Four species are described, three of which, *Caryophyllia californica* from the Pliocene, *Caryophyllia pedransis* and *Paracyathus pedransis* from the Pleistocene are considered new. Included in "Ralph Arnold's Paleontology and stratigraphy of the marine Pliocene and Pleistocene of San Pedro, California."

— A Californian Tertiary coral reef and its bearing on American recent coral faunas.

Science (new series), XIX, Mar. 25, 1904, p. 503.

This is an abstract of a paper read before the Geological Society of Washington, January 27, 1904. It was shown that during Lower Miocene time the West Indian type of coral fauna extended westward into the Pacific and it was subsequent to that time that the Atlantic and Pacific faunas of America have been so markedly differentiated.

— Zoology and the International Catalogue of Scientific Literature.

Science (new series), XIX, June 3, 1904, pp. 860, 861.

Review of *Calenterata* in The International Catalogue of Scientific Literature. First Annual Issue, N, Zoology (for the year 1901); 1904 (February).

WHITE, DAVID. Summary of the fossil plants recorded from the Upper Carboniferous and Permian formations of Kansas.

Bull. U. S. Geol. Surv., No. 211, 1903, pp. 85-117.

This paper on the fossil plants of the coal measures of Kansas contains a summary of all the genera and species as yet made known from the Upper Carboniferous of that State,] with a discussion of the age of the beds and provisional correlations of the plant-bearing terranes with the coal measures of the Appalachian trough. The greater part of the material in question is included in the Lacey collection, which furnished nearly all the types of a number of new species described, as well as for several species not before reported in North America. The article also gives the names of a number of new species embraced in unpublished manuscript by Leo Lesquereux, the Kansas types of which are all preserved in the Lacey collection. The Museum catalogue numbers of the specimens are cited throughout the paper under the records of the various types.

WILSON, CHARLES BRANCH. A new species of *Argulus*, with a more complete account of two species already described.

Proc. U. S. Nat. Mus., XXVII, No. 1368, Apr. 9, 1904, pp. 627-655, text figs. 1-38.

Argulus trilineatus new species and fuller accounts of *A. americanus* and *A. versicolor*.

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APPENDIX IV.

REPORT OF CHARLES SCHUCHERT, DELEGATE OF THE SMITHSONIAN INSTITUTION AND U. S. NATIONAL MUSEUM TO THE NINTH INTERNATIONAL GEOLOGICAL CONGRESS, HELD AT VIENNA, AUSTRIA, AUGUST 20-27, 1903.

The congress held its first meeting on August 20 in the festsalle of the Vienna University, and all the subsequent meetings were held in this large and handsome building. The opening gathering was a festal one, and the addresses of welcome were made by the protector of the congress, Erzherzog Rainer, and by the honorary president, Dr. von Hartel. Prorektor Hofrat Dr. Schipper greeted the congress for the university, and Vizeburgemeister Strobach for the city of Vienna. The president of the congress, director of the Royal Geological Institute of Austria, called attention to the great variety of geological structures and formations within the Austrian Empire, invited all to join the excursions, and thus to learn by practical means what the Austrian geologists had to offer. The routine work of the congress largely devolved upon the general secretary, Prof. Dr. Diener, of the university.

The social side of the congress, of course, could not be other than kindly, due to the well-known hospitality of Austrians, and especially of the citizens of the beautiful city of Vienna. On the evening of the 24th of August the congress was invited to a reception and banquet in the grand rathause by Herr Strobach, assisted by Dr. Neumayer. About 500 ladies and gentlemen participated.

The congress was a success, as 355 members were in attendance out of 640 that had registered. North America was represented by 1 from Mexico, 2 from Canada, and 22 from the United States. The standard of the papers presented was high. One day was occupied by seven speakers from various parts of the world in presenting a synopsis of our present knowledge of the crystalline rocks. Our countryman, C. R. Van Hise, took a leading part in this presentation. Another day was devoted to "Faults and Cliffs," one of the speakers being Mr. Bailey Willis, of the U. S. Geological Survey, who presented a paper entitled "On the overthrust faults of North America." A timely and well-illustrated presentation was that of Dr. E. O. Hovey on "The 1902 eruptions of La Pelée, Martinique, and La Souffrière, St. Vincent." Another day was devoted to a presentation of the geology of the Balkan Peninsula and the Orient. The scientific meetings were on alternate days, the intermediate ones being occupied by excursions to noted places of geologic interest around Vienna. These one-day excursions were necessarily made hurriedly and were intended to acquaint the visitors with some of the broader structures, of which Austria has so large a variety.

At Vienna a paleontologist finds much to interest him, not only in the beautiful and well-ordered museum and through coming in contact with many able scientific men, but also from a study of the great collections. If one wishes to examine Austrian fossils from the provincial or stratigraphic side, he will find the Geologische Reichsanstalt in Rasumoffskygasse full of interest. For general paleontology there are the splendid collections of the Naturhistorische Hofmuseum, and of paleobiology at the Paleontological Institute of the University.

The closing banquet of the congress, at the Hotel Continental on the evening of August 27, was one of those pleasant affairs which will live long in the memory of the attending geologists because of the general good fellowship. Tietze presided at this banquet and spoke the official farewell in French, followed by Geikie with reminiscences in English. The latter told us that more than forty years ago he made his first visit to Vienna for the purpose of consulting with Haidinger, one of the great geologists of that day. Of those he then met, nearly all are now gone excepting Suess, then a young man beginning to attract attention, but now known to us all through his masterly work, "Das Antlitz der Erde."

This reference to forty years ago, when both Geikie and Suess were young, visibly affected the latter. Toward the end of the speaking Suess rose, and with bowed head and a low voice increasing to considerable volume as he proceeded, spoke eloquently in German in the following words:

"My distinguished master, Sir Archibald Geikie, was so kind as to say that more than forty years ago he became personally acquainted with me. With my highly honored friend Baron Richthofen, it is rather near fifty years. What a memorable half century we have lived through! During this time, under the influence of increasing knowledge of nature, all human conceptions of the earth have changed. It is remarkable, however, to see how often the single inquirer, bent upon the object of his quest, fails to comprehend the broader aspects of a problem by whose details he is fettered, just as the stonecutter clinging to the façade, can not see the splendor of the structure on which he himself is engaged. And yet there is a special charm in geological studies precisely on account of the extraordinary range of accommodation that is demanded of the eye—of the same eye which now examines the disintegration of quartz in a thin slide under the microscope, now sweeps over snowy mountain peaks, over dark precipitous cliffs and verdant vales, and with commanding glance reads their structure in the features of the landscape. But not less is the demand on the adjusting powers of the mind. From the most subtle conclusions derived from an ingenious experiment the geologist must be able to lift the mental eye over hill and valley into the most distant parts of the universe. There the glowing spectra of nebulae teach him that even now the great processes of world-making are not yet ended. With the aid of instruments he can daily witness the greatest eruptions of superheated gases emanating from the body of our sun. Photography spreads before him the pictures of the desolate crater fields of the moon.

"Returning to his earth he now perceives that the sum total of life's phenomena not only forms a single phenomenon, but that it is also limited by space and time. It occurs to him now that the stone which his hammer strikes is but the nearest lying piece of the planet, that the history of this stone is a fragment of the history of the planet, and that the history of the planet itself is only a very small part of the history of the great, wonderful, and ever-changing kosmos.

"His heart then thrills; he feels called as a colaborer on the most sublime problems in which feeble mortal beings can take part. Then, too, he sees that the fundamental lines of structure coursing over the earth's surface have nothing to do with the political lines separating the nations. The vastness of the problem itself makes the concord of civilized nations natural, and they remain separated only through their emulation, all filled with the idea that mankind in general will most highly esteem that nation which is in the position to offer the most and the best of noble example, of new truth, and of ideal worth.

"These are the words which have crowded into articulation at this moment when you, now gathered from all parts of the world, are about to disperse.

"For the continuation of the feelings that fill us to-day, and for continued inspiration for our noble science, I raise my glass."

WASHINGTON, D. C., June 25, 1904.