# THE AMERICAN MUSEUM OF NATURAL HISTORY

SEVENTY-FIFTH ANNUAL REPORT FOR THE YEAR 1943



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THE CITY OF NEW YORK Issued May 1, 1944 "For the purpose of establishing and maintaining in said city [New York] a Museum and Library of Natural History; of encouraging and developing the study of Natural Science; of advancing the general knowledge of kindred subjects, and to that end of furnishing popular instruction."

> FROM THE ACT OF INCORPORATION, APRIL 6, 1869

## SEVENTY-FIFTH ANNUAL REPORT OF THE PRESIDENT

To the Trustees of

The American Museum of Natural History and to the Municipal Authorities of the City of New York

NINETEEN FORTY-THREE was a year of great public appreciation of the Museum, as shown by greatly increased visitor attendance and the many additional members and subscribers to the magazine Natural History.

Unquestionably, the war has enlarged people's outlook and stimulated their interest in the world and the various peoples inhabiting it. Natural history museums answer this demand for increased knowledge more adequately than any other institutions. And since world interest is bound to increase, the Museum is under an obligation to furnish up-to-date exhibition and education on these subjects. Such a program requires substantial additional funds, both from public and private sources.

Turning to the financial operations for the past year, we have long recognized that our operating income derived from the city, income from endowment and memberships, while sufficient for existence, will not provide an adequate and properly paid scientific staff, essential building maintenance, modernization of exhibitions, particularly those having to do with Man and his environment. Nevertheless, as for several years past, the Museum closed its accounts in substantial

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balance (the deficit amounting to less than one per cent of the budget), thanks to the splendid efforts of our men and women fund-raising committees, who during the past year obtained 957 special contributions for budgetary income. To broaden the base of financial support in these times of diminishing private capital and income is a main object of Museum policy. We are making progress towards this sound end. It is significant that during the past seven years, in addition to memberships, these committees have obtained 5458 special contributions for over \$650,000 to enable the Museum to operate without encroaching upon its limited endowment capital. The Museum, the city and public generally owe a great debt of gratitude to these self-sacrificing men and women who provide this support.

Museum capital funds will be augmented by bequests from the late Eudora Hull Spalding of Pasadena, California, and Murray W. Scoville of New Haven, Connecticut. Institutional endowment must be measured in terms of public needs, and if this great national museum is to do the job obviously required of it in scientific research and civic education, our previously stated need of new endowment funds of at least \$10,000,000 must be obtained.

Recognizing ever-widening concepts of social responsibility, the Trustees, through additional contributions from capital funds, have placed the Museum pension fund for its 600 employees on a sound actuarial basis and have increased annual contributions based on employee payroll from five per cent to seven per cent, as an added margin of safety for the pension fund.

During the war, although the Museum is gratified to be able to make many direct contributions to the war effort, its main purpose must be to furnish education and [Page Two] recreation to hundreds of thousands of visitors, and maintain the great cultural traditions and the dissemination of truth upon which American democracy is based.

The Museum is taking advantage of the period when no building or structural change is permissible to work out the most comprehensive plans for new exhibitions, as well as structural changes and additions to provide more accessible exhibition space and safe storage for the vast collections acquired over the past seventy-five years.

> A. PERRY OSBORN Acting President

## THE YEAR'S WORK

#### By A. E. PARR, DIRECTOR

 $\mathbf{T}$ N their organization and equipment the natural history museums are normally designed for the performance of the dual, but inseparable, functions of education and research. In times of war each function receives a double purpose: the defeat of the enemy and the maintenance of our cultural standards and traditions. Even if complete conversion to activities of war were feasible, it would not be permissible in the long-range interests of the nation. The education of young and old to an understanding and appreciation of the contents of the civilization for which we are fighting, and of which our museum is both a part and an exponent, is more important today than ever before. The tasks of any cultural institution embracing both teaching and research therefore become doubly perplexing and difficult. They cannot free themselves of their responsibilities for the maintenance of normal civilian standards of cultureindeed they must feel a greatly increased obligation to advance a civilization which proved imperfect in its wisdom-while they also recognize a great need and a great desire to make every sacrifice and every effort to help in the prosecution of the war.

The Museum's attempts to discharge these diverse obligations during 1943 can best be accounted for under three separate headings: direct contributions to the war effort, whether by teaching or research; general activities in public education; the continuation of its own research program.

Under the first of these headings we have been able to

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make all required assistance available for any task our knowledge and equipment enabled us to undertake. Under the last two headings the Museum, like all other organizations and institutions, has been severely hit by the man-power shortage on all levels of employment. Yet we are happy to be able to report that there was no reduction in our educational services to the school children and the general public during 1943, although there is considerable likelihood that this record cannot be maintained without significant improvement in our economic situation and our ability to secure and retain personnel.

At least in outward performance it was thus only under the heading of the Museum's own research program that a serious decrease in activities occurred during 1943. This is, of course, a logical outcome of the circumstances since the usual types of research must, in general, be regarded as the museum function most capable of temporary postponement during an emergency. It must not be forgotten, however, that a suspension of normal research cannot be continued for any long period without producing deleterious effects upon the Museum's performance in all other fields as well. The situation also has another aspect. The fact that some of our research is undertaken at the Museum's own initiative and according to its own plan does not mean that it is without bearing upon immediate problems. All our research serves to increase our ability to answer the numerous requests for information we constantly receive from those directly concerned with the war effort, and in some of our own investigations, especially those conducted in the Department of Animal Behavior, we seek the solution for problems which the casualties of war have given a terrible significance at this particular time.

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By comparison with many other branches of learning, such as physics, chemistry, or medicine, the subjects of natural history have relatively little direct application to the waging of war, and our contributions must of necessity remain modest when measured against the contributions of these sciences. Nevertheless the Museum is fortunate in having been able to assist the war effort in more numerous, more significant, and more successful ways than we had at first dared to hope. A brief account of these activities may be in order, since contributions of martial value from such a source as a museum are perhaps not generally expected or understood by the public, while the greater contributions from other sciences and other types of scientific organizations are taken for granted. In the description of what has been or is being done, it is, in most instances, not permissible to explain the work in specific detail, and the reader must forgive a certain vagueness in our statements on this account.

The activities in support of the war effort have taken many different forms, but it is chiefly as a source of general or specific information and as a teaching institution that the Museum has been called upon to be of assistance. As our armed forces spread through the world, the explorers' knowledge of distant and unfamiliar regions becomes a strategic asset of inestimable value and importance. On a more general level similar knowledge also becomes the object of a great popular demand. Those who must remain at home are anxious to try to understand the conditions under which the others are living and fighting. With a true American curiosity about the world in which they find themselves those who have followed our colors abroad are even more

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insistent in their desire to learn about the things they see. Numerous letters from all parts of the globe express their appreciation of specific information supplied by the Museum staff. The practical and spiritual value of such services has been recognized by the authorities through the distribution of thousands of printed items prepared under scientific supervision, and in the plans for the distribution of other thousands as soon as they can be made available.

Of the 25 contributors to the forthcoming pocket handbook "The Pacific World," to be published by the Infantry Journal for distribution overseas, 14 are members of the staff of the American Museum, the rest being drawn from six other scientific and educational institutions. By their explorations in the remotest parts of the world, where airmen might be forced to land, Museum scientists have become familiar with the problems of how to keep alive and well in strange country. From these experiences they have been able to contribute extensively to the information gathered for the arctic, desert, and tropic Survival Manuals of the Air Forces, teaching the skills of a Robinson Crusoe existence while waiting for rescue or struggling back to friendly territory. The emergency fishing kit designed by Mr. Lerner, a Trustee of the Museum, and distributed throughout the Army Air Force serves a similar purpose, as do the instructions in thumbnail navigation for lifeboats and rafts written by Mr. Barton, Chairman of the Plane-Under Mr. Lerner's sponsorship the Intertarium. national Game Fish Association, with headquarters in the Museum, also proposed, designed, and arranged for the distribution through the Red Cross of 32,000 fishing kits for recreational use, representing a gift from American anglers to the men in service overseas. The Museum [Page Eight]

may also feel proud of the share it has had in the other activities of the Game Fish Association, which have contributed very effectively to our good relations with our southern neighbors and with others in all parts of the world.

Various departments and individuals have been able to be of service in problems of Army health and the preservation of supplies. The Department of Insects and Spiders is consulted almost daily about destructive or disease-carrying insects and their control, both at home and abroad, and has prepared full lists of our insect enemies in the Southwest Pacific, India, Burma, and other parts of Asia, for Army use. Hundreds of specimens are submitted to the department by the United States Army, United States Navy, and the Public Health authorities for quick identification. At the request of the Division of Preventive Medicine of the United States Navy, Dr. Tate of the Department of Mammals provided recognition data of the entire fauna of the East Indies with particular consideration of the animals that are possible carriers of disease-bearing ticks and insects. The Department of Amphibians and Reptiles furnished complete data on all poisonous snakes throughout the East Indian islands and in Burma.

Dr. James Clark, Director of Preparation, spent more than six months working with the Air Forces on the design of field equipment. By request of the government, several members of the staff engaged in field work both at home and abroad in search of rubber, strategic minerals, or essential information concerning the regions visited. A naval research project under the supervision of the Director was completed during 1943. The Museum's direct services to the government were otherwise based primarily upon the previously acquired knowledge of the

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staff, and less upon new research undertaken at the present time. More than a dozen carefully prepared technical reports for restricted use were submitted to the military or naval authorities from various members of the Museum organization.

In addition to its services as a source of information on a wide variety of subjects, the Museum has also served the national effort as an instrument of education for the tasks of war. Students of the Naval Reserve Midshipmen's School at Columbia and the "Prairie State" and of the Naval Training School of Indoctrination at Fort Schuyler attend the Planetarium for special demonstrations in navigation, co-ordinated with their classroom work. During the school year 1943-1944, 12.000 students will receive instruction in this manner. Similar talks and demonstrations are also given to other groups of naval officers and midshipmen. During 1943, 51 special lectures at the Planetarium had a total attendance of 13,645 men in naval uniform. The Planetarium also offers special pre-service courses both to high school students and to the general public. Ten special navigation lectures were attended free of charge by 2,946 pre-flight students of the New York high schools in 1943. The two ten-hour introductory courses in Celestial Navigation and in Star Identification, which are offered to the general public at a modest tuition fee, had to be repeated 10 times during the year, with a total registration of 1.301 students for Celestial Navigation and 1,532 for Star Identification. The Chairman of the Planetarium, Mr. Barton, also published the only book on Celestial Navigation entirely illustrated with threedimensional pictures (using two colors), which greatly facilitates the general teaching of the subject by a bold departure from usual methods of presentation.

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With the advice of the scientific departments, the Department of Education designed and delivered to the Training Division of the Army 162 portable exhibits on racial identification. This department also planned, conducted, and serviced a series of land-fall recognition workshops for the Navy Bureau of Aeronautics. These workshop courses are attended by officers of the Marine Corps, various divisions of the Navy, the Army Air Force, and Army Intelligence for periods of 30–35 days each.

At the end of the year 1943, the Museum had nine trustees and 81 employees in the armed services.

#### THE PUBLIC

To some the enjoyment of a museum might seem a peacetime luxury which could be dispensed with while we are at war. Actually the importance of museums, galleries, and concert halls is greatly increased by the fact that cultural subjects in classroom education are forced to yield to the immediate necessity of technological training to meet the requirements of the armed forces and of our defense industries. Our share of responsibility for the future cultural life of the growing generations is increased by the unavoidable reduction of the part of this burden borne by others, and it is a responsibility which cannot be deferred any more than we can defer the growth and development of our children.

That the public in general appreciates the interest and value of the Museum's continued efforts may be seen from the fact that total Museum and Planetarium attendance during 1943 amounted to 1,799,554, which represents an increase of six per cent over the previous year. Museum membership and subscribers to Natural History magazine also reached a new, high of 31,328.

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A very important group among our visitors were the 56,497 children who came to the Museum to spend an entire school day here under the guidance and instruction of our own Education Department. In the course of such a day the children receive instruction in the exhibition halls, attend demonstrations in the Planetarium, hear illustrated lectures in various auditoriums, and have their lunch in the children's cafeteria of the Museum. Thus, one visit under this so-called Platoon Program becomes the equivalent of four or five separate visits under previous methods of Museum instruction. Yet the day's events are so scheduled for each group according to its age that no undue fatigue for young heads or legs results from such a visit.

The interest the Museum receives from men and women on furlough from the armed forces of the United States and of our allies is also a source of great gratification. 23,966 men in uniform received free admission to the Planetarium shows and 17,283 were entertained in the Museum's own Canteen Clubroom, which was not opened until April. The total number of visitors from the services coming to see the exhibits in our public halls was far greater than either of these figures would indicate, but was not counted separately from the civilian attendance.

The Museum's Department of Education added several new features to its program. Among these a series of Ethnological Music and Dance Performances for afternoon visitors proved a marked success with the public. The children of the city were offered special summer programs during school vacation, and several new graduate courses for the teachers of New York met with an enthusiastic response, particularly the [Page Twelve] courses dealing with the people of China and other Pacific countries, with Latin America, and with the music of primitive peoples.

The last of the projected large habitat groups for the Hall of North American Mammals was completed and placed on display, and a new mural showing the life of the flying Pterosaurs was unveiled in the Hall of Fossil Reptiles. Under wartime conditions the development of new exhibits is of necessity limited and slow. Yet the difficulties of our times also place new demands upon the Museum's exhibition program. New human contacts in new fields of combat, and our new national rôle in hemispheric solidarity and in international affairs, all bring home to us the importance of acquiring a better understanding of man and his work and of the organization and development of his civilizations everywhere in the world. While the Museum has attained the highest prestige in anthropological research, it has for a very long time neglected the task of presenting the anthropological subjects to the public by means of the best exhibition techniques. It is now keenly aware of its negligence and hopes to modernize its entire anthropological division as rapidly as physical conditions will permit. As a first step in this direction it began the reorganization of the Hall of Mexican and Central American Archaeology during the fall of 1943.

Realizing that a continual effort to modernize and keep the exhibits up to date will also require the continuous services of a trained designer of interiors, the Museum established the position of Staff Architect and appointed Mr. Victor Ronfeldt to fill this position. Mr. Ronfeldt is now in the Army.

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# RESEARCH, PUBLICATION, AND SCIENTIFIC STAFF

The absence, in national service, of so many members of the scientific staff has greatly increased the burden of routine tasks falling upon those who still remain. The opportunity to help in the war effort by supplying information in unprecedented amounts, or participating in unaccustomed educational activities, has further reduced the time available for the usual types of research engaged in by museum scientists. While all departments have not been affected to the same extent, no department has escaped its increased burdens. New research, except as directly needed for immediate national purposes, was therefore at a minimum during 1943, and the list of publications issued in the course of the year is, to an even greater extent than usual, made up of reports based upon work done at earlier times.

The largest single article published during 1943 was "The Fresh-Water Fishes of China" by J. T. Nichols. This volume is a complete handbook for the identification of all the known fresh-water fishes of China and represents a very useful addition to the printed information about the natural history of the Far East. Among other publications by members of the staff several papers by Dr. Simpson, Mr. Bogert's report on the cobras, and Dr. Beach's reports on his investigations of the functions of the brain are of particular interest. The investigations conducted in the Department of Animal Behavior are especially worth mentioning at this time because they deal with the effects of injuries similar to those likely to be suffered by men in the armed services, and because various of the discoveries made in the course of these investigations may serve to shed light upon problems related to the effects of war. Dr. Beach's work has

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attracted a great deal of attention both from medical men and psychologists, who have strongly urged the desirability of having this work continued and intensified in view of the possibilities involved.

It should be noted that the style of the Museum's scientific publications was entirely changed during the year, with great improvements in appearance, in physical reading quality, and in the reproduction of illustrations.

The Year Book for 1943 of the International Game Fish Association might also be mentioned at this point. Although published by a private organization, it acknowledges its ties with the Museum and thereby in turn strengthens the Museum's ties with many persons in many parts of the world, whose interest in the natural history of fishes has already proved of value to science.

The Museum suffered a severe loss by the death of Dr. Frank E. Lutz, Chairman of the Department of Insects and Spiders, who for more than 20 years had planned the course and supervised the activities of this department with great devotion, energy, and vision. Mr. Herbert F. Schwarz generously consented to succeed to the duties of Dr. Lutz for the duration of the war, and was appointed Acting Chairman.

Two distinguished members of the scientific staff reached retirement age during 1943. Dr. Roy Waldo Miner, Chairman of the Department of Invertebrates, retired at the end of February, after 38 years of service by which his name has become particularly linked with the Museum's exceptionally fine exhibits of aquatic life. Mr. Nels C. Nelson, Curator of Prehistoric Archaeology and outstanding authority on the archaeology of southwestern North America, retired in April after 31 years as a member of the staff. Mr. Nelson is now engaged in preparing for publication his Mongolian studies which promise to be of great importance.

Mr. Helge Larsen was appointed Associate Curator in the Department of Anthropology to succeed Mr. Nelson.

Dr. Harold E. Vokes, Associate Curator of Fossil Invertebrates and Acting Chairman of the Department of Invertebrates after the retirement of Dr. Miner, resigned from this position to join the United States Geological Survey. No successor has as yet been appointed.

The members of the scientific staff continued to participate very actively in the educational activities of other institutions, in public lecturing, and in research sponsored by, or carried on jointly with, other organizations. They also continued to hold many offices and positions of honor in scientific bodies outside the Museum. The following might be mentioned among the most important new honors received during 1943: Dr. H. L. Shapiro, Chairman of the Department of Anthropology, was appointed Professor of Anthropology at Columbia. Dr. John T. Zimmer, Curator of the Department of Birds, received the honorary degree of Doctor of Science from the University of Nebraska. Dr. George Gavlord Simpson, Curator of Fossil Mammals, received the Mary Clark Thompson Medal awarded by the National Academy of Sciences, and the Lewis prize from the American Philosophical Society. Dr. Robert Cushman Murphy, Chairman of the Department of Birds, and Dr. Edwin H. Colbert, Chairman of the Department of Amphibians and Reptiles, received the Elliot Medals of the National Academy of Sciences, according to the awards already announced at the end of the previous year.

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Gifts of specimens and other scientific material received by all the departments of the Museum during 1943 were so numerous that it is impossible to express our indebtedness to each donor separately in the pages of this report. We can only repeat that the interest in our scientific and educational activities which is revealed in these gifts continues to be among our greatest sources of encouragement in carrying the Museum's work forward.

#### FUTURE OUTLOOK

Between 1940 and the end of the year 1943, 14 scientists left the service of the Museum by retirement, death, or resignation. During the same period 10 new appointments were made, but actually only four of these can be regarded as replacements, while the remaining six represent new positions which were created without any vacancy having occurred, in a mood of optimism that is now a little difficult to recall. Although the total number of scientific positions has only been reduced by four in the course of these three years, it is therefore also true that 10 positions have been left unfilled, and present budgetary provisions contemplate filling only two of these vacancies. There are still too many uncertainties involved to permit one to speak intelligently of long-term trends, and of the effects that may result from the changes which have taken place. But it may be well to call attention to one very serious problem which must arise from this situation with mathematical certainty. Almost all the vacancies that have occurred have been vacancies left after long and distinguished service had brought the previous occupants to a rank and salary at which there was only a comparatively small need for further increases. The new appointees are all in the early part of their careers,

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at small salaries, and their continued services will necessitate very substantial provisions for their future The situation is best illustrated by advancement. a comparison between the total salaries of the staff members who left the Museum's services, since 1940, which amounted to \$83,575 annually, and the salaries of the new members, which total only \$37,220. Disregarding the directorship, the average salary of 13 vacated positions was \$5,270 per year, while the average salary of nine new appointees under the current budget is only \$2,635, or exactly one-half of the average amount previously paid. This difference will have to be made up within a comparatively short period of years, during which there will be no significant offsets from further retirements under present retirement rules.

The unpaid salaries of eight scientists now in the armed forces, whose normal earnings from the Museum amount to \$24,000, also contributed to the nearly balanced economy of operations during 1943. We are looking forward hopefully to the return of these men to our staff and to our payroll, and must be prepared to meet our obligations to them at any time.

In these remarks we have dealt only with the scientific staff, representing less than 10 per cent of our total paid personnel, and chiefly with the future requirements of curators appointed since 1940. When we further take into account that those of longer service will also be in need of reasonable advancements, and expand our consideration to include technical, administrative, operating, and educational personnel, as well as the scientific staff, it becomes quite clear that the cost of the Museum's salaries must inevitably, within a very short time, show an increase of more than \$100,000 per year over the actual outlay for these purposes during 1943, or the [Page Eighteen] budgeted expenditures for 1944—without the addition of any new positions to an already dangerously reduced staff, or the reinstatement of any positions left unfilled since 1940. How this situation is going to be met represents the gravest problem in our immediate future outlook.

#### PUBLICATIONS IN 1943

This list includes all titles of scientific serial publications and books issued by the American Museum, and of other articles by staff members, except those by associates whose research was entirely done elsewhere, and those appearing in *Natural History*.

Ahlstrom, Elbert H.

A revision of the rotatorian genus Keratella with descriptions of three new species and five new varieties. Bull. Amer. Mus. Nat. Hist., vol. 80, pp. 411-457, 9 figs., pls. 35-42.

Amadon, Dean

Birds collected during the Whitney South Sea Expedition. 52. Notes on some non-passerine genera, 3. Amer. Mus. Novitates, no. 1237, pp. 1–22.

The genera of starlings and their relationships. Ibid., no. 1247, pp. 1–16, 1 fig.

Two interesting pipits from Labuan Island, Borneo. Ibis, vol. 85, p. 215.

Notes on a collection of birds from Sebattik Island, Borneo. Ibid., vol. 85, pp. 331-333.

Bird weights and egg weights. Auk, vol. 60, pp. 221-234, 1 fig.

Specialization and evolution. Amer. Nat., vol. 77, pp. 133–141. Bird weights as an aid in taxonomy. Wilson Bull., vol. 55, pp. 164–177.

ARONSON, LESTER R.

The sexual behavior of Anura. IV. Oviposition in the mink frog, Rana septentrionalis Baird. Amer. Midland Nat., vol. 29, pp. 242-244.

The sexual behavior of Anura. V. Oviposition in the green frog, *Rana clamitans*, and the bull frog, *Rana catesbeiana*. Amer. Mus. Novitates, no. 1224, pp. 1–6, 5 figs.

BARTON, WILLIAM H., JR.

Steropix. The principles of celestial navigation explained by means of three-dimensional pictures. Cambridge, Addison-Wesley Press, Inc.

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#### BEACH, FRANK A.

Effects of injury to the cerebral cortex upon the display of masculine and feminine mating behavior by female rats. Jour. Comp. Psychol., vol. 36, pp. 169–199, pl. 1.

Interindividual behavior among animals. Trans. New York Acad. Sci., ser. 2, vol. 6, pp. 14–18.

BIRD, JUNIUS B.

Excavations in northern Chile. Anthrop. Papers Amer. Mus. Nat. Hist., vol. 38, pp. 171–318, 46 text figs.

#### BLAIR, ALBERT P.

Geographical variation of ventral markings in toads. Amer. Midland Nat., vol. 29, pp. 615–621.

Population structure in toads. Amer. Nat., vol. 77, pp. 563–568.

#### BOGERT, CHARLES M.

Dentitional phenomena in cobras and other elapids with notes on adaptive modifications of fangs. Bull. Amer. Mus. Nat. Hist., vol. 81, pp. 285–360, 73 figs., pls. 48–51, 4 maps.

A new box turtle from southeastern Sonora, Mexico. Amer. Mus. Novitates, no. 1226, pp. 1-7, 13 figs.

Introduction (to symposium on criteria for vertebrate subspecies, species and genera). Ann. New York Acad. Sci., vol. 44, pp. 107–108.

#### BREDER, C. M., JR.

The eggs of *Bathygobius soporator* (Cuvier and Valenciennes) with a discussion of other non-spherical teleost eggs. Bull. Bingham Oceanogr. Coll., vol. 8, pp. 1–49, 16 figs., pls. 1–6. Problems in the behavior and evolution of a species of blind cave fish. Trans. New York Acad. Sci., ser. 2, vol. 5, pp. 168–176.

Apparent changes in phenotypic ratios of the characins at the type locality of Anoptichthys jordani Hubbs and Innes. Copeia, no. 1, pp. 26–30, 1 fig.

A note on erratic viciousness in Astyanax mexicanus (Philippi). Ibid., no. 2, pp. 82–84.

See Cox, R. T., and C. M. Breder, Jr.

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#### BREDER, C. M., JR., AND LOUIS A. KRUMHOLZ

On the locomotor and feeding behavior of certain postlarval Clupeoidea. Zoologica, vol. 28, pp. 61-67, 3 figs., 2 pls.

#### BREDER, C. M., JR., AND PRISCILLA RASQUIN

Chemical sensory reactions in the Mexican blind characins. Zoologica, vol. 28, pp. 169–200, 9 figs., 3 pls.

Brown, Barnum

Palaeontology of Harrar Province, Ethiopia. Part 1. The Dudley Expedition. Bull. Amer. Mus. Nat. Hist., vol. 82, pp. 7–13, pls. 1–2.

#### BROWN, BARNUM, AND ERICH M. SCHLAIKJER

A study of the troödont dinosaurs with the description of a new genus and four new species. Bull. Amer. Mus. Nat. Hist., vol. 82, pp. 115–150, pls. 33–44.

CARTER, T. DONALD

The mammals of the Vernay-Hopwood Chindwin Expedition, northern Burma. Bull. Amer. Mus. Nat. Hist., vol. 82, pp. 99–113, pls. 26–32, 1 map.

#### CAZIER, MONT A., AND A. T. MCCLAY

A revision of the genus Coenonycha (Coleoptera, Scarabaeidae). Amer. Mus. Novitates, no. 1239, pp. 1–27, 3 figs.

COLBERT, EDWIN H.

Pleistocene vertebrates collected in Burma by the American Southeast Asiatic Expedition. Trans. Amer. Phil. Soc., new ser., vol. 32, pp. 395-429, figs. 79-99, pls. 19-32.

A lower jaw of Clepsysaurus and its bearing upon the relationships of this genus to Machaeroprosopus. Notulae Naturae Acad. Nat. Sci. Philadelphia, no. 124, pp. 1-8, 3 figs.

A Miocene oreodont from Jackson Hole, Wyoming. Jour. Paleont., vol. 17, pp. 298-304, 3 figs.

COMSTOCK, WILLIAM P.

The genus Ascia in the Antilles (Lepidoptera, Pieridae). Amer. Mus. Novitates, no. 1229, pp. 1–7.

Notes on the subgenus Glutophrissa, genus Appias (Lepidoptera, Pieridae). Ibid., no. 1238, pp. 1-6, 2 figs.

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COMSTOCK, WILLIAM P., AND E. IRVING HUNTINGTON

Lycaenidae of the Antilles (Lepidoptera, Rhopalocera). Ann. New York Acad. Sci., vol. 45, pp. 49–130, pl. 1.

Cox, R. T., AND C. M. BREDER, JR.

Observations on the electric discharge of Narcine brasiliensis (Ölfers). Zoologica, vol. 28, pp. 45-51, 4 figs.

CONRAD, G. MILES

See Gregory, William K., and G. Miles Conrad

#### CROWE, PETER E.

Notes on some mammals of the southern Canadian Rocky Mountains. Bull. Amer. Mus. Nat. Hist., vol. 80, pp. 391-410, 1 fig., pls. 32-34. (Addenda, p. 409, by Carter, T. Donald.)

#### CURRAN, C. H.

Insect control in the victory garden. Amer. Mus. Nat. Hist. Science Guide, no. 117, pp. 1-32, 27 figs.

#### CURRIE, ETHEL D.

Palaeontology of Harrar Province, Ethiopia. Part 2. Echinoidea. Bull. Amer. Mus. Nat. Hist., vol. 82, pp. 14–29, 11 figs., pls. 3–4.

#### DOS PASSOS, CYRIL F.

Some new subspecies of Incisalia from North America (Lepidoptera, Lycaenidae). Amer. Mus. Novitates, no. 1230, pp. 1-5.

#### Ellis, Brooks F., and Angelina R. Messina

Catalogue of Foraminifera. Special Publ., Amer. Mus. Nat. Hist., suppl. 5.

#### ETKIN, WILLIAM

The developmental control of pars intermedia by brain. Jour. Exp. Zool., vol. 92, pp. 31–47, pl. 1.

#### GILMORE, CHARLES W.

Fossil lizards of Mongolia. Bull. Amer. Mus. Nat. Hist., vol. 81, pp. 361-384, 22 figs., pl. 52.

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GOODNIGHT, CLARENCE J. AND MARIE L.

Three new phalangids from tropical America. Amer. Mus. Novitates, no. 1228, pp. 1–4, 6 figs.

Phalangida from South America. Ibid., no. 1234, pp. 1–19, 42 figs.

GOODWIN, GEORGE G.

Two new squirrels from Costa Rica. Amer. Mus. Novitates, no. 1218, pp. 1–2.

Four new rodents from Costa Rica. Ibid., no. 1227, pp. 1-4.

Two new harvest mice from Costa Rica. Ibid., no. 1231, pp. 1–2.

GRANGER, WALTER, AND WILLIAM K. GREGORY

A revision of the Mongolian titanotheres. Bull. Amer. Mus. Nat. Hist., vol. 80, pp. 349–389, 11 figs., pls. 2–31.

GREENBERG, B.

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GREGORY, WILLIAM K.

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## BALAN

December

## ASSETS

ENDOWMENT AND OTHER NO	N-EXPENDA	ABLE FUNDS		
ENDOWMENT FUNDS:				
Cash		\$76,239.53		
Securities:				
Bonds		\$7,031,472.40		
Preferred stocks		2,055,200.51		
Common stocks		3,358,859.98		
Real estate mortgages, etc. Note receivable		987,997.84 30,253.16		
Note receivable		\$13,463,783.89		
		\$13,403,/83.89		
Real estate		\$223,586.20	\$13,763,609.62	
TRUST FUNDS:				
Cash		\$576.65		
Securities:				
Bonds		\$583,550.05		
Real estate mortgages		248,178.37		
		\$831,728.42	832,305.07	
TEMPORARY INVESTMENT FUNDS:				
Cash		\$2,742.09		
Securities:				
Bonds		\$59,348.50		
Common stocks		15,000.00		
		\$74,348.50	77,090.59	\$14,673,005.28
CURRENT FUNDS		47 110 1010 0		
General Funds:				
Cash:				
In bank	\$14,553.69			
On hand	2,955.00	\$17,508.69		
Accounts receivable	,	129,003.13		
Due from other funds (contra)		5,000.00		
Loans receivable		72,545.62	\$224,057.44	
RESTRICTED FUNDS:				
Cash in bank		\$129,223.57		
Accounts receivable		17,176.88		
Due from other funds (contra)		73,282.59	219,683.04	
AUXILIARY ACTIVITIES:				
Cash:				
In bank	\$55,835.30			
On hand	640.00	\$56,475.30		
Accounts receivable		3,421.28		
Inventories		40,189.31		
Deferred charges Furniture & fixtures		3,799.29 3,436.01	107,321.19	551,061.67
			107,521.19	331,001.07
AGENCY FUNDS				
PENSION FUND:			100 A00 A0	
Cash in bank			\$86,498.60 7.084.32	
Accounts receivable			/,004.32	
Securities:		\$1 500 A00 40		
Bonds Preferred stocks		\$1,529,498.48 151,345.52		
Real estate mortgages, etc.		26,997.00		
Real estate		5,250.00	1,713,091.00	1,806,673.92
				\$17,030,740.87

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Statement of Income and Expenditures, and Deficit for the Year Ended December 31, 1943

#### GENERAL FUNDS

Appropriations from the City of New York		
	\$481,681.41	
Income from capital funds	594,791.53	
Income from outside trusts and foundations	31,736.24	
Membership fees	37,525.00	
Sales and services	30,265.54	
Other income	3,272.86	
Contributions of trustees, members, foundations, and others	70,423.32	
	\$1,249,695.90	
Transfers from capital funds	43,915.84	\$1,293,611.74
Expenditures:		
Executive, administrative, and general expenses	\$340,171.94	
Scientific, research, publication, exhibition, and education expenses	436,850.89	
Operation and maintenance of physical plant and other general		
services	507,837.40	
Other current expenses	18,023.75	
	\$1,302,883.98	
Transfers to auxiliary activities (cafeterias)*	2,833.24	1,305,717.22
Excess of expenditures over income		\$12,105.48
Surplus at January 1, 1943		433.69
Deficit at December 31, 1943		\$11,671.79
*The financial operation of other auxiliary activities resulted		
in an aggregate net surplus of \$14,947.43 for the year.		
in an aggregate net surplus of \$14,947.43 for the year. RESTRICTED FUNDS		
		•
RESTRICTED FUNDS	\$30,545.07	
RESTRICTED FUNDS	\$30,545.07 56,437.89	
RESTRICTED FUNDS Income: Income from capital funds		· ·
RESTRICTED FUNDS Income: Income from capital funds Sales and services	56,437.89 156,934.81	
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others	56,437.89	247,667.77
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds	56,437.89 156,934.81 \$243,917.77	247,667.77
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds Expenditures:	56,437.89 156,934.81 \$243,917.77 3,750.00	247,667.77
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds Expenditures: Executive, administrative, and general expenses	56,437.89 156,934.81 \$243,917.77 3,750.00 \$1,428.60	247,667.77
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds Expenditures:	56,437.89 156,934.81 \$243,917.77 3,750.00 \$1,428.60 192,972.30	247,667.77
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds Expenditures: Executive, administrative, and general expenses Scientific, research, publication, exhibition, and education expenses	56,437.89 156,934.81 \$243,917.77 3,750.00 \$1,428.60	247,667.77 200,498.57
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds Expenditures: Executive, administrative, and general expenses Scientific, research, publication, exhibition, and education expenses Transfers to capital funds	56,437.89 156,934.81 \$243,917.77 3,750.00 \$1,428.60 192,972.30 \$194,400.90	200,498.57
RESTRICTED FUNDS Income: Income from capital funds Sales and services Contributions of trustees, members, foundations, and others Transfers from capital funds Expenditures: Executive, administrative, and general expenses Scientific, research, publication, exhibition, and education expenses	56,437.89 156,934.81 \$243,917.77 3,750.00 \$1,428.60 192,972.30 \$194,400.90	

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Contributing Members	7	Associate Founders	8
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Endowment Members 1			

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	······
Total	328,058

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Reached by departmental circulation of materials	9,569,851
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[Page	Thirty-nine]

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#### THE AMERICAN MUSEUM OF NATURAL HISTORY

INCORPORATED BY THE

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The Corporation consists of a self-perpetuating Board of thirty-five Trustees, elected for terms of five years. Also, *ex-officio*, the Mayor, the Comptroller, the Commissioner of Parks of the City of New York, and a representative of the Board of Education of the City of New York.

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#### HISTORY

PRESIDENCY OF JOHN DAVID WOLFE, 1869-1872.

- 1869 Museum incorporated. Constitution adopted as drafted by Joseph H. Choate.
- 1870 First home secured, the Arsenal, Central Park.
- 1871 The City of New York appropriated \$700,000 for building. (Section I.)

PRESIDENCY OF ROBERT L. STUART, 1872-1881.

- 1874 Cornerstone of first section of building laid by President Ulysses S. Grant.
- 1878 Contract adopted between Trustees and Department of Parks, as drawn up by Andrew H. Green and Joseph H. Choate.
- 1880 Educational work with the schools inaugurated by Professor Albert S. Bickmore.

#### PRESIDENCY OF MORRIS K. JESUP, 1881-1908.

- 1892 Museum opened to the public on Sundays.
- 1887—1905 The City of New York appropriated \$4,218,820.94 for eight new building sections, II-VIII, and XV.
- 1907 Museum opened free to the public every day in the year.
- 1908-1917 Mr. and Mrs. Jesup bequeathed \$6,000,000 to the Museum.

#### PRESIDENCY OF HENRY FAIRFIELD OBBORN, 1908-1933.

- 1908 Constitution amended making the Mayor, the Comptroller, and the President of the Department of Parks, exofficio members of the Board of Trustees.
- 1921 Greater New York Charter amended, placing the Museum on the same basis as Public Schools with respect to Corporate Stock Appropriations, by Chapter 618 of the Laws of 1921, State of New York.

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#### HISTORY—(continued)

- 1921—1925 The City of New York appropriated \$2,233,800 for new sections, IX-XI, and equipment and alterations of old sections.
- 1924 The State of New York provided for the Theodore Roosevelt Memorial Cost \$3,500,000. (Original Chapter 615 Laws of 1924.) (Building. Section XII.)
- 1929 Appropriation of \$3,550,000 by the City of New York for construction of African Wing, Power Plant and Service Building, and Whitney Wing. (Sections XIII, XVII, and XIX.)

- 1932 Completion of the African Wing. (Section XIII.)
- 1933 Completion of the Whitney Wing. (Section XIX.)

PRESIDENCY OF F. TRUBEE DAVISON, 1933-

- 1934 Contribution of \$156,000 by Charles Hayden for purchase of Zeiss Projection Planetarium and Copernican Planetarium.
  - The American Museum of Natural History Planetarium Authority erecting Planetarium Building with funds (\$650,000) secured through loan from the Reconstruction Finance Corporation. (Section XVIII.)
- 1935 Opening of the Hayden Planetarium. (Section XVIII.)
- 1936 Dedication of the Theodore Roosevelt Memorial. (Section XII.)
- 1942 Constitution amended making a representative of the Board of Education of the City of New York an *exofficio* member of the Board of Trustees.

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Contribution of \$750,000 by Harry Payne Whitney for one-half cost of Whitney Wing. (Section XIX.)

#### CAPITAL FUNDS

The Capital Funds were established in 1884. They now amount to \$14,673,005.28 (book value). The Trustees especially desire to insure the permanent growth and welfare of the Museum through an increase of the General Endowment Fund. The additional sum of \$10,000,000 is needed at present.

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\*The same deduction is allowed for New York State Income Tax. \*\*A similar exemption is granted from New York State Estate Tax.

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