# NATIONAL ACADEMY OF SCIENCES

# THOMAS BARBOUR

# 1884—1946

A Biographical Memoir by HENRY B. BIGELOW

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Biographical Memoir

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Thomas Bar Bour

# THOMAS BARBOUR

## 1884-1946

# BY HENRY B. BIGELOW

Thomas Barbour was born on Martha's Vineyard, August 19, 1884, the son of William and Adelaide (Sprague) Barbour of New York City. In 1906 he married Rosamond Pierce of Brookline, Massachusetts, and his married life was full and harmonious, but saddened by the death of his oldest daughter Martha and of his only son William. During the last two years of his life he was in failing health, following a blood clot that had developed while he was in Miami. He was at the Museum of Comparative Zoölogy as usual on January 4, 1946, and in happy mood at home in Boston that evening. But he was stricken later in the night with cerebral hemorrhage, and died on January 8, without regaining consciousness. He is survived by his wife; three daughters, Mrs. Mary Bigelow Kidder, Mrs. Julia Adelaide Hallowell, and Mrs. Louisa Bowditch Parker; and two brothers, Robert and Frederick K. Barbour.

Barbour prepared for college under private tutors and at Brownings School in New York City. It had been planned for him to go to Princeton, but a boyhood visit to the Museum of Comparative Zoölogy determined him to choose Harvard, which he entered as a freshman in the autumn of 1902. He graduated with the degree of A.B. in 1906, and received his doctorate in 1910.

It has been pointed out in earlier obituaries that the pattern of his life-career as a zoologist, museum director, traveler, sportsman and lover of the American tropics had begun to develop in childhood. His father, a director in the great linen mills of William Barbour and Sons in northern Ireland, often took his family with him abroad on his business trips; and in this way Tom had visited most of the larger natural history museums in Europe by the time he was eight years old. When he was nine years old he caught his first trout in the Adirondack Mountains of northern New York, near Tupper Lake where his father had a comfortable camp on an extensive tract of forest land. Here

he spent many happy summers, with his younger brothers, learning the ways of the woods.

In 1898, when fourteen, he was sent to Florida after an attack of typhoid, to recuperate at the winter home of his paternal grandmother, Sarah Elizabeth Barbour, who was an excellent shot, an expert fisherwoman and a born naturalist. Tom visited southern Florida with her; also the northern Bahamas, the first of his many excursions to the West Indies.

During his college career he not only specialized in zoology but spent nearly all his spare time in the Museum of Comparative Zoölogy, working as a voluntary aid among the collections of reptiles and amphibians under the exacting eye of the late Dr. Samuel Garman. And, as has been recorded elsewhere, he had already resolved that he would someday advance to the Directorship of the Museum then headed by Alexander Agassiz.

He was married in October following his graduation, and immediately thereafter he departed with his bride on an extensive tour, first to Ireland, then to India, to Burma, to the most interesting zoologically of the East Indian islands, including Java, Bali, Lombok, Celebes Borneo, the Moluccas and New Guinea, to China and to Japan. Wherever the honeymoon couple went they worked literally night and day, often with native assistants, gathering specimens of all classes of vertebrates and of insects. Aided in part by family connections in the Far East, but chiefly by their own unflagging energy, they managed to visit many places then difficult to reach. The extent and variety of the collections they sent back to the Museum was truly astounding.

Returning to Cambridge, Barbour settled down to graduate study at Harvard, unler the late Professor E. L. Mark, interrupting, however, to visit Chile in 1908 as a delegate to the first Pan American Congress, held in Santiago. His Ph.D. thesis was a monograph on the zoogeography of the East Indies, based in part, of course, on existing knowledge, but largely on the materials he and his wife had themselves garnered in the field. This was published as a Memoir of the Museum of Comparative Zoölogy in 1912, at which time he had 47 scientific papers to his credit. The earliest of them, an annotated list of

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reptiles found near a summer camp in New Hampshire, had appeared in 1901, while he was still a schoolboy. Twenty-seven had been on reptiles, the others on birds, mammals, fishes, and more general subjects. The geographic coverage, foreshadowing his life interest in zoogeography, had included East Africa, Burma, Java, Borneo, New Guinea, Indo-China, China, Florida, the West Indies in general, Jamaica, Grenada, Panama, Yucatan, Colombia and Bermuda.

The year 1910 was an eventful one for him; not only did he complete his formal academic studies, but in that year he represented the Association of American Universities at the reopening of the University of Mexico, in Mexico City, and was appointed Associate Curator of Reptiles and Amphibians in the Museum of Comparative Zoölogy. With his usual energy he at once began reorganizing and building up the collections. But, as another of his colleagues has remarked in an earlier biography, his interest in the Museum did not end with his own department—or with his own researches let us add—for the next few years saw him sponsoring collecting trips and traveling extensively himself, chiefly in his beloved American tropics, in the interest of the Museum.

His scientific activities were interrupted during the first world war, while he was engaged in Cuba in special intelligence work for which his fluent use of the Spanish language and his wide circle of acquaintances well fitted him. This work completed, he returned to the Museum with unabated zeal.

In 1925 he was appointed Curator of the Herpetological Department, and in 1927 was chosen Director of the Museum, being third in line from Louis Agassiz, its founder; he was also made Director of the Harvard University Museums as a whole. His early ambition was thus attained. A year later he was appointed Professor of Zoology, and he became Alexander Agassiz Professor in 1944. He was also a member of the council of the University Library and one of the Syndics of the University Press.

Coming to the directorship of the Museum after it had suffered a 17-year period of quiescence and decline in activity following its brilliant achievements under the leadership of Louis Agassiz and his son Alexander, Barbour attacked his new

task with characteristic energy. In the revivification he followed plans long laid, for I think he had never swerved from his belief that he would one day be its head. At the end of a year the building had been modernized, and most of the old galleries roofed across for new work rooms. The entire staff became stimulated by his enthusiasm, the public exhibits which had been sadly in need of care were renovated, rearranged and condensed, thus setting free space that was needed for other purposes. As the years passed the staff was expanded as opportunity offered. A closer liaison was developed between the Museum and the faculty of Arts and Sciences by the appointment of several of the Curators to Professorships.

For the rest of his life Barbour's chief care was for the welfare of the Museum. The immediately tangible result was the vast increase of accessions to the collections for which he was responsible. T. B., as his associates all called him, so injected new life into the institution that it soon regained the high rank as a center of scientific learning that it had held previously, and has since maintained. A decade of activity and of expansion followed, with T. B. always guiding and encouraging his colleagues, with all of whose research projects his extraordinarily wide zoological knowledge gave him an almost uncanny familiarity. But his greatest service to the Museum came through his ability to sympathize with his fellow workers, to encourage them and to forward their researches. Indeed, he had a part in every one of the major contributions that came from the Museum's staff during the years of his directorship. That he was able to do so much for so many is the best tribute to his spirit of comradeship. His fellowman was, after all, the vertebrate species that interested him most. His door was always open to scientific peers, or to beginners who came to the Museum knowing that they would find a friend and counsellor. Many rising biologists in this country and abroad benefited from his encouragementnot a few from his purse as well.

The son of wealthy parents, Barbour contributed large sums yearly to the support of the Museum. We all knew this, but the scale and variety of his contributions to other institutions were not so widely known; nor his assistance to students struggling through their graduate years, and to colleagues in financial straits,-T.B. made no parade of this.

Notwithstanding his primary devotion to the Museum, he found time and energy to take a very active part in the establishment and maintenance of the Barro Colorado Laboratory in Panama, situated on what was originally a forested hill top. When this area was transformed into an island at the time the region (now Gatun Lake) was flooded because of the construction of the Panama Canal, it became the refuge where a varied and abnormally abundant population of tropical animals gathered to escape the rising waters, and where they have flourished since. Barbour assumed responsibility for a large part of the financial support of the laboratory during its early years, and until it was made part of the Canal Zone Biological Area.

The 400-odd scientific papers, based on observations by many authors at the laboratory during the years when he was taking a guiding part were a source of well-earned satisfaction to him. They might well have been a point of personal pride had he been of a prideful nature.

Barbour also was a prime-mover in the development of the Atkins Institute of the Arnold Arboretum at Soledad near Cienfuegos, Cuba. This is a botanical garden, the gift of Mr. and Mrs. E. F. Atkins of Boston. He served as its Custodian for several years, beginning in 1927 and his visits to Soledad were the high spots of each winter for him.

He served as the President of the Boston Society of Natural History from 1925 to 1927; and of its offspring, the New England Museum of Natural History, from 1940 to 1945. He was the leading spirit in the rejuvenation of the Peabody Museum in Salem; a Trustee of Radcliffe College, of the Carnegie Institution of Washington and of the Woods Hole Oceanographic Institution; a member of the Advisory Board of the Guggenheim Foundation; and a Director of the Fairchild Tropical Garden in Florida, named for Dr. David Fairchild, one of T. B.'s lifelong friends with whom he often stayed while in Florida. He was largely responsible for developments leading to the manufacture of Antivenin for snake bite in North America.

Barbour's favorite subjects of study were the reptiles and

amphibians, on which he was a world-authority. He wrote extensively on the birds of Cuba; on fishes; and his memoir of 1912 on the zoogeography of the East Indies (mentioned above) followed two years later by a companion memoir on the zoogeography of the West Indies, established him as one of the foremost students of the distribution of the land animals of these island groups. He disliked cold weather and as long as his health permitted, made trips each winter to Florida, which he regarded almost as a second home; to Cuba, or to Central America, departing from Cambridge in February as a rule, and returning in May, bringing zoological material to enrich the Museum. There was scarcely a Caribbean island nor any considerable part of the Caribbean mainland that he did not visit at one time or another. "Everything there appealed to him; he liked the people, the climate, the architecture, the scenery, the rich vegetation; the problems of geographic distribution and origin of faunas intrigued him. Spanish was a second tongue to him and his fluent use of that language opened doors that would be closed to the ordinary foreigner."

During the late 1920's and early 30's his winter trips were made with the late Allison Armour on the latter's yacht *Utowana*, to the Bahaman chain, to the islands south of Hispaniola, to Honduras and to the west coast of Mexico. In 1934 he went with his wife down the west coast of Africa and up the east coast, stopping off at many ports and seeing the Kruger Park. They went to Africa again in 1935 to visit the South African game reserves.

He received the honorary degree of Sc.D. from the University of Havana in 1930; from Dartmouth in 1936; from Harvard in 1939, and from the University of Florida in 1944. His memberships, regular or honorary, in learned societies in this country included the National Academy of Sciences; American Academy of Arts and Sciences; American Philosophical Society; American Ornithological Union; American Society of Mammalogists; American Society of Ichthyologists and Herpetologists; New England Zoological Club; Boston Society of Natural History; Nuttall Ornithological Club; Philadelphia Academy of Natural Sciences; Biological Society of Washington; American

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Society of Zoologists; American Antiquarian Society; Massachusetts Historical Society; Society of Tropical Medicine; New York Zoological Society; Zoological Society of Philadelphia; and Hispanic Society of America. He was also an honorary or regular member of the Royal Asiatic Society; the Royal Geographical Society, London; the Zoological Society of London; the Niederlandische Dierkundige Vereen; the Academy of Sciences of Havana; The Linnean Society of London; and the Society for the Preservation of the Fauna of the British Empire.

The length of the foregoing list of positions held and honors received bears witness to the esteem in which he was held in the university and scientific world both in his native land and abroad; but it does nothing to picture the impress that he left on those who came to know him. An individual of striking appearance, six feet five inches high, bulky in proportion, with curly hair, black in early life but silvery gray in later years, one of his close associates has described him as a "genial giant." And he commanded attention in any gathering. Doubtless it was from his grandfather from northern Ireland that he inherited his keen sense of humor, his unusual charm as a conversationalist, and his readiness to speak out in no uncertain terms and in language all his own when occasion seemed to demand. The charming trait of hospitality was strong in him. Soon after he became Director of the Museum he found it convenient to eat his lunch in his back office. Before long he invited some of the members of the Museum staff to join him, for companionship, each bringing his own lunch box, and thermos of milk or coffee. This was the start of what came to be known as the "eateria," presided over by Charles Gilbert who came to the Museum after many years' service with the famous ornithologist William Brewster. Nothing pleased T. B. more than to serve some choice piece of game-wild duck, elk meat, or perhaps venison, from his own shooting trips, or some exotic such as palm grubs from Panama-cooked by Gilbert over an electric hot plate in the Director's office. The "eateria" became so widely known and so popular that by early 1942, when Gilbert died, the visitor's book contained records of nearly

21,000 luncheon guests, including visiting scientists from many parts of the world. T. B., with a few of us had the honor of being photographed by Life Magazine, in appropriate attitudes, lunching at the "eateria."

The conversation at these informal little gatherings ranged wide; it might settle on serious Museum affairs; it might be the reverse of serious. If the company suited, as often was the case, the talk might be of river or upland, of salmon or tarpon, of grouse or woodcock, of deer or ducks, for T. B. was one of the most skilled woodsmen I have known. He was blessed with great physical strength and endurance. In his younger days he could outwalk most men; could endure in a duck blind while I was shivering with cold; he had the patience in the woods of the proverbial Indian. His keenness of vision coupled with ability to focus on some particular vista, was such that his eye caught many a forest happening that most men would have missed. These natural gifts were of great help to him in the field, collecting snakes and lizards.

Another gift for which he was noted among his associates was a retentive and photographic memory. He was an omnivorous reader, and passed many sleepless hours at night—he suffered from insomnia—browsing in books of travel, adventure, biography and history, as well as in the most recent scientific publications. In this way he kept up-to-date on a wide range of world and literary events as well as in more strictly scientific fields. As a colleague has written "offhand he could give you the dates of any voyage of exploration, the name of the ship and the names of the naturalists, and the facts concerning the discovery of many species of animals. He was familiar with a great number, never forgot their names or appearance, their distribution or relationships."

Everything he ever learned or read or saw was stored away to be brought forth when needed. His photographic memory for the names and looks of animals of all sorts—of people too was prodigious. In his own words, "I have only to see a specimen once, and the object, together with its label are photographed on my mind." Alexander Agassiz was the only scientist of my acquaintance whose zoological memory equaled his.

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Incidents long past were little if any less vivid to him. In his later years when failing health curtailed his activities, this vividness of recollection found expression in *Naturalist at Large* published in 1943; in *That Vanishing Eden*, a word-picture of the Florida of his youth, published in 1944; in his *A Naturalist* in *Cuba* that followed in 1945, and in his *Naturalist's Scrapbook*, published in 1946, after his death.

With his peculiar gifts, coupled with his interest in all groups of animals and plants, it is not astonishing that Barbour was in his own words "by inclination an old-fashioned naturalist, many tell me perhaps the last of the breed. My colleagues prefer to know more and more about less and less, and so are infinitely more erudite than I." But if "erudition" includes breadth of information, as it ought, as well as grasp of detail, this self criticism had no basis, for T. B.'s knowledge of groups of animals other than those on which he himself worked was little short of encyclopedic, a constant source of astonishment to his fellow students. His familiarity, for example, with recent discoveries in vertebrate palaeontology is made evident to every visitor to the Museum by the beautiful mounts of fossil vertebrates, which are perhaps the most attractive feature of the public exhibits. His purchase and gift to the University of Florida of the so-called "Thomas Farm" site which is the only good collecting ground for Tertiary Mammals in eastern North America climaxed his earlier contributions in support of collecting trips to productive fossil beds elsewhere. He also kept up-to-date on developments in geologic opinion, especially as regards the West Indian island arcs and the Caribbean coasts. His connection with the Woods Hole Oceanographic Institution kept him in touch with the current researches in marine biology, in fact his last two scientific papers were on bathypelagic fishes. And his life-long interest in American archeology found expression in the numerous collections that he brought back from Central America to the Peabody Museum at Harvard.

Barbour's scientific papers total some four hundred; about half of them on reptiles. The Check List of North American Amphibians and Reptiles, of which he was co-author with Leonhard Stejneger, has gone through five editions; his Birds of Cuba

through two, as has also a popular book by him on Amphibians and Reptiles, elaborated from a series of lectures that he delivered in Boston in 1923, under the auspices of the Lowell Institute. By his own statement, writing came hard to him during his early years, as did formal lecturing. But in later life he mastered an easy and readable style, which found expression in the books of reminiscences that came from his pen during his last three years. These give a better picture of his rather unusual personality than this formal biography, even though I knew him intimately throughout his scientific career.

His co-workers in herpetology, ornithology and ichthyology are better fitted than I to estimate the values of his scientific writings. The following summaries of his work on amphibians and reptiles, on birds and on fishes are contributed, respectively, by Arthur Loveridge, by James L. Peters and by W. C. Schroeder, co-workers with him in the Museum of Comparative Zoölogy.

Amphibians and Reptiles. One result of Barbour's visit to the Indo-Australian Archipelago in 1906-1907, coupled with the appearance in 1909 of Dr. P. N. van Kampen's "De Zoogeografie van den Indischen Archipel," was the added stimulus it gave to Barbour's interest in faunal distribution. This culminated in his major work: "A Contribution to the Zoogeography of the East Indian Islands," submitted for his doctorate in 1910, though not published until 1912. In this paper Barbour points out that neither geologists nor zoologists are as prone as formerly to regard the earth's crust as stabilized and quotes extensively to show that widely accepted theories regarding insular faunas in Polynesia have had to be relinquished in the face of accumulating evidence stemming from the more exhaustive collections of the recent past.

Approximately 80 pages of Barbour's thesis are devoted to an annotated listing of the 170 species he himself had gathered, 50 further pages deal with an island-by-island consideration of the composition of the insular faunas, and another 24 to the zoogeographical implications to which allusion has been already made. Then follows what at the time was probably the

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most valuable aspect of the contribution, 17 large folding tables that revealed at a glance the presence or absence of the herpetofaunal elements as then recognized, in each of 49, mostly insular, areas of the Oriental-Australian regions.

Binomials rather than trinomials were employed exclusively for the 285 forms of reptiles and amphibians listed by Barbour in the companion volume "A Contribution to the Zoogeography of the West Indies," that appeared in 1914. This was in accordance with the view to which he adhered until 1937, that as insular forms could no longer interbreed they should be treated as full species. It was largely due to the enthusiasm Barbour brought to bear on speciation in the Antilles, as well as to the collections he amassed during almost annual visits to the archipelago, that the number of forms in his (1937) "Third List of Antillean Reptiles and Amphibians" shows an increase of 198\* over those listed in 1914. No fewer than 42 of these were described by Barbour himself, and a further 33 in joint authorship with colleagues, chiefly Benjamin Shreve.

Barbour's final conclusions regarding dispersal in the West Indies did not change greatly in the intervening years. He regarded this homogenous fauna as having spread during periods when land bridges still united the islands of today. Those like Grenada, whose postulated connection was with South America, naturally exhibit a preponderance of forms with South American affinities, while the Jamaican and Cuban herpetofauna, in which Central American types predominate, were populated through direct land connection with that region.

Always keenly interested in Cuba, it was natural that Barbour's studies should crystalize in "The Herpetology of Cuba" which, in 1919, he brought out in coauthorship with Charles T. Ramsden. To naturalists and residents alike this has proved a most useful work and is likely to remain the standard reference book on the island's reptiles and amphibians for some time to come, though outdated today by Barbour's own discoveries. Indeed, shortly before his untimely death, he was talking of bringing out a new edition, as the 68 species dealt with in the

<sup>\*</sup> The correct figures being 285 and 483 respectively.

work had grown to an even 100 during the thirty years that had elapsed since its appearance.

Logically enough this work led to Barbour's undertaking a revision of the intriguing little geckos comprising the genus *Sphaerodactylus*, eight of which he attributed to Cuba. Though 11 in all were described as new, the novelties he discovered in some other neotropical genera were even more numerous, *Eleutherodactylus* with 17 and *Anolis* with 30, the great majority still treated as valid by other herpetologists.

Anoles, indeed, were Barbour's favorite group and for many years he entertained the idea of revising the entire genus. In view of the magnitude of the undertaking, however, he eventually relinquished the plan, contenting himself with placing at the disposal of other workers the data on variation and synonymy he had accumulated during a quarter of a century. These notes were published in 1930 and 1934, respectively, under the titles of: "The Anoles. I. The Forms known to occur on the Neotropical Islands" and "II. The Mainland Species from Mexico Southward." Both appeared in the Bulletin of the Museum of Comparative Zoölogy.

In 1940 Barbour, in collaboration with Dr. A. F. Carr Jr., brought out a treatise dealing with the nine forms of "Antillean Terrapins" occurring in that region. The basis of this study was an exceptionally fine amount of material that Barbour had brought together at considerable expense over a period of many years. The paper, together with the magnificent colored plates that illustrate it, is likely to remain the standard work on *Pseudemys* of this area for many years to come.

Barbour's interest in Neotropical fauna is sharply emphasized by an analysis of the 274 reptiles and amphibians, representing 120 genera, described by him. No fewer than 172 were from the Antilles and tropical America, 42 from the Oriental (chiefly China and Indonesia) region, 8 from the Australian (all Solomons or New Guinea, 42 (33 in coauthorship) from the Ethiopian, and only 10 from North America.

And yet, for many Barbour will be remembered chiefly by his "Check List of North American Amphibians and Reptiles" that has been a boon to herpetologists in the United States and

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Canada ever since the first edition appeared in joint authorship with Leonhard Stejneger in 1917; followed in 1923, 1933, 1939, and 1943 by subsequent editions. Despite dual authorship the appearance of these editions was largely due to the drive and enthusiasm of Barbour and his willingness to underwrite the cost. Like any other great undertaking the check list has had its critics. Doubtless subjection to scrutiny by a committee of the American Society of Ichthyologists and Herpetologists, would have resulted in more generally approved nomenclatorial treatment of some groups, and the elimination of certain departures from generally accepted procedure. No other country, however, has been so well served in the matter of its herpetofaunal list being produced in so pleasing a style or with such clarity of format, to say nothing of having it brought up to date with such frequency.

In 1923, at the Lowell Institute of Boston, Barbour delivered a series of popular lectures that, in somewhat expanded form, he subsequently published under the title "Reptiles and Amphibians, their Habits and Adaptations" (Houghton Mifflin Co., 1926). This popular and copiously illustrated volume found a ready sale which led to a revised edition being printed in 1943.

Very early in his career Barbour embarked on a search for unlabeled type material in the collection of the Museum of Comparative Zoölogy, and in after years stressed to his students and coworkers the importance of carefully designating types. These he endeavored to acquire for the Museum on every possible occasion. So rich and varied was the resulting assemblage that he eventually decided to publish a list of them for the benefit of herpetologists in other institutions. The first instalment, entitled "Typical Reptiles and Amphibians," appeared in the Bulletin of the Museum of Comparative Zoölogy in June, 1929, and in February, 1946, was followed by the posthumously published "First Supplement to Typical Reptiles and Amphibians." Together the two papers listed a total of 2,268 species or races, a reference collection of inestimable value to future workers in the field of taxonomy, and a monument to Barbour's foresight and generosity.

But, as has been emphasized elsewhere, the influence exer-

cised by Barbour on herpetology cannot be rightly assessed by his publications alone, for it operated in countless ways. To Barbour many a young herpetologist was indebted for making it possible to come to Cambridge and study the collections; others will remember with affection the advice and aid that enabled them to carry to fruition some long-cherished ambitions with regard to field work.

*Birds.* Although primarily a herpetologist, Barbour possessed a wide knowledge of birds, picked up in his usual effortless manner; not only from reading but from collecting, and the study of museum specimens.

He possessed a particularly good knowledge of Cuban birds as the result of his many visits to the island, and, in addition to some short papers, published two books on the birds of Cuba. The first entitled "The Birds of Cuba" was published as Memoir No. 6 of the Nuttall Ornithological Club and appeared in 1923. Some years later he felt that the "Birds of Cuba" was out of date and completely rewrote it, incorporating in "Cuban Ornithology" many of his more recent observations. This second book was likewise published by the Nuttall Ornithological Club as Memoir No. 9 and appeared in 1943.

It was his intimate knowledge of Cuba and its birds that led to the last of the really important ornithological discoveries to be made in the Americas. Hearing vague rumors of strange creatures in the great Zapata swamp in southern Cuba, he dispatched a collector to this region who secured three new genera and species of birds, a rail, a wren and a finch. These birds were described by Barbour in the Proceedings of the New England Zoölogical Club and subsequently he prepared a brief account of them for the Auk, with a colored plate of each drawn by Allan Brooks.

The birds, or groups of birds, that he found most interesting were those of zoogeographic significance, and the study of the wide-ranging cosmopolitan families he left to the specialists.

As a museum administrator he seldom let an opportunity pass to purchase desirable specimens, or even entire collections of birds that might be offered for sale, or for financing expeditions in the field where bird collecting might be expected to be the primary purpose of the expedition, and he himself usually was accompanied by a good bird collector in the field.

Fishes. Throughout his career as a naturalist Thomas Barbour was keenly interested in fishes. His published papers in this field are relatively few when compared with the many dealing with reptiles, but his interest was great nevertheless. There were few naturalists who could better separate the wheat from the chaff than he and this is well demonstrated by the many rare and otherwise interesting specimens of fish with which he enriched our museum. Many of these were obtained during his earlier days when he visited the East Indies and Japan, at which time he scarcely could have acquired a wide knowledge of fishes, yet many of his specimens are still unique in the museum collection.

An example of his penchant for keeping hot on the trail of any specimen that appeared to be unusual or desirable occurred in 1928 when the Boston Herald pictured and gave an account of a large fish brought in by the schooner *Wanderer*, from Browns Bank. It developed that this specimen was on display in the window of a food store in Boston. Tom hung on the phone until he had convinced the owner that this fish was of far more value to science than it would be as food. A few hours later it reposed in the museum collection. It proved to be a specimen of *Taractes princeps* known only from Madeira and one of the biggest prizes ever taken on our side of the Atlantic.

His first paper on fishes, published in 1905, concerns the Bermudian fauna about which very little was then known. In his later years his interest centered in the Ceratioids, a bizarre group including many rare and little known species of the deep sea.

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# KEY TO ABBREVIATIONS USED IN BIBLIOGRAPHY

Amer. Nat. = American Naturalist

- Ann. N. Y. Acad. Sci. = Annals, New York Academy of Sciences
- Biol. Bull. = Biological Bulletin
- Bull. Antivenin Inst. Amer. = Bulletin, Antivenin Institute of America
- Bull. Boston Soc. Nat. Hist. = Bulletin, Boston Society of Natural History
- Bull. Mass. Audubon Soc. = Bulletin, Massachusetts Audubon Society
- Bull. Mus. Comp. Zool. = Bulletin, Museum of Comparative Zoölogy, Harvard University
- Bull. New England Mus. Nat. Hist. = Bulletin, New England Museum of Natural History

Geogr. Rev. = Geographical Review

Harv. Alumni Bull. = Harvard Alumni Bulletin

Journ. Hered. = Journal of Heredity

Journ. Mam. = Journal of Mammalogy

Mass. Guernsey Bull. = Massachusetts Guernsey Bulletin

Mem. Mus. Comp. Zool. = Memoirs, Museum of Comparative Zoölogy, Harvard University

Mich. Sci. = Michigan Science

Nat. Assoc. Audubon Soc. = National Association of Audubon Societies

Nat. Geogr. Mag. = National Geographic Magazine

Nat. Hist. = Natural History

New Engl. Nat. = New England Naturalist

N. Y. Zool. Soc. Bull. = New York Zoological Society Bulletin

- Occ. Pap. Boston Soc. Nat. Hist. = Occasional Papers, Boston Society of Natural History
- Occ. Pap. Mus. Zool. Univ. Mich. = Occasional Papers, Museum of Zoology, University of Michigan
- Proc. Acad. Nat. Sci. Phila. = Proceedings, Academy of Natural Sciences, Philadelphia
- Proc. Amer. Acad. Arts & Sci. = Proceedings, American Academy of Arts and Sciences

Proc. Biol. Soc. Wash. = Proceedings, Biological Society of Washington

Proc. Boston Soc. Nat. Hist. = Proceedings, Boston Society of Natural History

Proc. New England Zool. Club = Proceedings, New England Zoological Club

Proc. U. S. Nat. Mus. = Proceedings, United States National Museum Sci. Mo. = Scientific Monthly

Zool. Jahr. = Zoologischen Jahrbücher

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